

The North Carolina Geographer

Volume 10, 2002

Special Issue: Remaking Tobacco-Dependent Communities



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Special Issue

Curing the Future:

**Issues & Strategies in Remaking
Tobacco-Dependent Communities in North Carolina**

**Holly Hapke, Rebecca Torres, Jeff Popke and Derek Alderman,
Guest Editors**

Proceedings of a Conference held February 28 & March 1, 2002

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Editors

Patrick Pease
E. Jeffrey Popke

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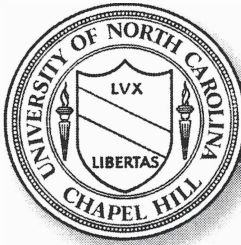
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Editors

Patrick Pease and E. Jeffrey Popke
Department of Geography
Brewster Building
East Carolina University
Greenville, NC 27858

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The University of North Carolina at Chapel Hill is the oldest state university in the country and is recognized as one of the nation's premiere public institutions, with extensive and state-of-the-art resources and a range of nationally and internationally recognized academic programs. Set within this environment is Geography, a collegial, dynamic, and highly productive department of 19 faculty that has recently been targeted by the University administration for growth and development. This support has resulted in nine faculty hires since 1997, including five senior faculty, two of whom occupy named professorships and a third who is Dean of the College of Arts and Sciences. Geography offers the B.A., M.A., and Ph.D. degrees, with most of the 45 graduate students pursuing the doctorate.

Undergraduate Program. The department offers a broadly based B.A. degree with concentration in three areas: the geography of human activity, earth environmental systems, and geographic information sciences. A well-equipped teaching lab directly supports undergraduate teaching and research, and a range of state-of-the-art facilities can be found at several venues on campus.

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Geographic Information Sciences. Basic and applied research is emphasized, with focus on remote sensing, geographic information systems, data visualization, and spatial analysis and modeling. Research is ongoing in the areas of error and uncertainty, information scaling, landscape characterization, and information integration and modeling, which support studies in population-environmental interactions, landuse and landcover dynamics, earth system science, and healthcare delivery. Research is supported by state-of-the-art, integrated computer laboratories, sophisticated hardware and software systems, field-based electronics, and a variety of funding sources, with recent examples including NASA, NSF, USGS, NIH and EPA.

For more information, contact Dr. Larry Band, Chair, Department of Geography, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3220. Telephone: (919) 962-8901. Email: iband@email.unc.edu

The North Carolina Geographer

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INTRODUCTION

Curing the Future: Issues & Strategies in Remaking Tobacco-Dependent Communities

Holly M. Hapke

Department of Geography
East Carolina University

The past two decades have witnessed a proliferation of new research on rural areas in industrialized countries. Since the farm crisis of the mid-1980s, and the restructuring of agri-food industries throughout the 1990s, such studies have concerned themselves with questions ranging from the impacts of globalization and rural restructuring on rural communities to postmodern constructions of the countryside. Numerous new lines of inquiry within rural development studies in general and agrarian political economy in particular have taken root, and the contributions of geographers to this emerging body of research have been significant.

According to Buttel (2001), research in agrarian political economy has taken a new direction over the past decade characterized by four key foci of theory and research: 1) world-historical and world-systemic analyses of agri-food systems (e.g., Friedmann & McMichael 1989; McMichael 1994); 2) global agri-food commodity chains/systems analysis (Bonanno, et al. 1994); 3) agri-food political-sociological neo-regulationist studies (Marsden et al. 2000; Bonanno & Constance 1996); and 4) actor-network analyses of agri-food systems (Goodman & Watts 1997; Busch & Juska 1997; Marsden & Arce 1995; Murdoch & Marsden 1995). One particularly significant aspect of these foci is the consideration of production-consumption relations and the way in which the politics of consumption "influence development in rural and urban spaces" (Marsden 1996:248).

In addition to these themes emanating from studies of agrarian political economy, other emerging trends reflect "the cultural turn" taken in the social sciences during the late 1980s and 1990s (e.g., Cloke 1997; Cloke et al. 1994). Many of these approaches incorporate social relations and social action into analytical frameworks and concern themselves with the social construction of institutions and power (see Marsden 1996). The Wageningen School (van der Ploeg 1991; de Haan 1997), for example, which draws on actor-oriented perspectives to highlight farmer agency in responding to macro-level transformations, is one such influential trend. Another is the introduction of discourse-analytical methods to studies of food systems politics by scholars such as Koc (1994) and Whatmore (2001). These approaches "explore the social and cultural construction of rural space and ... focus upon the institutional and actor-oriented mechanisms ... in shaping it both physically and socially" (Marsden 1996:246). In doing so, these studies reveal the ways in which processes of economic restructuring and globalization are social constructs, "which are dynamic, uneven and *contested*" (Jarosz 1996:45, emphasis mine). And, they highlight the centrality of factors such as social divisions of labor, relations of identity and work experience, and race, ethnicity, gender, and class to understanding the global food system and processes of uneven development.

Key questions, then, emerging from this

diverse body of literature include:

- how agrarian structures and state agricultural policies have developed over time;
- the nature of economic transformations at varying scales of analysis;
- the extent to which agricultural restructuring parallels trends in industry;
- the diverse interplay between global processes of agro-restructuring and local-level experiences of rural change;
- the spatial implications of agrarian change, including how global processes are embedded within localities and how this reconfigures space and place;
- how commodity chains and production systems come to be constructed and coordinated across national political boundaries;
- the role of transnational corporations, capital, and commodity flows in shaping production, movement, and consumption of foodstuffs and other agricultural products;
- implications of agro-economic trends for food security, access, and self-sufficiency;
- the ways in which trends toward organic foods and local food systems challenge tendencies toward standardization and homogenization and restructure regulatory practices;
- the role of racial, gender, and class divisions of labor in shaping local experiences of agricultural restructuring;
- the role of democracy, citizenship and empowerment in development processes.

These investigations have taught us about the complexity of global agro-economic processes, diversity of local outcomes and experiences, and the multiple dimensions of uneven development. They have also challenged the traditional conceptual dualism of agriculture/industry and north/south food dependency models within agricultural systems (see Jarosz 1996), and in doing so, have redefined our

understanding of rural development.

In light of the widespread changes that have impacted rural communities in industrialized regions, rural development professionals face a number of challenges as they attempt to assist rural communities adjust to the macro-level forces impacting daily lives. As Duncan (1999), Flora et al. (1992), and Walzer (1990) note, many rural areas have experienced sustained economic decline since the 1950s, and the persistence of poverty in rural areas endures as a problem for rural development practitioners (see Duncan 1999). Factors driving this deterioration in rural livelihoods include the decline of rural resource-based industries and industrial restructuring within the manufacturing sector (Mazie & Killian 1991). Rural out-migration, population decline, and the aging of rural communities pose additional challenges to the task of rural community revitalization and service-delivery, as growth in the latter favors urban areas. At the same time, other rural areas struggle to manage rapid growth in a manner that ensures that benefits accrue to local residents (Flora et. al 1992).

For some time now it has been clear that traditional ways of generating capital for rural communities are no longer adequate, and rural communities need “to broaden their economic base as protection against the increased uncertainties created by the changing global economy” (Flora et. al 1992:151). This has required government officials and rural community leaders to think in unconventional ways and adopt new ideas and strategies—indeed forge new paradigms—to cope with the widespread changes impacting rural regions.

In North Carolina, of course, the burning issue of the past decade or so has been how to adjust to global restructuring of the tobacco industry in the wake of declining world consumption and cutbacks in production. With no clear crop alternative to tobacco, and with declining employment in traditional industries, farmers and rural residents in the state struggle to maintain their livelihoods, and indeed their

very existence. What options lie before North Carolina's rural communities as traditional sources of income erode? What types of action are required of rural residents if their communities are to survive and thrive? It is to these questions that this special issue of the *North Carolina Geographer* is addressed. The papers contained in this special issue are edited transcriptions of presentations at a conference entitled, "Curing the Future: Issues and Strategies in Remaking North Carolina's Tobacco-Dependent Communities" that Department of Geography at East Carolina University hosted February 28-March 1, 2002.

The conference was organized under the auspices of the ECU Geography Department Rural Development initiative, which seeks to facilitate meaningful dialogue and the exchange of information among the wide range of rural development actors and stakeholders in the region. Our intent was to bring together farmers, farm workers, community members, development practitioners and decision makers, government officials, and scholars to exchange information, to coordinate existing rural development strategies, and to develop new ideas for the future. Conference sessions addressed four thematic areas: 1) Globalization, the World Tobacco Economy and Rural Communities; 2) Alternative Crops, Emerging Technologies and Farm Income Diversification; 3) Producer Alliances and Farmer-owned Value-added Business; and 4) Strategies for Community Development in Tobacco-Dependent Regions. Presenters in each session came from diverse professional backgrounds including academia, county extension, farming, non-profit organizations, and government.

In Session 1, papers by Dan Stevens and Blake Brown discuss the current state of the world tobacco economy, with particular reference to flue-cured tobacco, and North Carolina's place in that economy. One of the pressing issues facing US tobacco growers in general and North Carolina growers in particular is increased competition from foreign producers.

The US is no longer a dominant force in the world tobacco economy, and the loss of market shares to other countries presents a number of challenges to the US and North Carolina tobacco industry. Chris Beacham reviews trends in North Carolina's tobacco economy and the economic challenges that derive from tobacco dependency. He notes that tobacco dependency takes different forms in different communities, and emphasizes that an understanding of these differences must inform the particular strategies communities adopt for economic development. Katie Algeo next presents research in two burley-producing counties in Kentucky and western North Carolina that focuses on changes in the burley tobacco belt and the long-term consequences of shifting from an auction system to contract sales. Betty Bailey rounds out the session with a presentation of preliminary results from the 2001 Tobacco Farmer Survey conducted by the Rural Advancement Fund International-USA (RAFI) and profiles of several pilot projects undertaken by RAFI through its Tobacco Communities Reinvestment Fund.

Session 2 is devoted to the theme of alternative crops, emerging technologies and farm income diversification. Ed Estes first discusses trends in alternative cropping patterns and current research initiatives. M. Ray McKinnie follows with a discussion of farm income diversification that focuses particularly on opportunities in small livestock alternatives and small farms as economically viable livestock production units. The next paper, by Charles Talbott, discusses a project underway that attempts to re-vitalize the small-scale hog industry in North Carolina. Talbott emphasizes the importance of small farmers to food security and the risk of food crises that are associated with the loss of small farmers. Bert Nimmo, a farmer from Greene County, then describes the current status of kenaf production in Eastern North Carolina. Kenaf is a fiber crop that holds tremendous potential for growers as an alternative to tobacco in this region. Finally, Tony Kleese

presents opportunities that exist in organic farming and argues for the need to create sustainable farming ventures. One of the key themes that emerge in all of the papers in this session is the need for farmers to increasingly involve themselves in the marketing of their products and to envision themselves as much more than mere producers of commodities.

The papers of Session 3 and the keynote address by Dennis Mullen (CEO, Agrilink Foods) develop this theme further by focusing on organizational models for commodity producers and the development of farmer-owned value-added businesses. Christopher Merrett discusses cooperative approaches to local economic development currently underway in the Midwest to combat political and economic forces undermining rural communities—i.e., corporate consolidation and farm consolidation. Through the organization of “New Generation Cooperatives” the effort is to develop value-added agriculture in which commodities are processed locally, thereby allowing rural communities to profit more directly from local agri-industries. Bobby Ham then discusses the efforts on his farm to reduce dependence on tobacco through contract vegetable production. The third paper is by Billy Dunham, who presents the findings of a feasibility study that explored ways to improve returns to the production of agriculture in the communities of the Global TransPark (GTP) area. This study focused on produce and aquaculture and the feasibility of locating a cold storage facility in the GTP area. Paul Skillicorn concludes the session by exploring the potential of corporations (versus co-operatives) as a model for producer alliances. The keynote address by Dennis Mullen delineates a strategic vision for producer alliances via the example of Agrilink Foods and discusses the necessary steps producers and producer groups need to take to compete in today’s agro-food markets. He particularly emphasizes the need to “break paradigms” in order to effectively forge new business strategies in the wake of changing consumer trends.

The final session of the conference was devoted to more general strategies for rural community development in tobacco-dependent regions. The keynote address by Billy Ray Hall provides an overview of rural economies in North Carolina and the resources that are available to rural communities in the state. Ferrel Guillory then discusses the political and social changes that have taken place in North Carolina and how these impact rural areas in the state. Of importance is the trend toward urbanization and how this concentrates electoral power in a small collection of rapidly growing, Piedmont metropolitan area counties. The final two papers provide specific examples of project initiatives undertaken by non-governmental organizations. Pate Cabe presents some of the projects HandMade in America has initiated to foster economic and community development in western North Carolina. One of the key components of HandMade’s approach is to identify and build on local assets, and many of their projects have involved promoting local crafts and agri-tourism. Finally, Paul Castelloe’s paper instructs us in participatory approaches to community development and describes how the Center for Participatory Change, located in Asheville, NC, has used participatory development to help farmers remake tobacco-dependent communities in the western part of the state. The message that both Castelloe and Cabe bring to bear is that local communities are anxious to explore new approaches for community revitalization, and they have the wisdom, energy and power to remake themselves.

My colleagues in the Department of Geography who helped organize this event (Drs. Derek Alderman, Jeffrey Popke, and Rebecca Torres) and I benefited tremendously from the input, support, and assistance of our planning committee. These individuals include: Chris Beachum (NC Rural Center), Allen Briggs (Save Our State), Dick Brockett (Regional Development Institute, ECU), Bill Hobbs (Rural Development – USDA), Scott Marlow (RAFI- USA),

Mitch Smith (North Carolina Cooperative Extension Service – Pitt County), Larry Trachtman (Save Our State), and Dan Wynne (Pitt County Farm Bureau). We owe a special thanks to Mitch Smith who was tremendously supportive of our effort, providing exceedingly helpful input and advice in the planning of this event and graciously allowing us use of the Pitt County Agricultural Center facilities.

We were also very fortunate to have a wonderful group of students assist us with a wide range of tasks associated with the conference. They are: Elin Langholm, Amanda Williams, Qing “Maggie” Zahn, James Tripp, Stephen White, Tao Zheng, Preston Mitchell, Dustin Stancil, and Jeff Webb. Amy Fletcher, Geography Department staff member, provided registration and publicity support that was indispensable. This event would simply not have been possible without their dedicated and enthusiastic assistance.

Finally, of course, we express our deep gratitude to the Golden LEAF Foundation for providing the funding for both this conference and the ECU Rural Development Initiative.

Works Cited and other Useful Sources

- Bonanno, A. et al.** (eds.). 1994. *From Columbus to ConAgra*. Lawrence: University Press of Kansas.
- Bonanno, A. and Constance, D.** 1996. *Caught in the net*. Lawrence: University Press of Kansas.
- Busch, L. and Juska, A.** 1997. Beyond political economy: actor networks and the globalization of agriculture. *Review of International Political Economy* 4:688-708.
- Buttel, F.** 2001. Some reflections on late twentieth century agrarian political economy. *Sociologia Ruralis* 41:165-181.
- Cloke, P.** 1997. Country backwater to virtual village? Rural studies and “the cultural turn.” *Journal of Rural Studies* 13:367-375.
- Cloke, P. et al.** (eds.). 1994. *Writing the rural: five cultural geographies*. London: Paul Chapman Publishing.
- Duncan, C.** 1999. *Worlds apart: why poverty persists in rural America*. New Haven: Yale University Press.
- Flora, C.B., et al.** 1992. *Rural communities: legacy and change*. Boulder: Westview Press.
- Friedmann, H. and McMichael, P.** 1989. Agriculture and the state system: the rise and fall of national agricultures, 1879 to the present. *Sociologia Ruralis* 29:93-117.
- Goodman, D. and Redclift, M.** (eds.) 1989. *The international farm crisis*. London: Macmillan.
- Goodman, D. and Watts, M.** (eds.) 1997. *Globalising food*. London: Routledge.
- Jaros, L.** 1996. Working in the global food system: a focus for international comparative analysis. *Progress in Human Geography* 20, 1:41-55.
- Koc, M.** 1994. Globalization as a discourse. In A. Bonanno et al. (eds.) *From Columbus to ConAgra*. Lawrence: University Press of Kansas.
- Marsden, T.** 1996. Rural geography trend report: the social and political bases of rural restructuring. *Progress in Human Geography* 20, 2:246-258.
- Marsden, T., Flinn, A. and Harrison, M.** 2000. *Consuming interests*. London: UCL Press.
- Marsden, T. et al.** 1993. *Constructing the countryside*. Boulder: Westview Press.
- Marsden, T. and Arce, A.** 1995. Constructing quality: emerging food networks in the rural transition. *Environment and Planning A* 27:1261-1279.
- Mazie, S.M., Killian, M.S.** 1991. Growth and change in rural America: the experience of the 1980s and prospects for the 1990s. In N. Walzer (ed.) *Rural community economic development*. New York: Praeger.

- McMichael, P.** 1994. *The global restructuring of agro-food systems*. Ithaca: Cornell University Press.
- Murdoch, J.** and **Marsden, T.** 1995. The spatialisation of politics: local and national actor spaces in environmental conflict. *Transactions of the Institute of British Geographers* 20:368-380.
- Van der Ploeg, J.D.** 1991. *Labor, markets, and agricultural production*. Boulder: Westview Press.
- De Haan, H.J.** 1997. Locality, identity, and the reshaping of modernity: an analysis of cultural confrontation in two villages. In H.J. de Haan & N. Long (eds.), *Images and realities of rural life*. Assen: Van Gorcum.
- Walzer, N.** (ed.). 1991. *Rural community economic development*. New York: Praeger
- Whatmore, S.** 1994. Agro-food complexes and the refashioning of the rural in Europe. In N. Thrift and A. Amin (eds.), *Holding down the global*. Oxford: Oxford University Press.
- Whatmore, S.** 2001. *Hybrid geographies*. London: Sage.

Opening Remarks

William Muse, Chancellor, East Carolina University

Good morning. I am delighted to have this opportunity to extend a welcome to all of you to this very important conference, and we are delighted that you have taken the time join us in this discussion. As the principal institution of higher education serving the tobacco dependent regions of Eastern North Carolina, East Carolina University is committed to working with rural communities, farmers, development planners and practitioners, as well as others in the academic community to achieve integrated rural development in our region. Under the auspices of our triple mandate of teaching, research and community service, our Department of Geography has implemented a rural development initiative. The mission of this initiative is to improve significantly the leadership, the decision-making and service delivery effectiveness of development institutions serving the needs of rural communities in this region. It remains a common goal of these institutions, and that of the university, to improve the welfare of all residents of the tobacco dependent counties in this region.

This rural development initiative of our Department of Geography currently comprises three interrelated and mutually reinforcing components, and I would like to describe for you briefly what those components are. The first is graduate education in rural development. The Department of Geography has developed a concentration in rural development within its Master's degree program and is initiating the development of an interdisciplinary graduate certificate in economic development. The purpose of the new concentration and the certificate is to provide high level training to mid-career rural and community decision-makers and practitioners, to economic development specialists, to public administrators, to human

service providers and to extension agents.

The second component of this initiative involves participatory research into rural development initiatives in the region. The ECU rural development research cluster is currently collaborating with two area groups on projects that are intended to promote rural economic development. The first is with the Carolina Kenaf Farmers Foundation, to introduce kenaf, a fiber crop, to the region in a manner that is linked with farmer-owned value-added businesses. This effort at creating a bottom up vertically integrated industry, with farmer equity control, we feel holds strong potential for revitalizing the family farmer in the tobacco dependent counties in this area.

The second is an economic and cultural analysis of visitors to Grifton's Shad Festival. Community festivals are an increasingly common phenomenon in the United States—in fact it is estimated that there are approximately 32,000 festivals a year by the last count. The rural and urban areas that host these festivals hope that they will generate some economic benefit through the money spent by people attending. But it is also hoped that festivals will produce some intangible benefits, such as greater community identity as well as a sense of pride and a sense of place. Our faculty and graduate students are collaborating with organizers of the Grifton Annual Shad Festival to assist city officials in estimating the economic and the cultural impact of this festival as a development and as a place promotion tool.

The third part of the initiative is that of integrating and coordinating the region's rural development dialogue and agenda. The Geography Department seeks to facilitate meaningful dialogue and exchange of information among the disparate rural development stakeholders in the region; this includes farmers, farm workers, community members, development

practitioners, decision-makers, politicians, agri-industrial entrepreneurs, non-governmental organizations, community colleges and other academic institutions. This conference is the first step in facilitating such a dialogue and exchange of information. It is our hope that this forum will not only serve as a venue for exchange of information, but that it will also coordinate existing rural development strategies and develop new ideas for the future. ECU hopes to bridge the gap that typically exists between applied rural development practitioners and more theoretical academic researchers, to develop more synergistic and ultimately more effective ventures in rural development. In addition, the ECU Geography Department will document the proceedings of this conference and disseminate the results to both rural development and academic communities as practical material and as academic publications. So we are delighted to be a participant in this very important conference and are very pleased that all of you could join us for this dialogue. Thank you.

**Valeria Lynch Lee, President,
Golden LEAF Foundation**

Thank you very much for giving me this opportunity to say greetings and to say welcome. I am also obliged to say that I am glad that so many of you are here as grantees of the Golden LEAF Foundation. When I think about our brief history and see so many of you that I have developed relationships with over this past year, I am really honored to stand before you. I see in the audience our Board Chair, Lawrence Davenport. I know Debbie Morely is either here or on her way, and you will be hearing from Billy Ray Hall later in the day. All are hard-working board members of the Golden LEAF Foundation, and whom I hope you will also get to know.

Chancellor Muse, we are honored that East Carolina has taken this leadership role for rural development in our part of the state, and I think it is more than just our part of the state—it is

really a leadership role worldwide. The lessons that this university teaches us will be of great value to all throughout the world. Now, I have moved from Eastern North Carolina to a more global context because that is the part of the future that I think we have to be about. I do look forward to learning more about your efforts to indeed ‘cure’ the future. Implied in that right now is a future that is going to be rather dismal and ill unless you do something about ensuring that it is healthy and well. So, again, I am grateful for your effort to make certain that we do have a healthy future and indeed are working even now to ensure a healthy present.

One of the remedies that I would like to think is available to you is the Golden LEAF Foundation. So if I might, I would just take a moment to say a little bit about what we are doing and how we are progressing, at least in my view, in helping to ensure a bright future for us all. Our primary aim is coming up with options and alternatives, to assure that those who want to stay in farming have a choice of doing so; likewise, we want to ensure that, for those who want to engage in other kinds of economic activities and ventures, there will be a choice. So, we are of a mind that the grants we make should be about providing options, opportunities and hope, and we are in support of initiatives in agriculture, economic development, education, and community building. That is the way the Golden LEAF is looking at your work and our work, investing in programs like yours to ensure a better future for North Carolina.

I know that many of you have questions about what our current status is. We have received about \$188 million in payments from the tobacco settlement. Much of the way those funds are invested carries out the mandate of the General Assembly to use earnings from those payments to invest in programs like yours. So we encourage you to continue doing good works, to be in touch with us, and we really do want to be a partner with you as you are partnering with each other to make sure we do have a bright future in North Carolina. I am

sure we will be hearing from many of you. Contact me, Mark Sorrells, or any member of the Board or staff of Golden LEAF, and we will do our best to make sure that we understand your intentions, your efforts, and that we are able at least to support as best we can those initiatives that will make North Carolina, Eastern North Carolina, and yes, the world a better place. Thank you very much.

**Meg Scott Phipps, Commissioner,
NC Department of Agriculture and
Consumer Affairs**

Good morning everyone. It is really great to be here and to see quite a few familiar faces—people that we have been partners with in the Department of Agriculture. I am worried, though, that we are not getting any work done because we are just going to a lot of meetings. My daughter said to me one day “Mommy, all you do is speak and eat,” and I think in a lot of ways that is true. There is so much work to be done in agriculture, and I can tell you that the folks in the Department of Agriculture are committed to that effort. These issues that you are working on are very important to us in getting ready to be a part of 21st century agriculture. Since I took office, we have been hit with so many issues that were not even on the radar screen, and that really drain the resources and the time that we have. But I can tell you that the people that we have worked with—the other state agencies, USDA and in Washington—are truly committed and spending a lot of time on these issues that are so important to agriculture.

It is amazing to me that we must still educate the public in North Carolina, and get out the message about the importance of agriculture to our state. Agri-business is still our number one industry. In fact, it represents about \$46.6 billion to our economy. Tourism is number two, and it brings in about \$12.8 billion. That is a huge difference, yet our department represents only less than one-half of one percent of the entire state budget. It is not much when we are

trying to provide those services that we need to provide to the people of North Carolina, and especially to tobacco-dependent communities.

Where is tobacco today? When I go to meetings around the state, there is a lot of excitement in some of the other commodity groups—in their association meetings. When I attend a tobacco meeting, you can still see the frustration, the depression, the worry that is on these folks’ faces, and the future of tobacco obviously is very much a concern not only to those folks but to everyone else in agriculture-related businesses that are impacted by tobacco. In North Carolina’s history, you know that no other single commodity has had such an impact on this state. The income that has been generated, that has benefited the families, the communities, the churches, the hospitals, is so important to us. But despite tobacco’s strength and stability in the past, the agricultural leaders in this state want to recognize the change that has come, and is still coming, to tobacco.

Back in 1964, when commissioner Jim Graham took office, tobacco represented about 46% of North Carolina’s agricultural income. Today it represents about 14%. It used to be our number one cash crop. Today it has slipped down to number four. We have now in the last ten years transitioned over to an animal agricultural state. Animal agriculture brings in more dollars to this state than our field crops, and our department, our state, and our allocation of resources have to recognize that. Despite this, however, tobacco is still critical, and is very important to our rural communities and those families who have farmed that crop for so many years. The reason it is still a very important crop is that we still grow the best tobacco in the world. We want to continue to grow the best in the world. Companies want our tobacco, the foreign markets want our tobacco, and the bottom line is that no other commodity in our state generates the same amount of income per acre that tobacco does. We have grown tobacco for hundreds of years, and we are going to continue to grow tobacco

for a long time. I do not believe that tobacco is dead in North Carolina. But we have to help these farmers do what they need to do to be able produce that tobacco. We also need to allow them the opportunity to look at the alternatives that they can grow.

North Carolina is actually number three in the diversity of crops that we produce. That is pretty impressive. We rank behind only California and Florida in the number of commodities that we produce in our state. And, we are going to make sure that we can move up to number two if at all possible. People do not realize that we are number one in the country in sweet potatoes, and we are number one in the country in turkeys, and those things are very important to the people in this state. Our department is very committed to helping farmers continue to grow tobacco, but also to look at those alternatives to find new income to replace the income that they have lost from quota. We have great partnerships with folks in this state, with NC State, North Carolina A&T, and especially with extension. I am very concerned about their budgets, because we need these folks out in the field helping the farmers, and when they have their travel cut, they are not getting their work done, but instead sitting behind their desk. We need to make sure that those folks are getting the resources they need to do their job, because we in the Department of Agriculture need them. These partnerships are very important to us, and we want to make sure that they do continue.

Just talking about tobacco, in cash receipts alone North Carolina tobacco farmers have lost about \$400 million annually since 1997. In five years that is more than \$1.5 billion in cash receipts. That is a direct hit on our rural economy and on our rural communities. There are many issues facing us with respect to tobacco: the impact of the increased growth of tobacco in other countries, and the competition we face because of this; the problem of price competitiveness in comparison with other countries; the movement to contracting in tobacco; the

introduction of GMOs into tobacco—we have been working very hard to be a part of all these transitions taking place just in the last couple of years. Just yesterday, I came back from Washington where DeWitt Hardy, who is head of our Division of Ag-Policy, and I handed our proposal for a tobacco buyout to Senator Helms and Senator McConnell of Kentucky, to show them that we are now all on the same page and working on the tobacco buyout plan. It is now in Congress' hands to make sure we get this done.

The buyout plan that we have proposed is very general because we know there is no need for us to battle over the details—because that is what Congress is going to do. We just want to see that it happens. We want to make sure that those folks who want to get out of tobacco are able to do so with some income, a check in their hand, something for the value that they have in that quota that they have held these years. Some people think of the quota as just a gift from the government back during the early years. Some suggest that farmers should not be paid for it. Well that is just ridiculous. That quota has a property value. It is used in farmers' cash flow when they go to the bank. It has a value to the next generation. We want to make sure that these farmers and allotment holders will get some money for that, because it is my belief that the way the system is going, the way the industry is going, the tobacco program is going to be gone, and that quota will not have a value within eighteen months or two years. So we have to make sure that this happens now. It is on a very, very fast track. It is important to get that quota out of our tobacco price, so we get the price down to where it can compete on the world market. We are going to continue working very hard on the tobacco buyout plan.

One of my main objectives during the past year was to begin working on the concept of the Agri-Business Incubator. This would be a system in North Carolina to help our growers—not just tobacco growers—develop the ideas

that they have to add value to the raw product, to get more income into their pockets. We have got to help small farmers and minority farmers, by providing opportunities that they do not have right now—access to markets, packaging, labeling, transportation, business plans. We want to be able to help them to make that transition. We are in a consumer-generated farm economy. What we do is generated by what the consumer wants. This affects, for example, the small farmer who says “you know I like strawberries, I’ll think I’ll grow some strawberries.” He has got to think about the end product, about what the consumer wants. McDonalds, for example, is at the point of driving what our beef industry is going to do. So we have to think about the consumer, rather than just having the farmer say, “I’m going to grow something that I like to grow that will work in my soil.”

So, we are moving forward in North Carolina with a lot of different things. One thing that you have heard a lot about is aquaculture. That is an industry that is really growing for us. Farm production can help the effort to meet the new demands for numerous types of fish in this state, such as catfish, tilapia and trout. Our researchers at North Carolina State are working to develop farm-raised flounder, which is a new thing that a lot of people are interested in. It may offer many opportunities for farmers. We have people who have hog houses and chicken houses, and who are looking at

other ways to use these. We can put the big fish tanks into those hog houses if we can figure out how to do it cost effectively. A lot of good ideas, but we have got to be able to help folks learn what they can do, and where they can go for those resources.

No single person has all the answers to these complex issues, and there will not be a ‘one size fits all’ answer or alternative. We must bring our ideas all together to the table and talk them out and come up with the best way that we can do this cost effectively to these growers. A lot of things are just too expensive, and I will not even mention the environmental side of things. But, together we can create a positive change, and I use that word positive because it is so very important for us to keep a positive image for North Carolina agriculture, for our farmers to be proud of being farmers. We have got to put that white hat back on them, so that they hold their head high when somebody asks them what they do and they say “I am a fish farmer” or “I am a tobacco farmer in North Carolina.”

I want to thank all of you for being a part of this program. I know some of you out there are speakers for the next two days, I really appreciate the Golden LEAF Foundation and East Carolina University for taking this on. We can get a lot of talking done but let us get some work done out in the field. Thank you very much.

SESSION I:

**GLOBALIZATION, TOBACCO
AND RURAL COMMUNITIES**

World Flue-Cured Tobacco Situation

Dan Stevens

Director, Tobacco and Peanut Analysis Staff
Farm Service Agency, US Department of Agriculture

It's good to be here today, and I appreciate the invitation. I would like to talk about the world tobacco situation. Although I now work with the Farm Service Agency, I still follow the world situation, because the global market and the global tobacco economy are extremely important to us. Some of the things that I am going to say here today you have heard before. Some of the things I am going to say are probably going to irritate some of you (but I was eligible to retire last year about this time so I am going to say them anyway). Primarily I will be talking about flue-cured tobacco, although the situation for burley is about the same.

Tobacco Production

First I would like to look at tobacco production—the countries that produce tobacco

and the types of tobacco that are produced around the world. As Figure 1 illustrates, flue-cured tobacco is by far the largest type produced. One reason is that China produces so much flue-cured tobacco. The Chinese style of cigarette is very similar to some of the old British Commonwealth all flue-cured cigarettes, and this largely explains why flue-cured makes up almost 60% of the world's tobacco production. Burley accounts for 13% along with Oriental. These two types of tobacco are basic components of the American lung cigarette in addition to flue-cured, park-cured, and sun-cured cigar smoking tobaccos.

Regarding the countries that produce tobacco (Figure 2), China accounts for well over one-third of the total world production of tobacco (40%). The other countries trail behind.

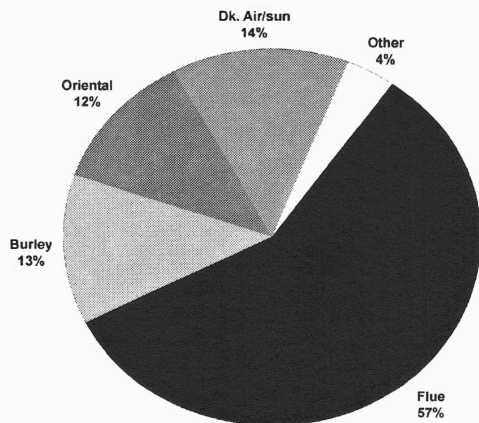


Figure 1. World Tobacco Production

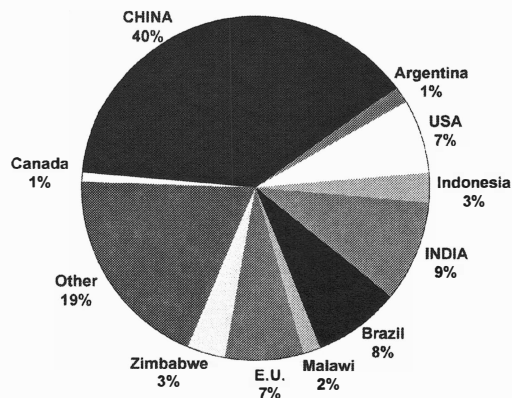


Figure 2. World Tobacco Producers, 2001

I think the important thing to consider is that the United States is just another player. Previously we were a major factor in world tobacco production, both in burley and flue-cured, but we are not anymore. Several countries, e.g., India, Brazil, the European Union, rival us and other countries have surpassed us.

Looking at the countries that trade tobacco, the breakdown by country is a bit different (see Figure 3), but the players are the same: the European Union (this includes inter-EC trade); India; the US; and Brazil, which is the big single kid on the block. Of course we recognize Brazil as our major competitor worldwide in flue-cured tobacco. Once again, the US is significant, but we are not the controlling force in the world anymore. There are a number of other countries that are involved in tobacco export.

Now turning to flue-cured tobacco, let us look at where flue-cured tobacco is produced (see Figure 4). Almost 60% of the flue-cured tobacco produced in the world comes out of China. Brazil has about 11% of the flue-cured production. The US has about 7%, Zimbabwe 5%, and it goes on down from there. The situation for flue-cured tobacco in the United States is not good. I am not saying that we should be wearing black yet. I think it is still a viable industry. I think it can be a viable industry, but

we must address some of the problems we have already heard about here this morning. India produces about 3 or 4%, but it actually took a holiday in production this past year because stocks are high and demand low. Figure 4 shows what the other major producers have produced this year, i.e., Brazil and Zimbabwe.

Zimbabwe is something of a wild card because of the political situation there now. We are really not sure what is going to happen in Zimbabwe. Producers in Zimbabwe are probably some of the best tobacco producers in the world outside of the US. They are large producers who have been producing tobacco for many generations, and their research has been second to none in the world. There is no university in this country that matches Zimbabwe's research station and tobacco scientists. But, now we are looking at Zimbabwe with a big question mark because of the political turmoil and the potential problems it will pose.

Tobacco Exports

Figure 5 illustrates countries that export flue-cured tobacco. Although China produces almost two-thirds of the world's flue-cured tobacco, it only exports about 11%, which is good news so far. Brazil is the big kid on the block. Twenty-nine percent of the flue-cured tobacco

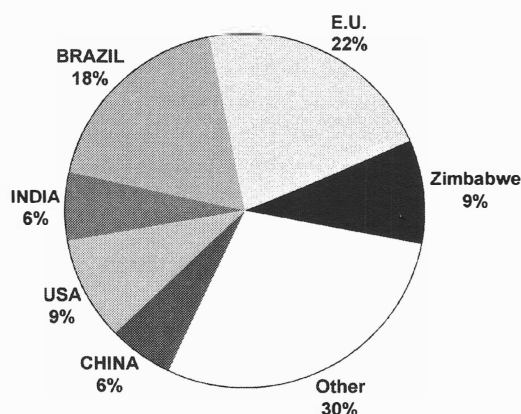


Figure 3. World Tobacco Exports, 2001

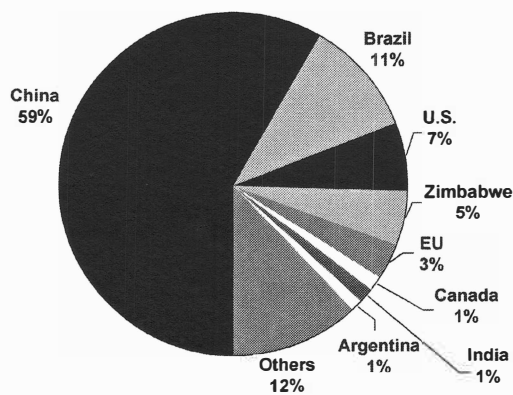


Figure 4. World Flue-Cured Tobacco Producers, 2001

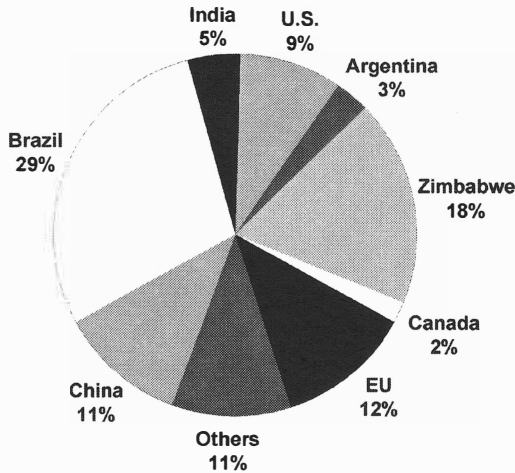


Figure 5. World Flue-Cured Tobacco Exporters, 2001

that moves in international trade comes out of Brazil. India accounts for about 5%, and the US has about 9% of the international trade. Keep in mind that 50 years ago, the US would have had close to Brazil's share now. This is what we have lost in world trade. Zimbabwe contributes about 18%—almost all of the tobacco produced in Zimbabwe is exported. Keep in mind China's figure. We have come to think of ourselves as fairly major players in the world market, but as Figure 7 below will indicate, if we compare China's exports to its production, there is truly reason for concern.

Export trends of the major tobacco trading countries appear in Figure 6. Since 1979 there has been steady growth in Brazil's export of flue-cured tobacco. Zimbabwe's growth was initially somewhat slow; then it took a spurt in growth, and now it has kind of leveled out. As I stated earlier, we do not know what is going to happen there, whether exports are going to drop or not, but certainly Zimbabwe has been a major factor, and there has been a growth industry there. Looking at China, we see a long, pretty flat line to 1990 then a series of growth

spurts and plateaus through the 1990s, and there is no reason to think that it will not take another jump. The US, in contrast, butts the trend of everybody else. Our export trend is down during this same period. Some drops are a little more significant than others, but we rarely get back to where we were when we dropped.

Earlier I mentioned that China is important to keep in mind. Figure 7 depicts China's historical trends in production, stocks, and exports. The ups and downs in their production reflect periods when stocks were too high so production was cut back. One thing China is trying to do is get tobacco production in the hands of the better growers. In other words they are trying to move tobacco production to regions like Eastern Carolina that have the climate to grow better tobacco, and to get the tobacco farmers who are not growing good tobacco out of producing it.

Note China's export line (Figure 7). China's share of world flue-cured exports is 11% while the US has 9%. China has a slightly higher share of exports, but it represents an almost minuscule portion of its total production. Of course, China is the largest consumer of tobacco in the world, which explains in part the small proportion that is exported. But, the point here is that China has an awful lot of tobacco; it has a lot of room to expand, and there is no reason to think that it will not expand. I will be quite honest with you and state that there is nobody in the world that I am aware of that can compete with China price-wise. I do not think that is true of our other competitors. I think the U.S. can compete with Brazil, with Zimbabwe, and I know we can compete with the Canadians. (Canada is quite worried that our tobacco program is going to disappear because if it does, Canada is going to be in dire straits to continue to produce flue-cured tobacco.) The potential challenge posed by the fact that China's 11% of world exports represents a small percent of its production is, I believe, a very scary situation for U.S. tobacco farmers.

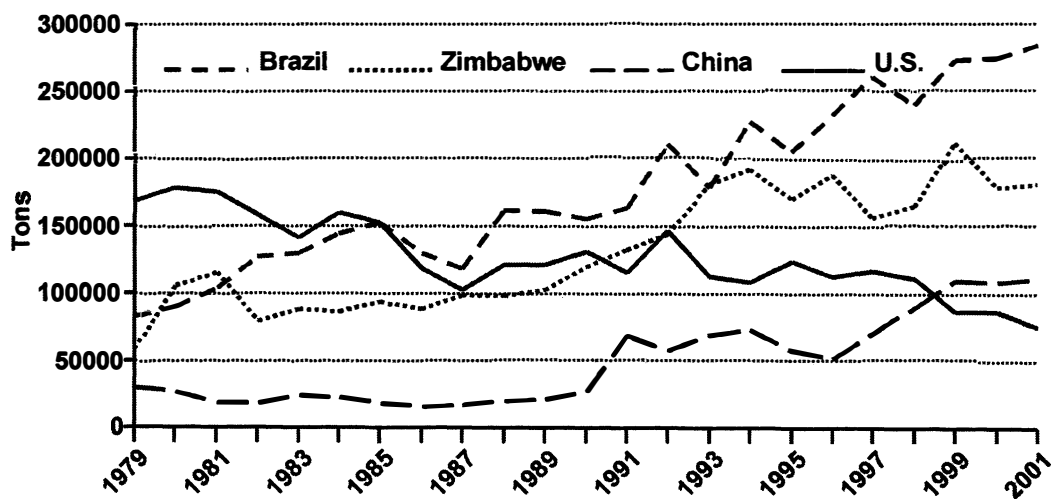


Figure 6. Flue-Cured Tobacco Export Trends

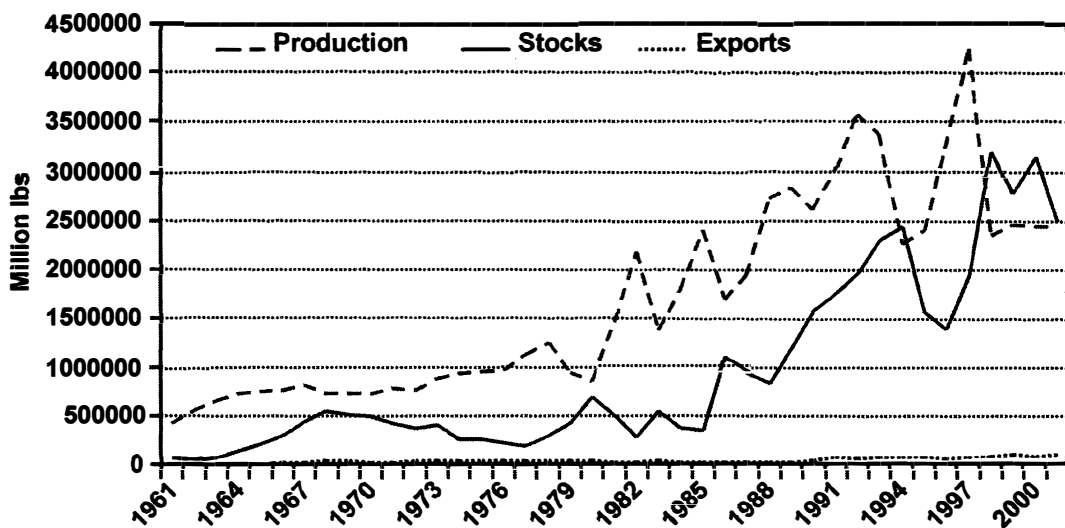


Figure 7. China: Historical Trends

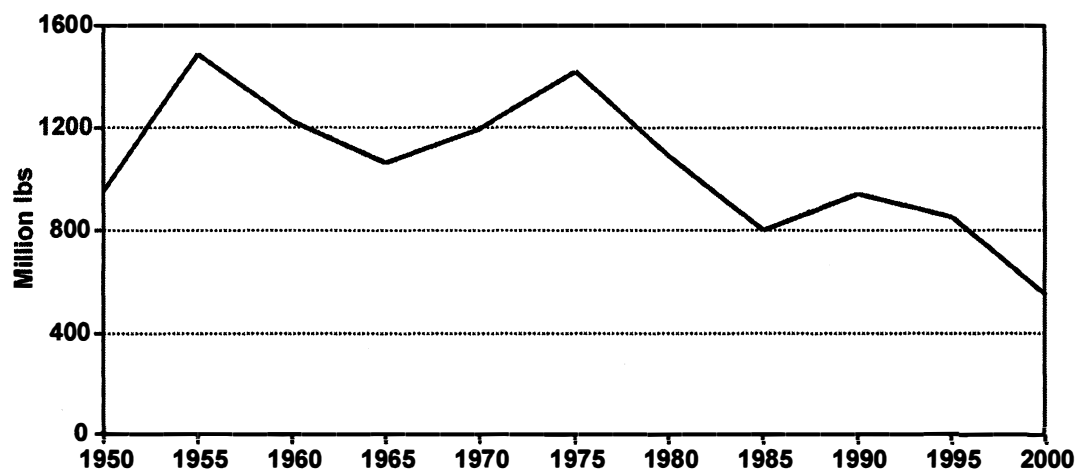


Figure 8. Flue-Cured Production in the US

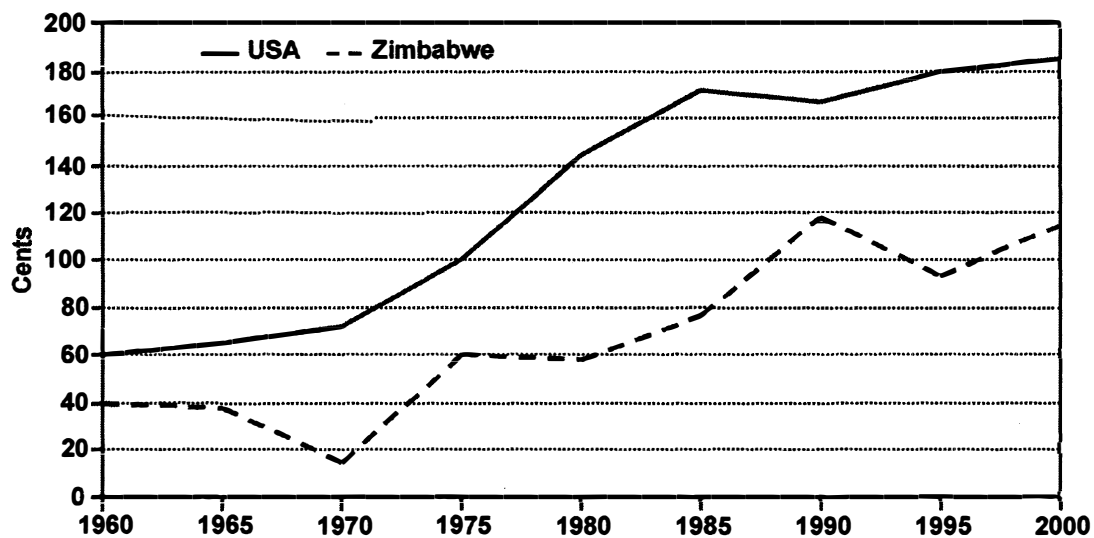


Figure 9. Flue-Cured Grower Prices

US Flue-Cured Production

Turning now to flue-cured tobacco production in the US (see Figure 8), since 1950 the trend is down. Fifty years ago the US produced 25% of the world's flue-cured tobacco. Today we are down to about 6-7%. Now I would like to look at prices. The prices that I am going to discuss are commissioner mentioned prices. Figure 9 compares US prices with Zimbabwean prices. The reason I selected these two countries is because Zimbabwe has an auction that is very similar to ours. In other words, if I were to transplant you to the sales floor in Aurora, Zimbabwe, and if you kept your eyes closed, you would think you were still in North Carolina. When you opened your eyes, however, you would realize you were not in North Carolina because it is clean. It is well lit, and you can actually find a place to eat that is almost like a three-star restaurant right on the sales floor.

I had a customer ask me once when I was visiting with the Foreign Agricultural Service if I knew what the problem with US tobacco farmers and the US tobacco industry was. I said, "No sir," but I thought to myself, "but I am sure you are about to tell me." He said, "Well they use too many pesticides." I could not argue with that. He said, "Your price support program. I pay fifty cents for every pound of tobacco I buy, and I get absolutely nothing for it." He was speaking to the commissioner, and he asked, "Why should I pay that fifty cents?" I did not have an answer for that either. Then the next thing he said was, "The thing I really dislike about your tobacco industry is that I can go to Zimbabwe and go to one place and buy all my tobacco. When I go to the US in an eight-hour day, I spend seven and a half hours in the back seat of a Buick and a half hour on the floor looking over the tobacco. And, I can't even get a hot cup coffee or find a place to go to the bathroom when I am there." I could not argue with that. He pretty well summed it up, and that was fifteen years ago.

The statement has been made that the US has the best tobacco in the world, and we do. It is consistent, it is reliable, and while we do have to worry about politics, we do not have to worry about political unrest. So companies can come here and pretty much get the tobacco they need. When we have bad years, we usually have tobacco in stock that we can fill in. Zimbabwe is comparable because it has an auction where the buyers meet the sellers. We have an auction system where the buyers meet the sellers, but look at the relative prices (see Figure 9). At a certain point the difference in the price is like comparing Fords and Chevrolets, but if all of a sudden Fords cost you a third less, some of the Chevrolets will go down too. And, that is exactly what is happening with tobacco in the tobacco world. There is a lot of loyalty among US tobacco users, but when our price gets to point where it is 75% more than the competitors', companies are going to look at that when they introduce a new brand. Are they going to use US tobacco, or are they going to go to Zimbabwe or Brazil to get tobacco? These price differences are very common, whether they be Brazilian tobacco, US tobacco, or Argentinean tobacco. We are 75% to double the prices of the other tobacco. This is the sole reason that we have fallen from 25% of the world market to about 6 or 7%.

In the mid 1980s we made some changes in our program in which we froze our price support and actually rolled the price support back. Some of the farmers here may remember that we made other changes, too. We introduced the no-net cost and so forth. A lot of people said that this was a turning point in our tobacco program. I don't know, but you will note in Figure 10a that growing prices stabilized, and actually, if you put a trend line from about 1985 to 1990, growing prices actually fell. They were still high. They were still up around 170 to 180 cents per pound, but they decline. So, our prices increased pretty steadily up to the mid 1980s, then they declined, and then they took off again about 1990.

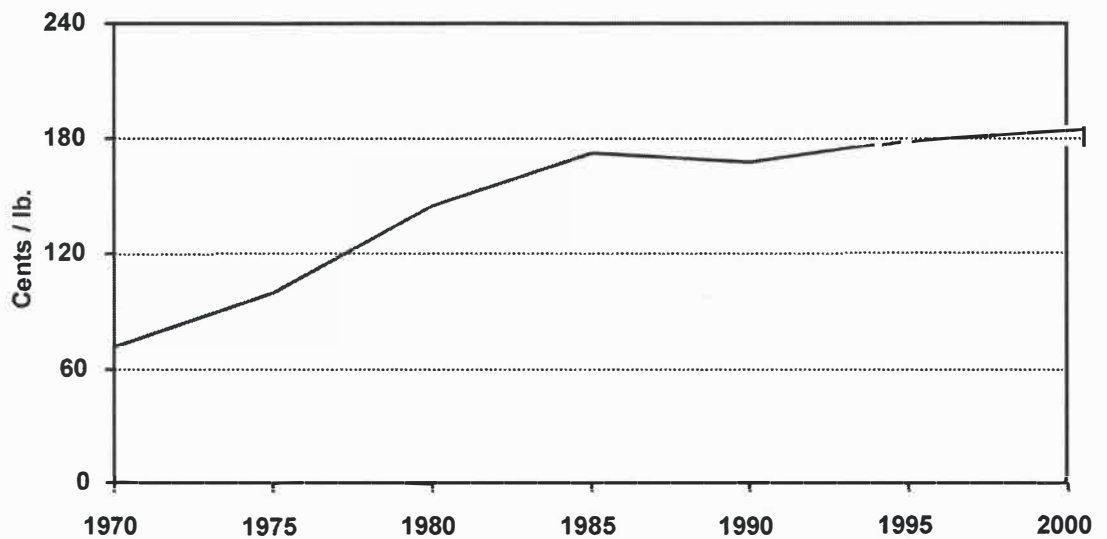


Figure 10a. US Flue-Cured Grower Prices, 1970-2000

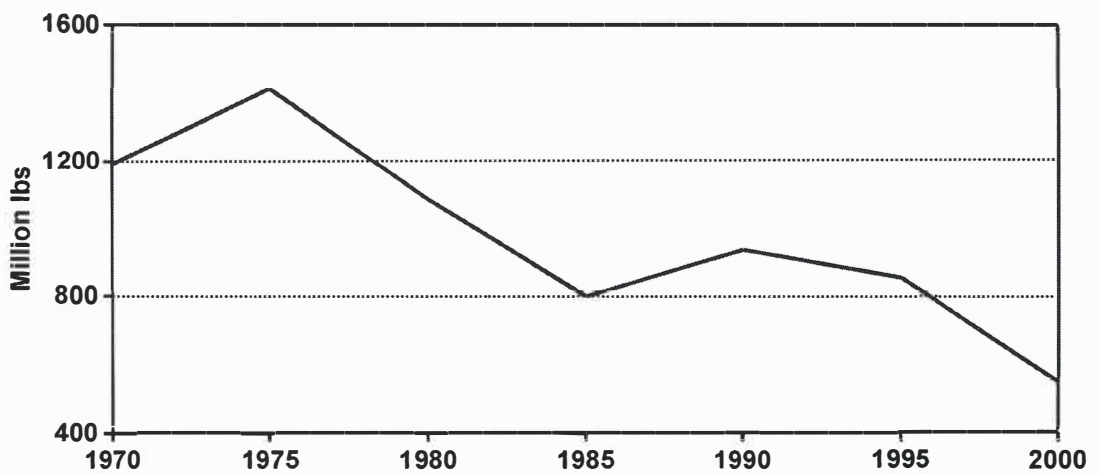


Figure 10b. US Flue-Cured Production, 1970-2000

Let's look at production in comparison. (See Figure 10b.) While prices increased through the 1970s up to the mid 1980s, production declined. Bearing in mind what happened in the mid-80s to 1990, look what happened to our production. We stabilized our prices. We rolled it back a little, and production increased. While statisticians might point out other possible correlations, the point is when we rolled our prices back a very, very small amount, confidence was restored in the market, the domestic buyers came back, and foreign buyers started looking at us again. And then our prices starting going back up, and production is falling again.

I have been working in tobacco since 1973—most of the time in the Foreign Agricultural Service. I have been all over the world to most of the major tobacco producing countries, including China and the former Soviet Union, and I am convinced that what we have in our price in this country is exactly what the man told me 15 years ago. He said, "Why should I pay 50 cents a pound for tobacco, and get absolutely nothing for that 50 cents?" This is the cost of quotas, I think.

This raises the question, of course, of what

our price would have to be to regain part of the export market. I don't know what quota rates are, and I am not sure what lease rates people are paying here now, but I know that over in Kentucky, they are as high as 80 cents. If somebody pays 80 cents for a quota and still grows tobacco and makes money on it, and the burley price is about \$1.95, we are looking at \$1.15. We will not have to come that low. I usually say between \$1.40 and \$1.50. I think that will put us back in the game.

Tobacco Consumption Trends

Figure 11 indicates another part of the problem US tobacco production is facing. During the period when the US was still hanging in the industry, the world's cigarette consumption was increasing. But, from the late 1980s and early 1990s, world cigarette consumption leveled off, and what the Foreign Agricultural Service is projecting is that growth will stop and world consumption of cigarettes will be stable. So, instead of a growing market in which we can maintain our share, we are now looking at a market that is stable. The pie is the same size, and our slice is getting smaller. I think the

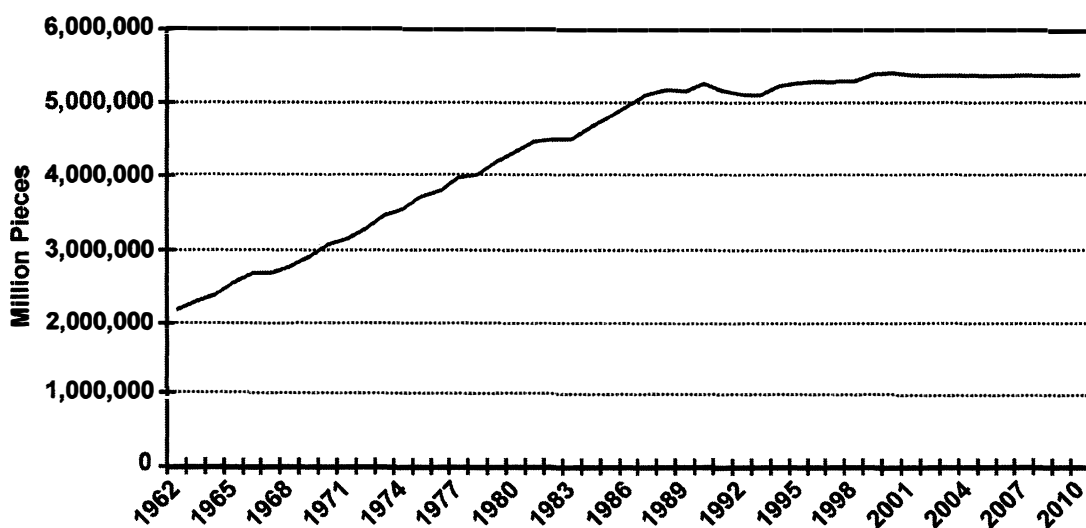


Figure 11. World Cigarette Consumption

stabilization of world cigarette consumption is a very significant development.

The US Tobacco Quota

Before concluding I would like to briefly discuss how the annual tobacco quota is set and some of the trends affecting the current quota. I get credit for setting the national quota, and some people may say that must be a tough job, but it's not really too hard. I add three numbers: 1) purchase intentions of domestic manufacturers; 2) three-year average of exports; and 3) reserve stock adjustment. We adjust stocks up by stabilization to get to the desired level, then the Secretary of Agriculture has a discretion of plus or minus 3% for these three factors, and that leads to the basic quota. It is as simple as that.

Some of the trends affecting quota levels include purchase intentions, cigarette consumption, and exports. (see Figures 12a-c.) Purchase intentions have been trending down, primarily because cigarette consumption has been trending down. Purchase intentions mirror cigarette consumption. If cigarette manufacturers' markets are declining, then the amount of tobacco they are buying will decline. Up to 1996, cigarette exports were a kind of bright spot. Our exports increased significantly, but then that peaked out for a lot of reasons that I do not have time to discuss. Cigarette exports peaked at 242 billion in 1996, but it has been down hill since. The three-year export average has also been declining, and our stocks adjustment figure has been all over the board because, as I will discuss shortly, we have a tendency to form policy in response to crisis.

Conclusions

Let me now conclude with some opinions. These are not official USDA positions, but opinions that I have come to in my career in tobacco. Foremost, I think the US is just another player. We have become too small to really control the international industry. We have lost many opportunities. During one period of po-

litical turmoil in Zimbabwe, producers struggled to get their tobacco out because there were UN sanctions on it. If you bought Zimbabwe tobacco, you were breaking UN sanctions. Who capitalized on that? The Brazilians. If you look at Brazil's growth during that period of turmoil in Zimbabwe, they are the ones that capitalized. Who is going to capitalize this time when Zimbabwe starts dropping down in production? I am not sure who will, but I think there are two possibilities. Canada may benefit, because its style of tobacco is very similar, and Brazil will capitalize again. I can tell you with certainty who is not going to capitalize unless we make some changes, and that is the US. There are opportunities that we have had, and we lost them. We need to try to straighten this out and get our markets back. I am not just talking about international markets, I am also talking about domestic markets.

I have probably used more time than I should, but I want to say a few things to prove my point. We have identified problems. There was a marketing study conducted by a group consisting of every vested interest in the tobacco industry: warehousemen, dealers, manufacturers, growers, government representatives, and folks from the land grant universities. We had a series of meetings over several months, and we identified the problems with the industry. We noted that our auction system was inefficient. We identified presentation of our product as a problem. We talked about foreign markets; about moisture; about pesticides. We talked about any number of things in our system, and the problems were identified. But, we addressed almost none of the problems that we identified.

What have we done? Instead, we have been crisis driven. Whenever we make a change it is because we've had a crisis. For example, we passed a law that US cigarette companies had to use at least 75% domestic tobacco. The World Trade Organization told us that we could not do that so we had to back away from it. But why did we pass that

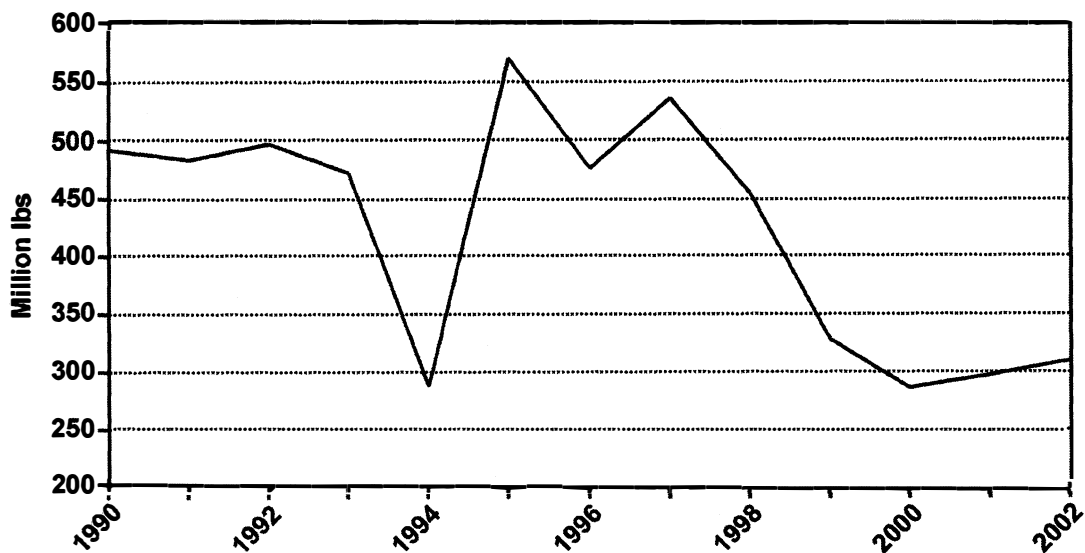


Figure 12a. Purchase Intentions

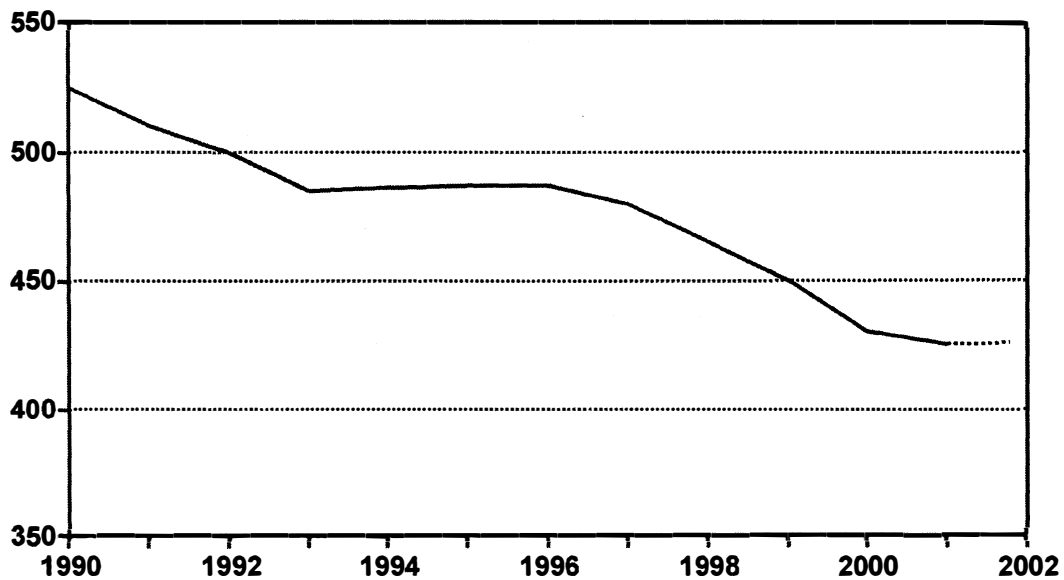


Figure 12b. US Cigarette Consumption

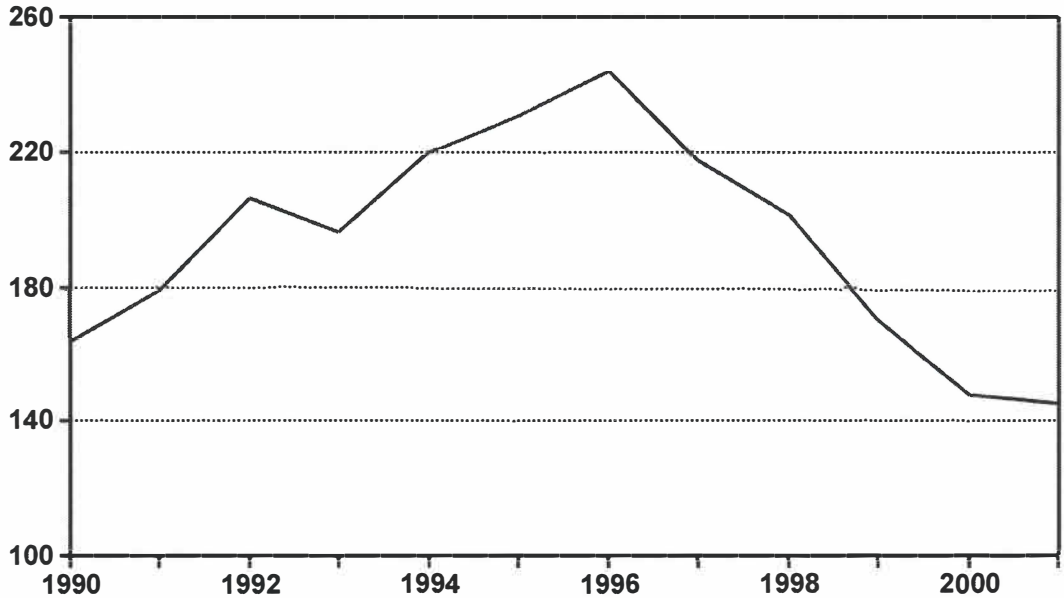


Figure 12c. US Cigarette Exports

law in the first place? Because of our imports. We were importing almost as much tobacco to meet our total demand here, and it was a crisis. So certain politicians reacted to that, and said we have to do something.

Another problem is international marketing. There is one agricultural commodity that USDA does not promote internationally. Do you know what that is? Tobacco. But you know what the one commodity that we can promote most easily is? Tobacco. What is the difference between South African corn and North Carolina corn? Not one thing, they both are the same. Now what is the difference between Zimbabwean tobacco, Brazilian tobacco and your tobacco? There is a big difference. Your tobacco is a lot higher in quality. It is product differentiation. Talk to anybody in the market—you can market something if you can differentiate it. Our tobacco is differentiated, and we can differentiate it. And, that is the difference between it becoming a corn or a soybean and it being something we can pro-

mote. If we get our price down there, our tobacco will get back into the market.

What I am saying is that we have been reactive instead of proactive to the problems in this industry. The Commissioner stood here this morning and said that we have got to stop meeting, and instead to take some action on these things. I think we know what is wrong, but the changes we make are more for political reasons than economic ones. We have got to start addressing issues in the industry because of the economics rather than the politics. There are a lot of political interests in tobacco, and there is big money being thrown into this industry now from the outside, which has muddled the picture, but we need to look at the economics of this thing. Finally, I asked the question: is it too late to reverse the situation? I will leave that up to you. I do not think it is. I think we can get back in this thing. But that is for you to answer.

U.S. Flue-Cured Tobacco Situation and Outlook

Blake Brown

Department of Agricultural and Resource Economics
North Carolina State University

Thank you very much, it's good to be here in Pitt County with you today. I am not an advocate, I am just an analyst. I get to work with a very diverse group of people, and that is part of the enjoyment of the job. I work mostly with farmers and farm groups on policy issues, but I also get to work with health advocacy groups. And, I get to work a lot with legislators and with industries. So I tell folks that I try to make everybody a little bit uncomfortable—a little bit mad—so that no body will feel that I am biased toward any group.

I want to talk about the tobacco situation from more of a domestic standpoint. But, you cannot do that without talking about some of the global impact, so I am going to cover some of Dan Stevens' material. I will skip through some of this fairly quickly, though, because what I would like to do is get towards the end of my presentation and talk about issues for farmers. In particular, I want to address the sort of business planning can you do under the situation of uncertainty that we have.

The Domestic Tobacco Situation

If we look back at the 2001 season, there are a couple of things I will note. Prices were quite good at about \$1.86 a pound. That is higher than normal. Very little of the crop went to the cooperative. I know Dan went over the quota system so I am not going to say much about that. The thing that is very different is the fact that we used to talk about different kinds of belts: the old and middle belt, the eastern belt, the border belt, the Georgia/Florida

belt. Now we have southern contracts, northern contracts, southern auctions, and northern auctions. About 80% of the flue-cured tobacco produced last year was sold through contracts. The marketing system has gone through a very dramatic shift within the last two years. Most of the shift took place last year, when sales basically switched from an auction system to a contract system. These contracts are basically marketing contracts very similar to the way cotton or other agricultural commodities are sold. This is a change that has been a long time coming, and quite frankly, it is a little surprising that it took so long to come to tobacco. Most agricultural production shifted to systems of direct sales and marketing contracts long ago. The thing that folks are waiting to see is how long this contract system will continue to be solely a marketing contract. This arrangement involves the least intervention by the company that is doing the contracting. Alternatively, will the new sales system evolve into more of a quasi-production contract similar to what you have with some vegetables, and, of course, poultry and hogs? I do not think it will ever go to quite that extent.

All right, let me talk about the cigarette market, because it is very important for what is happening today. Basically the significant thing that has happened in the US cigarette market is the Master Settlement Agreement (MSA), which is, of course, where the money for this meeting today came from. The reason that this is significant is that it did two things. First, it instituted a series of basically in-perpetuity pay-

ments from cigarette manufacturers to states that agreed to settle with, and not sue, the company at any time in the future. Second, the payments have raised the cost of cigarettes, which has been passed on to the consumers.

Another aspect that is very important is that in reaching a settlement, the states essentially granted cigarette manufacturers a large degree of market power, which has had two consequences. First, states placed themselves in a position where their Attorneys General offices now have to enforce barriers to entry into cigarette marketing, because there is a big incentive for new cigarette manufactures to come on board. This is a huge issue in terms of the Master Settlement Agreement. Secondly, states have placed themselves in a position in which they receive much less money if cigarette consumption declines. To some extent, it is ironic that things were set up in this way. But, if you look at court cases, and if you look at all the analyses that have been done, it becomes apparent that cigarette manufacturers have been granted some cartel power through this MSA. And so what we have seen is a rapid escalation in cigarette prices since 1997. Prices have

risen from \$1.95 a pack to somewhere around \$3.50 to \$3.60 a pack at the first of this year. (See Figure 1.) The cost of the MSA to cigarette manufacturers, depending on how you model cigarette consumption, is probably somewhere between 30 and 70 cents per pack. Cigarette prices have increased considerably more than the actual cost of the MSA, which is a very interesting situation. I work a lot with the State Attorneys General offices, and we are doing a big study for the Tobacco Trust Fund Commission. It has been a very interesting process to understand more about this settlement and how it works. And, it will be interesting to see how it plays out, particularly regarding the barriers to entry to new manufacturers.

If you look at the US cigarette market (Figure 2), domestic consumption has been declining fairly steadily. There was a price decrease about 1993 and a sort of leveling off and then a slight increase in cigarette consumption. This happened after what has been called 'Marlboro Friday', when Phillip Morris dramatically dropped the prices of Marlboro cigarettes. Then in 1998 the MSA went into effect, and prices began to escalate fairly rapidly as I noted ear-

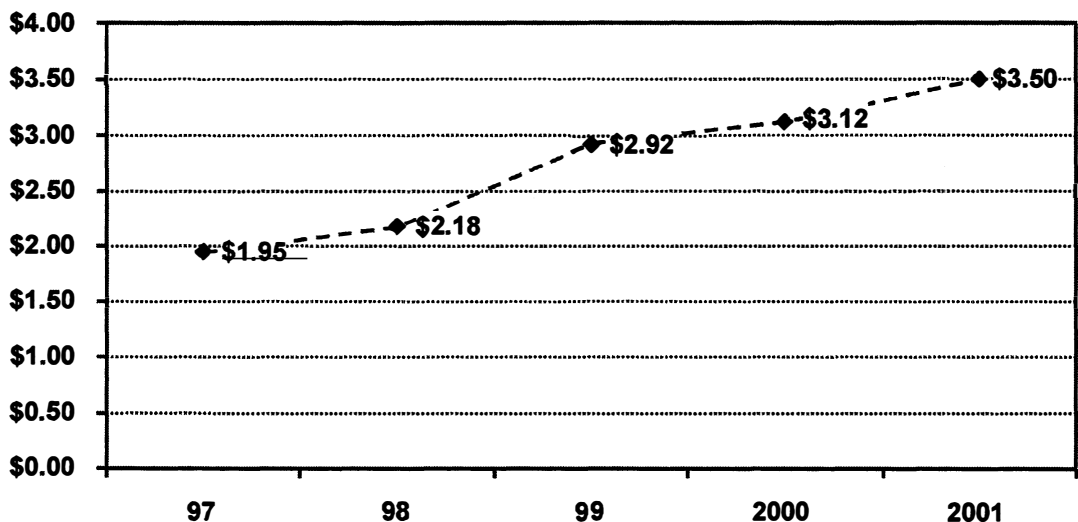


Figure 1. Average US Retail Cigarette Price (November of Each Year)

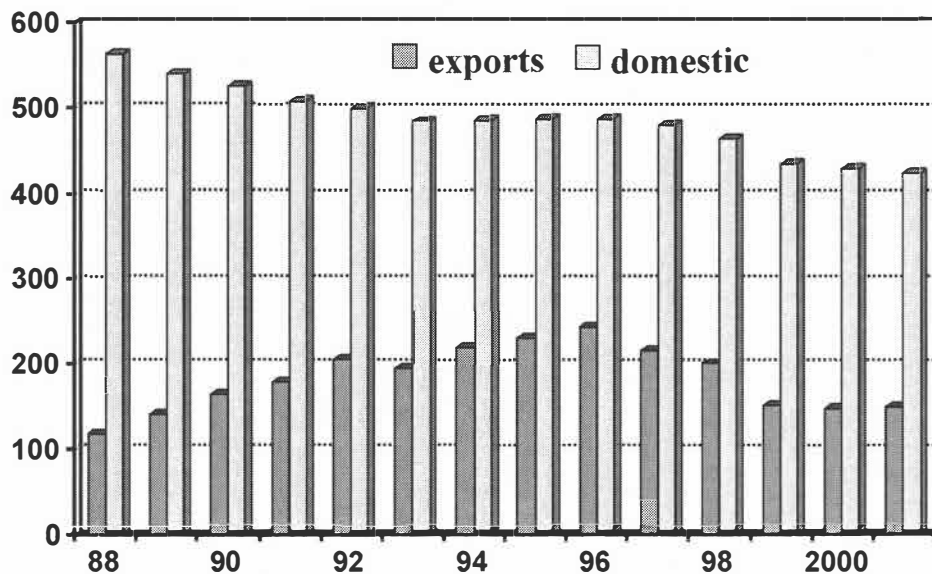


Figure 2. US Cigarette Market

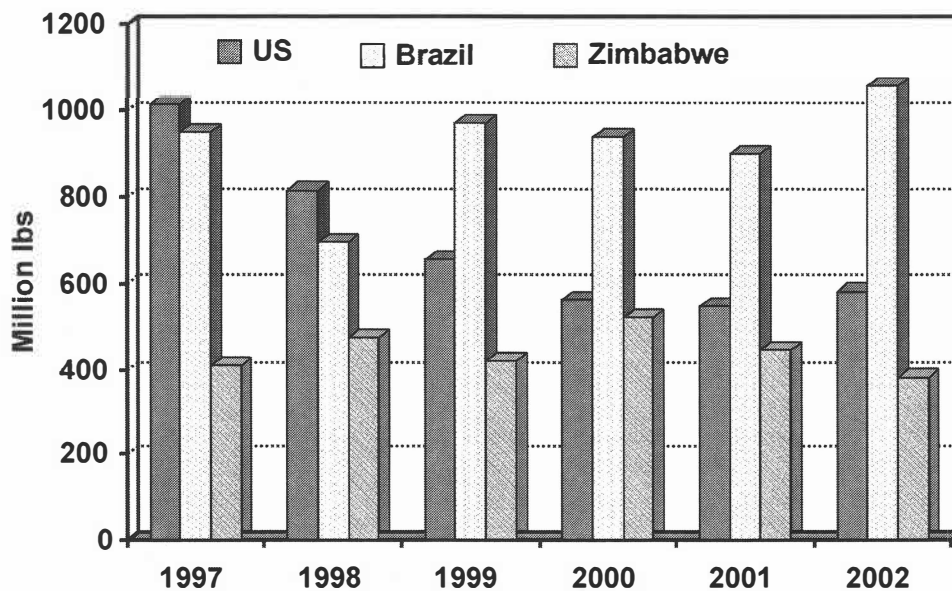


Figure 3. Flue-Cured Tobacco Production

lier. Because of this, cigarette consumption decreased fairly rapidly for a couple of years, and now it seems to be leveling off again. One of the things that has been surprising to economists like myself who are trying to model this consumption is that it has been even less sensitive to the price change than we thought it would be. Consumption has not decreased as much as some forecasts would indicate.

The other part that is very significant here, especially to tobacco farmers, is the decline in cigarette exports. Cigarette exports reached a historical high in 1996. The US produced more cigarettes in 1996 than ever in history, but since then production has declined from about 250 billion cigarettes to about 150 billion. This, of course, has had a very significant impact not only at the farm level, but also at a manufacturing level. When we look at the impact on the North Carolina economy, we always talk about the farm level, but we must also think about the huge impact in the Piedmont-Triad area, where a lot of cigarette manufacturing takes place.

Dan Stevens spent a lot of time talking about something that I want to revisit here because it is very important to US tobacco growers. Despite being a global commodity, there is less intervention from the US government in local markets than there is for any other commodity (such as cotton, for example, which is one I study). Figure 3 shows flue-cured tobacco production for the US, Brazil and Zimbabwe. These are basically the three producers of high value, high quality flue-cured tobacco. The competition between these three producers in the world market is very intense. Although there are many other producers, most do not compete in terms of quality with these three. This graph illustrates that US production is declining dramatically as our quota has decreased since 1997. Zimbabwe is kind of bumping along, and now it looks like Zimbabwe is going to decline because of the political turmoil there, and also because of the land redistribution program that the government is trying to implement. Brazil has been trying to

make up the slack.

Now remember, this is a global market. Leaf merchants and cigarette manufacturers are global corporations. The task of leaf merchants is to go out and contract farmers around the world, to decide where the best tobacco will be produced and to try to meet the demand for that tobacco. One of the things merchants are struggling with is the difficult political situation in Zimbabwe. Companies will have to rethink their position there in the future, and decide where they will relocate. Well, if the US Tobacco Program stays in place, obviously a company will want to put more of its operation where it already has a lot of production, and that is in Brazil. But, if you have a scenario in which the US program were to be eliminated through a tobacco buyout or some other measure, then a company will likely put more of its investment here, spreading itself between Brazil and the US. You can see the dilemma that companies like Dimon, Universal, and Standard Commercial, all of which are very important to this eastern economy, face. The dilemma they are facing is trying to plan where to place their investment in capital facilities.

The next aspect to consider is flue-cured disappearance (use). I am not going to spend a lot of time on this other than to say that Figure 4 indicates that domestic disappearance is somewhat erratic but basically trends downward with US consumption. It has been particularly affected in the last few years by the decline in both US consumption and in cigarette exports. In terms of unmanufactured tobacco exports, especially in the 1970s when the US had a virtual monopoly on premium type flue-cured tobacco, US exports were actually at or above the amount sold domestically. In the 1980s, however, as Zimbabwe reentered the market after its civil war, and as Brazil entered the market as a new producer of premium flue-cured tobacco, US exports declined to below the level of domestic sales. Dan's graph [Figure 6, p. 5] showed a little bit of an up-take after the US price was lowered

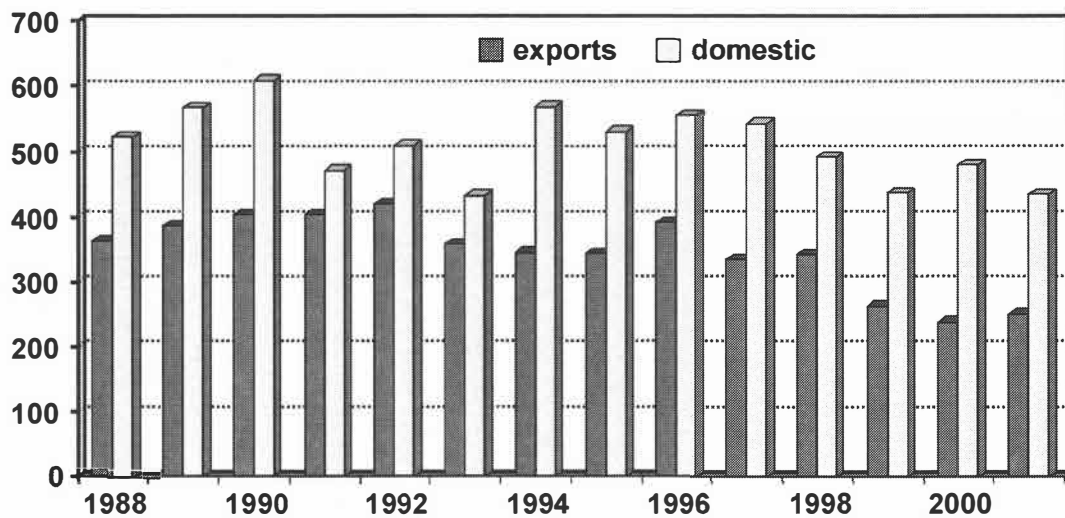


Figure 4. Flue-Cured Disappearance

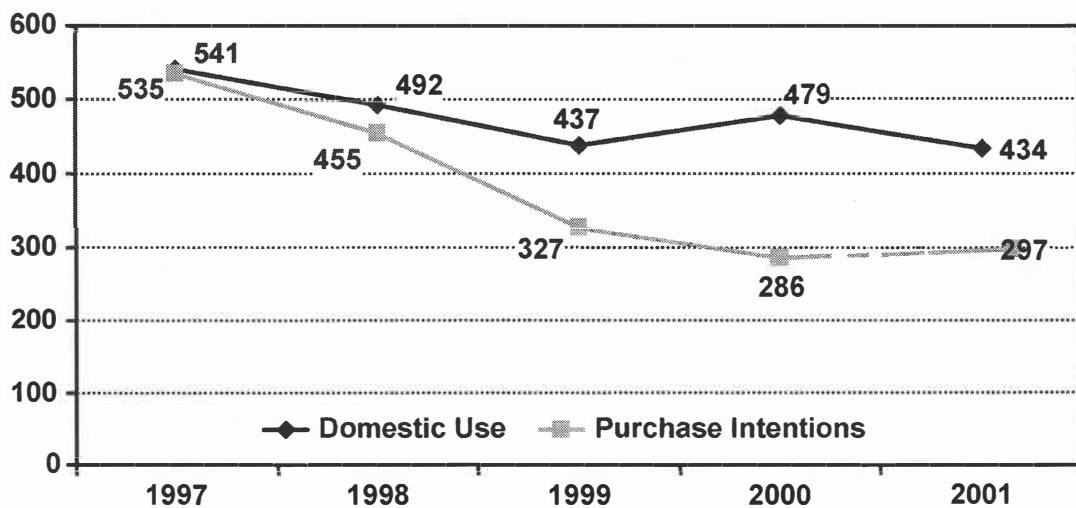


Figure 5. Domestic Use and Purchase Intentions for US Flue-Cured Tobacco

in the mid 1980s, and now since the mid 1990s we see a gradual decline with some very disturbing declines in unmanufactured export in recent years. The situation in Zimbabwe may help stabilize that for the US, but right now, as Dan mentioned, the US is not in a position to recapture any of that market. Most of that has been moving toward Brazil.

Let me just point out one thing about domestic use and purchase intentions of flue-cured tobacco before we move on to some other issues (see Figure 5.) One of the notable aspects of the purchase intention portion of the quota that Dan showed you earlier is that for the last two or three years, purchase intentions have been well below the amount of tobacco that US tobacco companies have actually been using. They have been using more US tobacco than they have been purchasing. What has been going on with the Master Settlement Agreement, and with the expectation of higher prices and lower cigarette consumption, is an anticipated need of less tobacco in the future. Well, tobacco manufacturers hold roughly 18 months to two years worth of tobacco in storage. So, if one anticipates using less tobacco in the future, in the short run there will be a need to pull down inventories. This is because if a company has been holding two years' worth of tobacco and starts using less, it might end up with a surplus unless its inventories are lowered. Pulling down inventories in the short run means buying considerably less tobacco than what is actually used. Now, I tell farmers that the bright spot in this is the fact that once companies adjust their inventories, purchase intentions come back in line with the amount companies are actually using. The amount companies are using, of course, is declining towards 400 or maybe even well below 400 million pounds, but it also indicates that the purchase intentions have the possibility, at least, of increasing back up to 350 million pounds or at least to the point where they meet usage.

I am not going to say much about the quota. Dan discussed that. But, the quota basi-

cally is still under 600 million pounds. This year it is 582 million pounds. If the US program stays in place we could see that quota come back towards 600 million pounds. And, perhaps with what is going on in Zimbabwe, exports will stabilize a little bit. Now recall the average quota in the early 1990s was about 870-880 million pounds, which is well below where US markets were 5 to 8 years ago. But, this might be a stable level for at least the foreseeable future.

The Tobacco Buyout: Consensus

The big issue, of course, is the tobacco buyout (see Figure 6). When is it? When is the money coming? I would say that there are several things going on, and I am sure Commissioner Phipps probably alluded to some of the work the Department of Agriculture is doing in this area. Essentially, the first thing that is required, which is not easy, is to reach some sort consensus among the burley and flue-cured growers and quota owners in both areas. That is not easy to do because each group has different interests.

The second thing, which is just as difficult, is that there will have to be some sort of consensus among cigarette manufacturers. Yes, they would all like to buy tobacco cheaper. No, they all do not agree on how to accomplish this. The prime issue here is FDA regulations, which one large manufacturer wants, and the rest say, "ain't no way." Another point is the consent of health advocacy groups. They can stop a buyout if they do not like it—that is, for example, if they think that it will mean the US is going to grow tobacco everywhere unconstrained or if they think it is going to benefit cigarette manufacturers. These kinds of differences are very important because they can derail this thing very quickly, so their consent will be needed. So the question is: What kind of consensus can be reached in which everybody is willing to participate? Again, this is not easy, but it is what legislators are working on. I know Senator Helms' office and Senator McConnell's office (of Kentucky) are both working very hard on

- **Consensus:**
 1. Among Burley and Flue-Cured Growers
 2. Among Cigarette Manufacturers
- **Consent of Health Advocacy Groups**
- **Funding Sources:**
 1. Excise Tax Increase
 2. Capture the Existing Excise Tax
 3. Phase II Funds
 4. Cigarette Manufacturers
- **FDA Regulations?**
- **A Tobacco Program after a Buyout?**
- **Requires Federal Legislation**

Figure 6. Considerations in a Buyout

this issue behind the scene.

The next big question is: how do you fund a buyout? If you are talking about \$8 (for quota owners) and \$4 (for growers), which is the figure everybody likes to talk about, where will that kind of money come from? Congress did fund the peanut buyout. The peanut program is changing from a quota program to a commodity-type program, which cost \$4 billion. But, a lot of states are involved in peanuts—Texas being one of them—and peanuts are not generally viewed as problem-ridden. It is a very different issue to get federal money for a \$4 billion peanut buyout than it is to get \$20 billion for a tobacco buyout. First, there is the issue of political support, and second, the image of peanuts is just different from tobacco. So, federal funding as a budget line item is probably not an option. The idea of an excise tax increase was promoted early on. This is probably a deal stopper, though, because getting a consensus on this from the various groups involved, or even among tobacco state legislators, is likely to be difficult.

Richard Burr, a Congressman from the Winston-Salem area, proposed capturing the existing excise tax. He had a 5-cent excise tax already going into place this year. He suggested

just capturing it, using it for a few years, and then giving it back to the government to use for whatever it wanted later. This was really a good idea, probably one of the best ones proposed that I have seen. The only problem was that September 11th changed everything. We went from having a projected surplus to having projected deficits. So, capturing that tax became basically impossible. Walter Jones is a co-sponsor of that deal by the way.

Phase II funds is another option.¹ If there is a buyout, my guess is that Phase II funds will be pulled into it. The agreement was written up in such a way that if there is a buyout, cigarette companies ante-up some way to fund this thing, or find a way to fund it through user fees on smokers. My guess is Phase II will be part of it. Now, this is just a trade off. Some folks will argue that it is good based on the way these Phase II funds have been allocated, and some folks will argue that it is a terrible thing. Some states are more inclined towards this option, and some state are very opposed. So again, this is an issue that causes some tension, which makes a consensus somewhat more difficult to reach.

Lastly, is the option that the funds have to somehow come through cigarette manufacturers. Perhaps this will be through some sort of user fee that the government instates. Somehow this source of funding will have to allow manufacturers to pass this cost on to consumers. The idea that is being talked about a lot now is the user fee, which may be a vehicle that can be put in place. It is actually a quasi tax, but it does not have the same ramifications as an increased excise tax. So, there are several proposals in the works. People ask what the probability of a buyout is. I say, well it is greater than zero. I really don't know what the probability is. Some days it seems like it is closer to 50%, and some days it feels like it's a lot less than that. So we will just have to wait and see.

I already mentioned FDA regulations, a very important issue and also one that makes it quite difficult to reach a consensus. The other re-

lated issue is: if the tobacco program is eliminated, what do we have in its place? Will tobacco get a commodity program like peanuts got? Probably not. It would be a very expensive program to operate—a lot more expensive than the quota program that is currently in place, because it would not be a no-net cost program, which is what our current tobacco program basically is.

Well what could be done? Kentucky really wants some sort of production control program to keep tobacco from leaving the state. Health advocates want some sort of production control to ensure that we do not just grow tobacco everywhere. Some producers want some sort of production control to keep other states from producing tobacco. So I do not know what the outcome of that will be, but I know it will not be easy. Most North Carolina farm policy organizations say, "Let's get a buyout and then we will worry about whether we have a program later." Most of the Kentucky organizations basically want to get a buyout and keep the program they have. That probably will not happen. You cannot get paid for something and keep it. So this is another very difficult issue to reach consensus on.

What I would like to remind you of is the fact that all of this requires federal legislation. We are seeing a lot of work done in other areas, which is all good and may help bring about a consensus. These efforts may help states come to a consensus, but the bottom line is this is something that your Senators and Congresspersons have to do, and then the US President has to sign off on it. You cannot forget that. That is a very important part, which also does not make a change in the program easy.

Future Prospects

After hearing me say all these things you may feel we might as well give up hope, but, no, I do not think so. I think it is still a possibility, I just do not know how probable it is. Given all these factors, then, what does the future

hold? This is what I often talk to farmers about. If you are a farmer or if you are an agricultural business that is dependent on tobacco, how do you plan? Let us think about two scenarios for your business and then think about how will you plan under these two scenarios (Figure 7).

Scenario 1

- Current program remains with current price support structure
- Exports erode as domestic purchases recover
- Imports increase as a proportion of total
- Quota stabilizes around 600 million pounds
- Some auctions remain?

Scenario 2

- Program is eliminated
- Price declines significantly, becomes more volatile
- Exports expand, domestic use recovers some, imports decline
- World production of premium flue-cured and burley consolidates, with little change in total

Figure 7. What Does the Future Hold?

The first scenario is that the current program remains with the current price support structure. Exports will continue to erode some as domestic purchases recover a bit, so maybe you can see the quota stabilize somewhere around 600 million pounds, at least for the next few years. Over the long term, we probably would continue to see erosion, but in the short term we might anticipate the 600 million pounds or so mark. Most tobacco will continue to be sold via contracts. My guess is that as long as the program is in place and there is a price support, some auction markets will continue, and that will serve as a venue to apply a price

support (unless, of course, grading gets voted in—then I think that grading may be enforced at the buying stations, which may eliminate some of the need for auction markets). This is one scenario—things go along like they are for a little while longer.

The second scenario is that the program is eliminated, through a buyout or otherwise. The price declines significantly. What it will decline to is a question we are trying to analyze right now (Wally Thurman and I did a big study on this in 1995-96, and we are in the process of updating that study of what will happen if the program is eliminated. We are very fortunate to be funded by the North Carolina Tobacco Research Commission, which basically consists of tobacco growers). If the program is eliminated during a period when inventory is pretty low, or if there is not a surplus supply of tobacco (as is the case right now), then the price of tobacco will fall fairly slowly. It probably will go to \$1.45 in the first year or two, and then as supply gradually expands, it will go on in a sort of orderly manner on down towards \$1.20, which will most likely be an equilibrium price. On the other hand, if the program is eliminated during a period of large surplus supply in the world market, which we have from time to time, then prices will decline very rapidly towards that much lower level. So it matters when a buyout takes place.

Timing is also a matter in terms of how much exports expand. If we wait until the market share of Zimbabwe is reallocated toward investment in Brazil, most likely it will then be much more difficult to grab some of that market share, even if the US price declines. If the program is eliminated now during this time of turmoil in Zimbabwe, when companies, merchants and others are trying to decide how to reallocate their investments, then there is a much better chance of the US recapturing some of the export market because most of the price sensitive buyers have left the market. We are down to a hard core of cigarette manufacturers, some from northern Europe, who buy

US tobacco regardless of the price. However, we will probably return a point where many of the more price sensitive buyers will begin to buy some US tobacco, and leaf merchants will probably like to have some diversification on premium. They do not want to have all their eggs in Brazil. Given a choice, they will prefer to spread their investments around a bit. This is just good business sense.

So, exports would expand, domestic use would recover some, although I do not think domestic cigarette manufacturers are very responsive to price, because it is not a real price responsive market. Imports will decline. World production of premium, flue-cured and burley tobacco will consolidate. We will see more consolidation, primarily in Brazil and the US. The US will not take Brazil's market share away. Brazil's share is very, very, very solid. The only thing that would change this is if something happened to the Brazilian government; if there was political unrest or inflation or something like that. But you will not see much change in the total. The pie is set; it is not going to get bigger. The issue is how it will break up among different countries. US and North Carolina production would expand. Our forecast on the preliminary results we got on this model says production in flue-cured tobacco will easily go above 900 million pounds. Frankly, this is a little surprising to me under the current circumstances. I thought it would be lower than that. So I think it is not unreasonable to think that if this were to happen, US flue-cured production would move back up to the 900 million to 1 billion-pound mark as prices decline.

In terms of North Carolina, production will decline in the Piedmont, but in the eastern part of the state, farmers will not have too much to worry about for now. This is a very competitive tobacco-producing region. It will still earn higher returns, and you will see a lot of tobacco grown here. In fact, one of the things that Kentucky is worried about is the prospect that, as flue-cured production declines in our Piedmont region and no controls on produc-

tion exist, growers in the Piedmont will shift to growing burley tobacco. North Carolina could easily double its tobacco production under this scenario. Whether you like that or dislike it depends on which side of the issue you stand. But those are the facts. It will be a very viable commodity here that will compete very well.

Consolidation of growers, though, will be accelerated, so we will see fewer growers growing more tobacco. I do not think they will be huge growers. Rather, they will be middle-sized growers, probably 100 to 200-acre growers. This is the likely size range of a stable unit that will work well for companies to maintain the kind of quality they want. We will see increased specialization of tobacco farmers. We will not see the diversification on farms that we see now. The reason for this is that tobacco is a very management-intensive crop, and some farmers will specialize in tobacco production because that will be the most profitable thing for them to do. They will drop the other commodities that they grow currently

because they have not been allowed to grow as much tobacco as they would like. Other farmers will move out of tobacco and will specialize in cotton or peanuts. I think peanuts have the potential to be a very important commodity in some counties that have not been growing quite as much as Pitt County, for example, has. We are going to see a lot of structural change, which I think is an outcome that surprises most folks. But, when you think about the way farms would have to operate in a new market situation, it should not be surprising at all. And, of course, the last question is: will there be some compensation for growers in this? Hopefully there will be compensation through some sort of buyout.

¹ Phase II funds were set up under the Master Settlement Agreement to compensate tobacco growers and quota owners for losses incurred as a result of the Master Settlement Agreement.

The Economic Impact on Tobacco Dependent Communities

Chris Beacham

North Carolina Rural Economic Development Center
info@ncruralcenter.org

The purpose of this presentation is to provide background on tobacco dependency in North Carolina—stressing the importance of people defining dependence in a broad way as they pursue policy options and community development projects. I also wanted to discuss, briefly, the importance of the Tobacco Trust Fund Commission, the Golden LEAF Foundation, and the Health and Wellness Trust Fund. The state of North Carolina has committed those funds to help tobacco-dependent communities. For instance, I am directing a marketing program for burley tobacco in Asheville, which is supported through the Tobacco Trust Fund. In that program I interact frequently with the people who

run the Burley Stabilization Corporation, which is based in Knoxville, Tennessee. In the case of Tennessee, money from the tobacco settlement has been used to fill holes in the state budget rather than being used for community development or the agricultural industry. My colleagues in Tennessee cannot develop alternative marketing structures like we're doing in Asheville because they lack funding. I came to North Carolina (from Louisiana) because of the willingness of people in this state to talk about tough issues—whether it is education or the lack of development in rural areas. I am very proud to be an adopted North Carolinian.

Figures 1 and 2 show some of the histori-

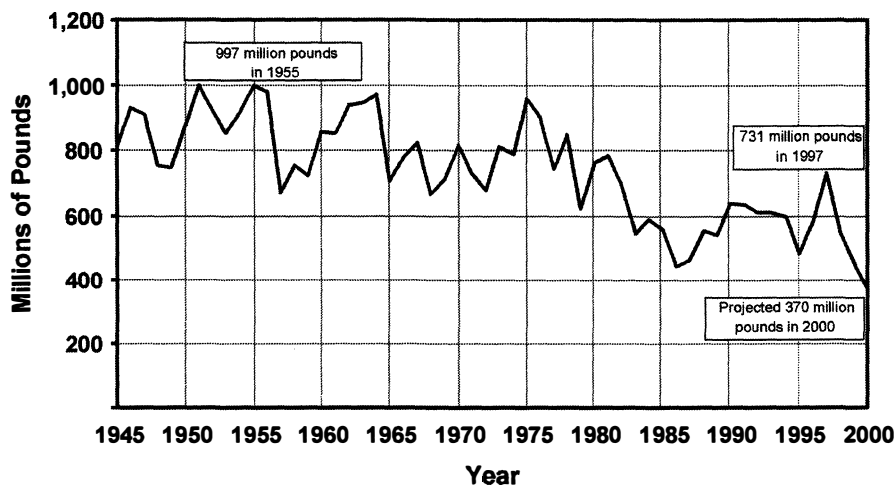


Figure 1. Tobacco Production in North Carolina, 1945-2000

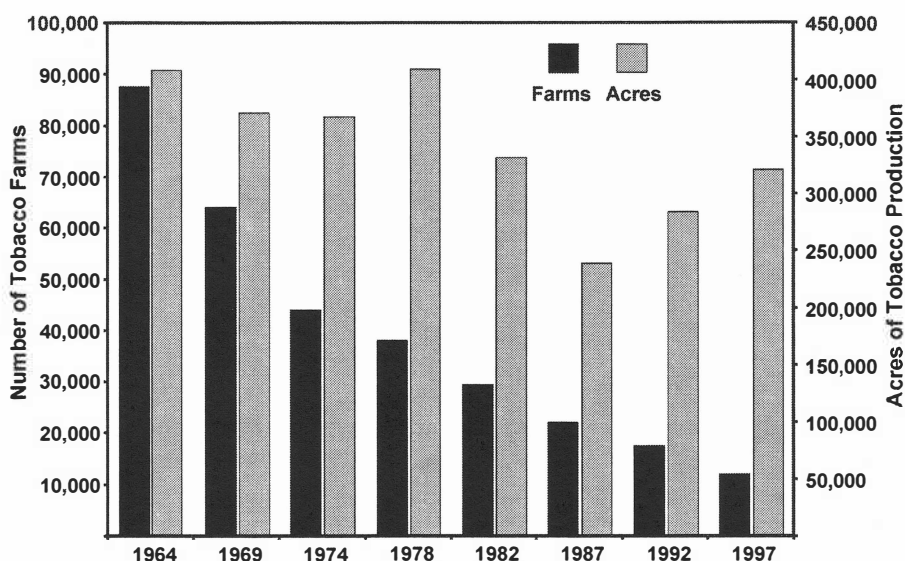


Figure 2. Farms and Acreage, 1964-1997

cal trends in tobacco production in North Carolina. The tobacco industry has undergone dramatic change in North Carolina. In five years, from 1997 to 2001, tobacco production dropped from 700 million pounds to below 400 million pounds. As is the case with agriculture in general, the number of tobacco farmers has dropped. Figures 3 and 4 provide a geographical snapshot of the tobacco industry in the state, highlighting both agricultural production and tobacco-related manufacturing. Currently, there are approximately 12,000 tobacco farmers in North Carolina. Without the tobacco program, which has prevented the buying up and combining of tobacco farms, the figure would easily drop to 2,000 farmers. The 1998 tobacco settlement had a tremendous economic impact. Statewide, 26,713 jobs have been lost along with \$4 billion in output. In terms of Eastern North Carolina, the settlement resulted in a loss of 3,871 jobs and \$248 million in output.

In the wake of these losses, the Rural Center conducted a series of workshops across the state in the summer and fall of 2000. Those workshops explained the changing tobacco

industry and the newly established tobacco trust funds. More important to our purpose here, the public meetings allowed us to gauge local citizen opinion about how the state should respond to the decline in tobacco. Consistently, the Rural Center found the public wanting to preserve farming and rural communities, which are still seen as an important part of North Carolina. Workshop participants did not believe that all farmers should leave the farm and work in a factory. Rather, they wanted to talk about the risks of farming, what could be done to help younger farmers get into farming, and the viability of alternative crops along with value-added, local processing. There was also concern over broader economic issues, particularly since there are many part-time farmers and spouses working in the local community. What happens if there aren't jobs in the local community? The public was worried about infrastructure and the ability of the local communities to fund infrastructure. And they were very concerned about the provision of public services in rural areas in the face of falling land values, falling sales and property taxes, and

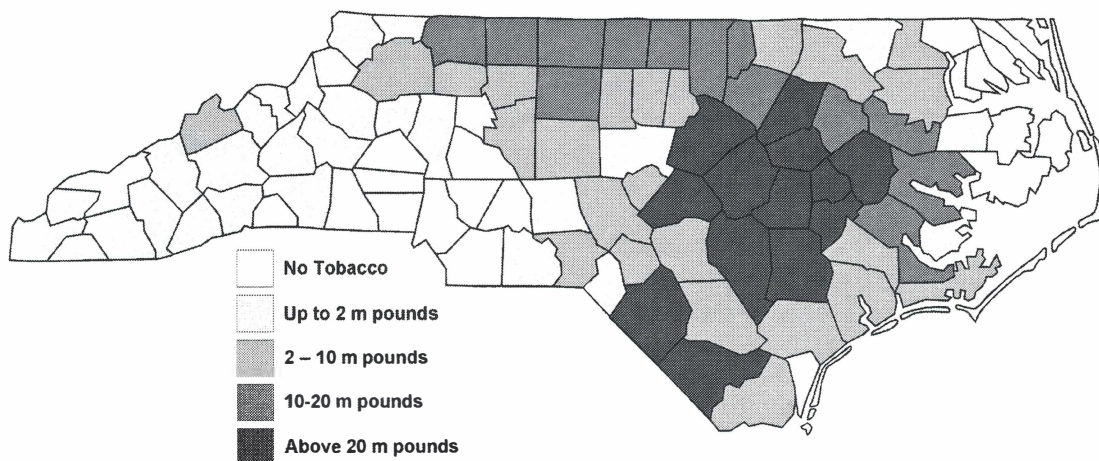


Figure 3. Tobacco Production in North Carolina

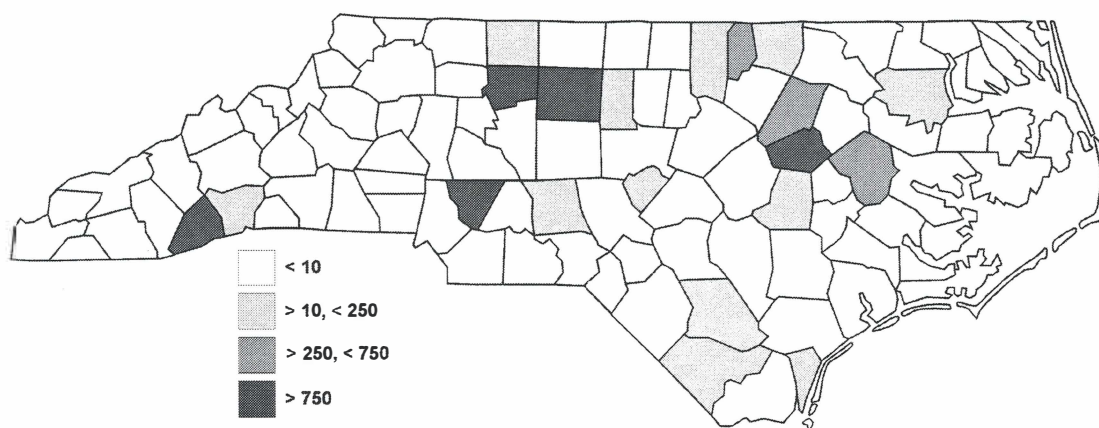


Figure 4. Tobacco-Related Employment by County

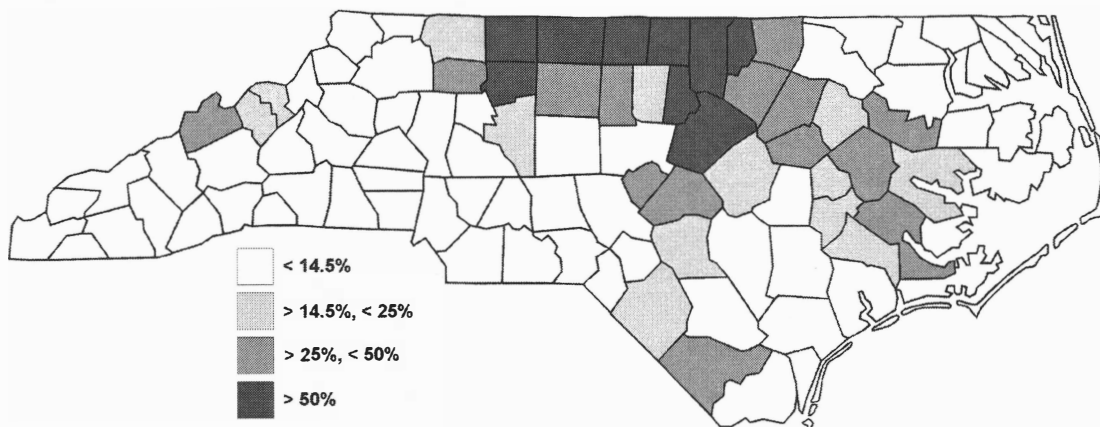


Figure 5. Tobacco as a Percent of Total Agricultural Receipts

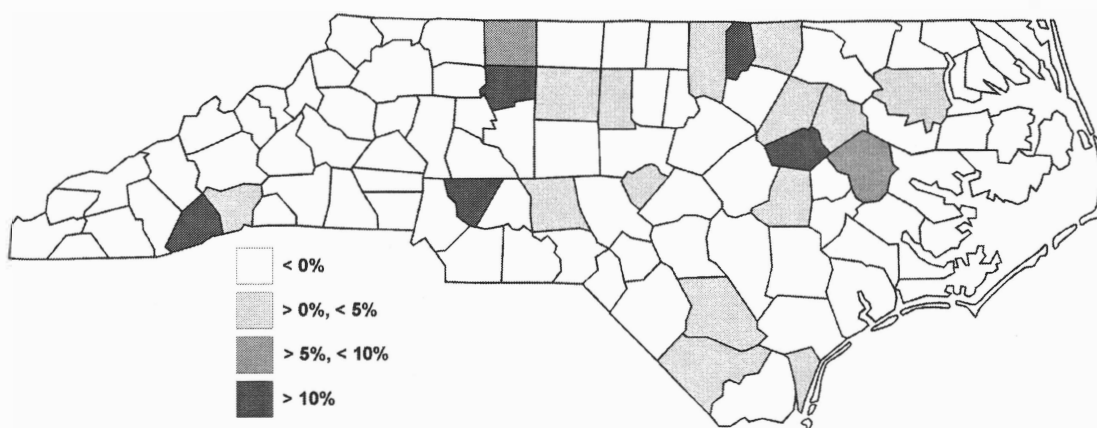


Figure 6. Tobacco-Related Manufacturing as a Percent of Total Manufacturing Employment

decreasing revenue levels, from the state level down to the local level.

The Rural Center also found regional differences in the perceived needs of tobacco-dependent communities. For instance, participants from the eastern part of the state (e.g., Lumberton, Farmville, and Ahoskie) expressed similar concerns over agriculture. And these meetings were often depressing because they came right after the flooding associated with Hurricane Floyd. Commodity prices were extraordinarily low and tobacco was continuing to decline. Attention centered around the issues of infrastructure and the new kinds of niche markets that can be created in order to keep farmers on the farm. In Farmville, significant discussion was devoted to the Global Transpark and how this asset could be used. In Ahoskie we spoke more about the needs of minority farmers, specifically African Americans. In addition to issues of infrastructure, marketing, and alternative crops, communities in the central and western part of the state (e.g., Reidsville, Winston-Salem, and Spruce Pine) expressed concern about preservation of farmland and the heritage of tobacco. The encroachment or spread of urban areas and bedroom communities was identified as an important issue. Recognizing variation in concerns is important when one works in different communities.

Differences in public concern over tobacco

are related, in part, to the different ways in which we can measure tobacco-dependency. Community level tobacco dependence can be defined in terms of both agriculture and manufacturing. In addition to looking at production levels, we can measure tobacco production as a percentage of overall agricultural receipts (Figure 5). In other words, how important is tobacco within the agricultural sector? In some counties, seventy, eighty, or ninety percent of agricultural income comes from tobacco. Of course, dependency is not limited to farming but also includes tobacco-related manufacturing operations such as cigarettes, stemming, and re-drying. For example, one can measure this form of dependence in terms of tobacco-related manufacturing employment as a percent of total manufacturing employment (Figure 6). When agricultural and manufacturing measures are combined, we are able to identify the most tobacco dependent of North Carolina's counties (Figure 7). Twenty-three (or sixty-six percent) of the thirty-five are located in the eastern portion of the state. The Rural Center will continue refining these measures of dependency because there are data limitations. For example, we do not know how many workers from other counties are driving into Winston-Salem (Forsyth County) to work in cigarette manufacturing plants.

Although statistics on tobacco dependence

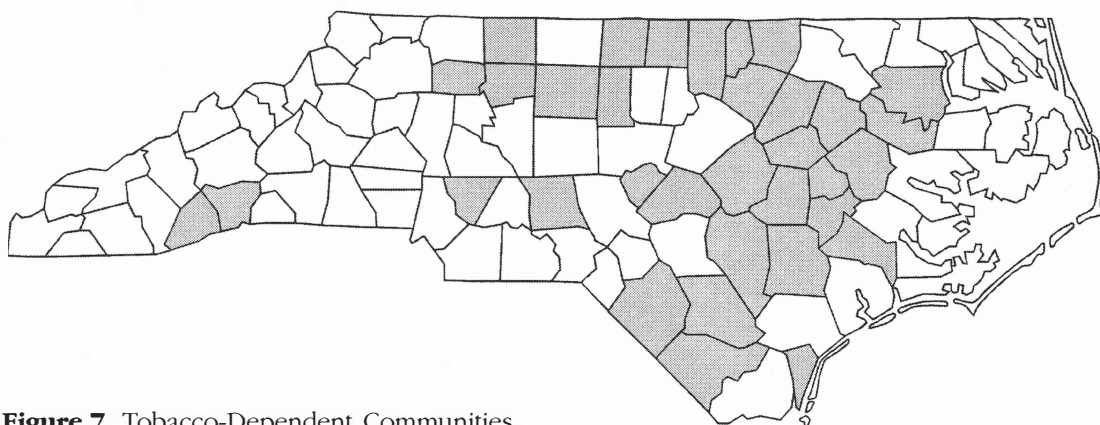


Figure 7. Tobacco-Dependent Communities

are insightful, analysts must also go beyond the data and examine specific local case studies. Working with the University of North Carolina-Chapel Hill, the Rural Center examined ten different communities. I have time to discuss only a few of them. Within these communities, we found significant differences in the nature of farming and manufacturing issues, as well as other factors affecting community economic response to tobacco's decline (Figure 8).

No single policy intervention is "the answer" for all four counties. In the case of Greene and Forsyth counties, the answer is perhaps infrastructure development and farmland preservation, respectively. Meanwhile, Vance County should pursue workforce training while Yancey should investigate alternative markets for crops. In summary, there is need to dig beneath the statistics and understand each tobacco

community's unique economic challenges.

In closing, I would like to emphasize that North Carolina agriculture no longer has the ability to drive our state. It is a fairly small part of the economy. Although extraordinarily important, tobacco itself is only five percent of our gross state product. While we want our communities to have a healthy agricultural sector, one has to think about how farming fits with everything else that is going on economically. One has to have jobs for the spouses of farmers and they need to be good jobs. We want health care in those jobs because farmers often cannot afford it. In addition, how can we help workers be more productive and attract industry that will replace income lost as tobacco and textiles decline? We need to start thinking outside of the box and begin taking advantage of opportunities coming into our communities.

County	Tobacco Farming	Tobacco Manufacturing	Other Factors Affecting Response
Forsyth	123 farms; \$30 in receipts per capita; Size of farms increasing; Limited amount of crop diversification	27% of manufacturing employment; Declining employment since 1987	Changes in banking sector means job loss; Continued urbanization puts pressure on tobacco farms
Greene	179 farms; \$1497 receipts per capita; Size of farms increasing; Some farmers pursuing alternatives	No tobacco-related manufacturing	Infrastructure constrains development; Affected by layoffs in surrounding counties; Limited industry and non-agr. tax base
Vance	125 farms; \$404 receipts per capita; Fewer farmers as they sell off and take non-farm jobs in Raleigh	11% of manufacturing employment; Likely to lose major plant in 2 years	Job losses in textiles; Few independent businesses; Lack of trained labor force for new industry; Interstate corridor location
Yancey	365 farms; \$150 receipts per capita; Farms consolidating and some crop diversification	No tobacco-related manufacturing	Small tier 1 county with recent job losses; Weak economic base in retail; Planned 4-lane road will reduce travel time to Asheville

Figure 8. A Closer Look at Four Tobacco-Dependent Counties

Tobacco in Transition: Issues Facing Burley Growers and Communities

Katie Algeo

Department of Geography and Geology
Western Kentucky University

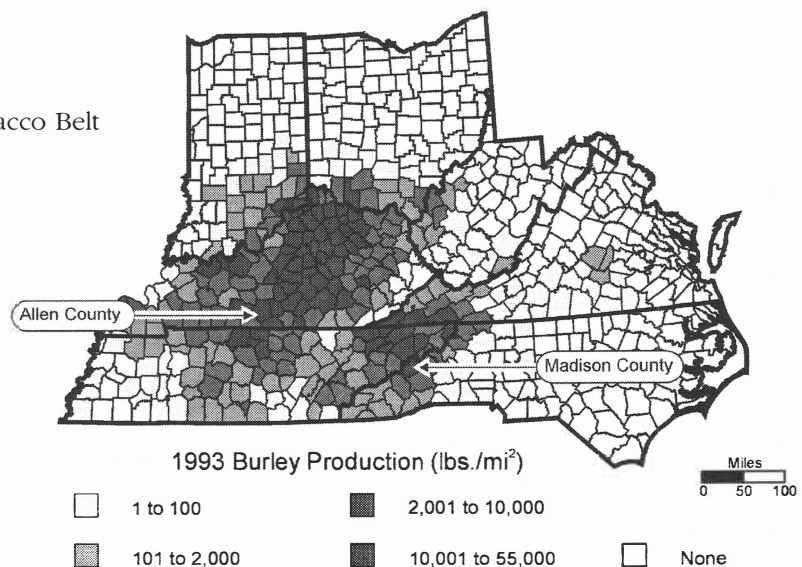
Tobacco growers, and rural communities in which tobacco production accounts for a substantial portion of farm income, face significant challenges at the start of the twenty first century from economic restructuring within the tobacco sector. In the next few minutes, I will summarize some of the major issues affecting the Burley Belt.

Although North Carolina is best known for its flue-cured tobacco, the western counties produce burley almost exclusively (see Figure 1). I will be drawing on two areas where I have lived and worked to illustrate my discus-

sion. I wrote my doctoral dissertation on the historical geography of tobacco in Madison County, North Carolina, and I now live in Allen County, Kentucky. Both counties are within what could be considered the core region of burley production. Burley is produced on many farms, usually in relatively small quantities—it is a staple crop of the family farm system. When I selected Madison County as a study area, it had more people involved in tobacco production than any other North Carolina county.

The photographs in Figures 2 and 3 will give you a feel for the two areas. Madison

Figure 1. The Burley Tobacco Belt



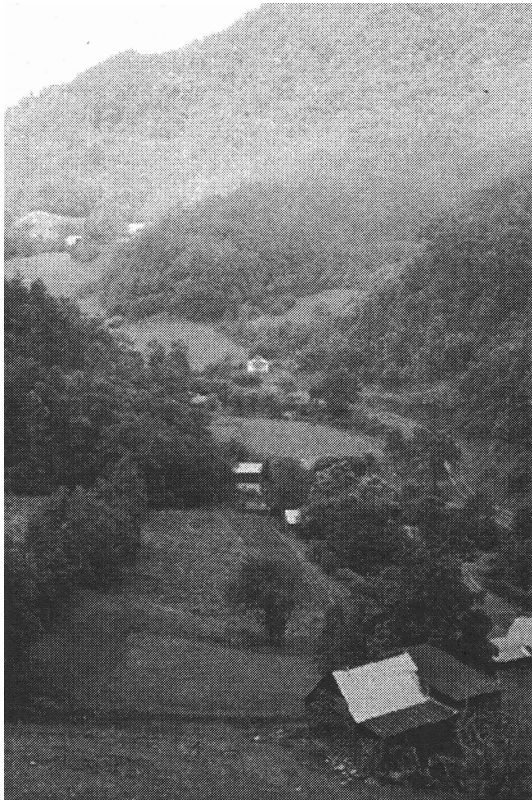


Figure 2. Madison County, North Carolina

County is located in one of the highest sections of the Appalachian Mountains, on the North Carolina - Tennessee border. Tobacco is grown in very small plots, usually in valley bottoms or on ridge tops. When I first started looking at this area in the early 1990s, 80% of farms grew tobacco and tobacco accounted for two-thirds of farm income. As of the most recent agricultural census, the percentage of farms growing tobacco had dropped to 64%. Allen County is in the rolling hills of the karst plain of south-central Kentucky. About half of the farms in this area grow tobacco. The average quota is about 4500 pounds.

Marketing

The biggest issue facing burley growers today is marketing. Farmers face an immediate choice between disposing of their crop through the traditional auction sale and committing their tobacco for sale to a specific company with which they sign a marketing contract. But they also face long-term consequences of their choice between these two marketing systems. Auction sales have been not only the norm but

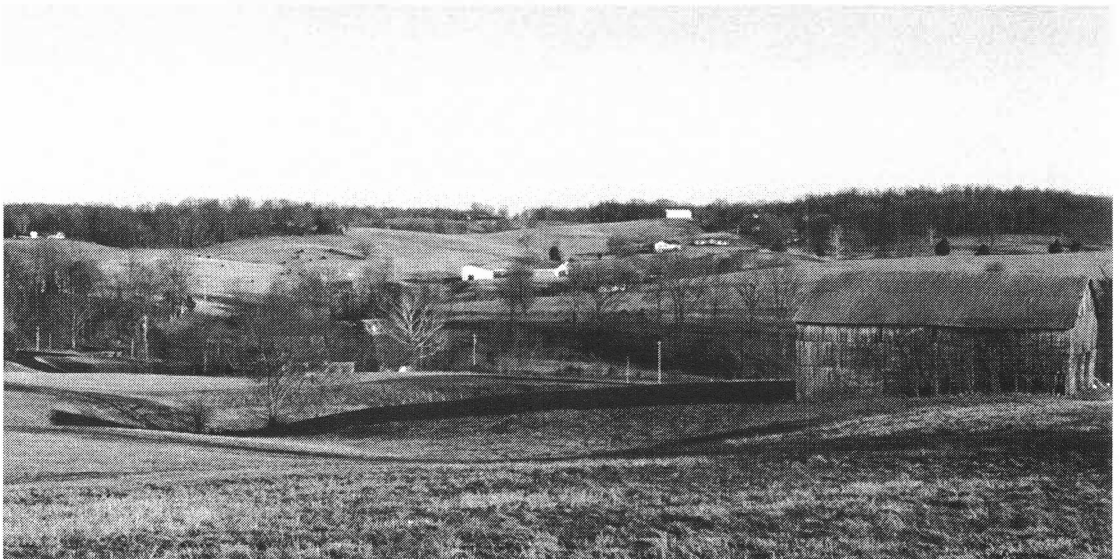


Figure 3. Allen County, Kentucky

also the rule for over sixty years. Auctioneers were used in tobacco warehouses as early as the 1820s to spur competition among buyers, but the modern system of tobacco markets dates to the establishment of the federal tobacco program during the Great Depression. Much of the tobacco program is implemented at auction warehouses, where USDA graders act as independent judges of tobacco quality. They determine the grade for each lot, which in turn determines the support price for which the leaf is eligible if not auctioned at a higher price. The tobacco program largely achieved its initial goal of stabilizing tobacco prices and has historically been an important factor in enabling small-scale growers to remain in production. Because of the intimate connection between auction sales and the tobacco program, and the role both have played in keeping burley a small producer commodity, the current auction system enjoys the adamant support of some producers, particularly smaller ones. As one Kentucky grower told me while surveying the short rows of tobacco set out in a cavernous and nearly empty warehouse, "I'll stick with the program and when the program goes away, I'll quit. The program's always been good to me." For this grower, selling at auction was a symbolic act as much as an economic one, for his few thousand pounds of leaf would do little by itself to keep this warehouse open.

The shift from auction sales to contracting has been sudden and dramatic. United Tobacco of Wilson, NC, began direct purchases from farmers in 1997, and by 1999, several firms were contracting for specialty tobaccos including Star Scientific and R.J. Reynolds, both of whom were seeking tobacco low in tobacco-specific nitrosamines (TSNAs), a carcinogen whose presence was exacerbated by then-accepted curing methods. Santa Fe, which has since been bought out by R.J. Reynolds, was contracting for organically grown tobacco for its American Spirit cigarettes. One Madison County grower, whose organic burley was particularly low in nitrosamines, told me that he had signed contracts

with both Santa Fe and Reynolds in 1999 for \$3.20 a pound. This price, which was 70-80% higher than the open market rate, indicates the kind of price advantage that specialty tobaccos can command when in short supply.

Phillip Morris introduced contracts for conventionally grown burley tobacco in 2000, and approximately 28% of the burley crop was sold under contract that year. In 2001, Phillip Morris expanded its contracting program, R.J. Reynolds announced intentions to purchase all of its leaf through contracts, and a host of other buyers including Brown & Williamson, Dimon, Hail & Cotton, and Southwestern jumped on the contracting bandwagon. Although growers specified which form of marketing they would use before the market opened, several redesignation periods allowed them to move between systems during the sales season. When the dust settled, at the close of sales in February 2002, 64% of all burley had sold under contract.

In Allen County, contracting has proven even more popular than elsewhere in the Burley Belt. According to figures supplied by the Farm Service Agency, ninety-nine percent of the 2001 crop, by poundage, was sold through contracts. Why should this area, which is not particularly innovative in other regards, be a leader in adopting contracts? Price is a powerful motive, but the structure of quota ownership and networks for soliciting tobacco also seem to have played a role. Contract prices during the 2001 season ran 3 to 12 cents per pound higher than auction prices for similar grades of tobacco. On average, over all grades, contract prices were 4 cents per pound higher. Since farmers who contract also avoid warehouse commissions and grading fees, they effectively pocket a price that is about 10 cents per pound higher, a price advantage that translates to several hundred dollars per acre.

Lease rates for burley quota have tripled in the past decade as successive quota cuts have reduced the amount of quota within the county. Producers piecing together larger production units by leasing quota are now paying 75 to 80

cents per pound for the production rights. For these growers, who see roughly 40% of the sales price of their tobacco go towards leasing quota, taking the higher contract price is simply the smart economic move. They cannot afford to indulge a nostalgic loyalty to the auction system.

Yet many Allen County growers do not lease quota and sell quite small quantities of tobacco. Their movement towards contracting appears to be explained by very strong networks for soliciting tobacco. One of the contracting companies in the region hired several of the larger, well-respected farmers in the county, paying them on a commission basis, to sign up other farmers for contracts. By selecting opinion leaders scattered in communities throughout the county, the contracting company managed to blanket their coverage and win over most farmers in the county.

Going, Going... Gone?

There is a widespread belief that the traditional system of auction warehouses is on the verge of disappearing. The dramatic reduction in the number of auction warehouses during the past three years lends credence to this idea. Figure 4 shows the number of warehouses that operated in each burley market in 1999 and 2001. An 'X' alone indicates a market that did not open during the 2001-2002 season. Eight out of 47 markets were in that category. (There is one market that does not show on this map—it lies in extreme western Missouri, and it has held steady at 2 warehouses).

In each of the remaining markets, the number of warehouses holding auctions was reduced. Although markets within the Bluegrass region fared well overall, the biggest market, in Lexington, saw a drop from 16 auction houses to 5. A number of markets were reduced to a

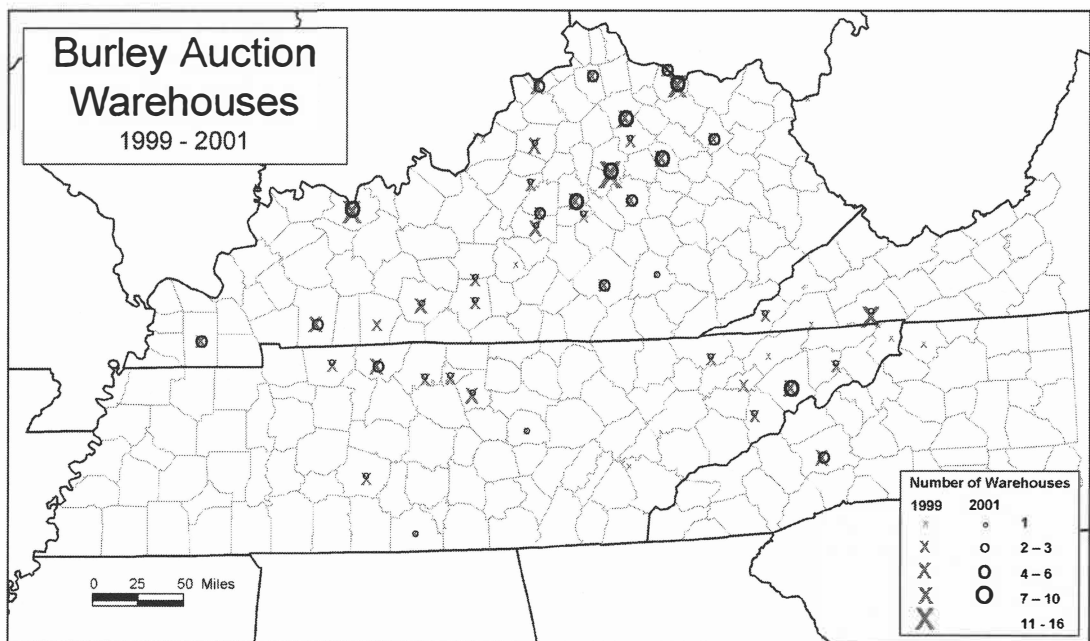


Figure 4. Burley Auction Warehouses, 1999-2001

single warehouse, which leaves them in a tenuous position vis-à-vis future operations. Throughout the Belt, the number of auction warehouses dropped from 164 in 1999 to 77 this season. For areas that have lost markets, growers incur substantially greater transportation costs and inconvenience to market their crop under the provisions of the federal tobacco program. The continued viability of the remaining warehouses is uncertain. The volume of tobacco that they handle has been greatly reduced by the move towards contracting and by quota reductions that have cut the volume of burly available for sale in half since 1997.

The dual marketing system currently offers farmers a safety net in terms of support prices should they not wish to contract. This option is an important protection for small producers who lack the volume of tobacco to command market clout. However, companies offering contracts to date have included many small producers. According to company figures, 48% of the growers who participated in Phillip Morris' pilot contracting program during 2000 had less than 5,000 pounds of quota. But the fear is that, should the auction system disappear, tobacco companies will encourage consolidation of production to streamline their operations by dealing with fewer growers.

The sale of most tobacco via contracts threatens the continued viability of the price support system. The issues here have to do with the effect on the tobacco pool of a dual marketing system, the impact of the loss of grading fees on the federal grading service, and the level that tobacco prices would reach without a price support system. For the tobacco pool, the cooperatives that purchase support price tobacco, the concern is that the auction market will become a repository for lower quality tobacco. Increasing stocks of less desirable leaf raise the costs of operating the pool, costs which are transferred back to the grower under the no-net cost provisions of the tobacco program.

For tobacco to be eligible for price supports, a USDA-certified grader must grade it.

Currently, growers selling at auction are assessed a grading fee, but those contracting are not since the contracting companies use their own graders. Should the warehouse system disappear, as things currently stand, there would be no venue or mechanism for implementing the price support system. The danger is that, without the competition of the federally mandated price floor, tobacco companies would significantly lower prices offered in contracts. The USDA, in anticipation of continued contractions of the warehouse system, is holding a referendum in March on mandatory use of federal graders at all tobacco sales, auction or contract. This opens the possibility that the price support system could continue even if the auction system totally disappears.

The dismantling of the price support system and the elimination of tobacco quotas is not unwelcome in all quarters, and in this regard, tobacco producers' interests are divided. Farmers who own quota have a vested interest in the preservation of this economic asset. Farmers who lease in substantial amounts of quota pay annually for production rights and could potentially realize greater profits if production controls were eliminated. As one Allen County farmer put it, "I'd be better off at \$1.50 per pound without quota than I am now at \$2.00 a pound." Whether that grower would be better off at \$1.25 a pound is a more difficult question to answer, and there is no guarantee that a free market price would settle at a point that would allow the grower to realize any of the lease savings. It is also likely that tobacco prices would become more volatile from year to year without the tobacco program.

A final market issue facing warehouse owners and tobacco communities is the adaptive re-use of closed auction barns. Only a few warehouses will be able to convert to receiving stations for contract tobacco. Because of quota reductions in recent years, and the greater efficiency of receiving stations in processing and handling tobacco, many fewer of these are needed. Another group of auction barns will

be converted to other warehouse and storage uses. Discount retailer Dollar General has rented several south central Kentucky warehouses. Lexington's warehouse district has undergone a transformation, as auction warehouses have been torn down, paving the way for redevelopment of prime industrial property, but smaller communities face the possibility that these structures will simply remain empty and unused.

Diversification

Some of the issues facing burley growers are common to farm communities across the country. Diversification is increasingly seen as a strategy for economic robustness. One group in Madison County, Mountain Partners in Agriculture, which was established in 1995 with support from the Kellogg Foundation, has sponsored a variety of programs that promote environmentally and economically sustainable agriculture. The group assisted with the establishment of a tailgate market in the community of Mars Hill, which has provided an opportunity for several of the area's conventional burley farmers to branch out into production of high-value organic vegetables, herbs, and value-added products. They have formed a partnership with an organic producers' cooperative that helps market the produce throughout the

Carolinas. Through demonstration projects, workshops, and a community listening project, Mountain Partners in Agriculture is promoting locally supported sustainable agriculture.

Finally, there is a need for these farming communities to celebrate their agricultural heritage. Tobacco festivals, parades, and the crowning of a tobacco queen used to be the centerpiece of community celebrations that focused on the opening of the tobacco market. New ways of recognizing and honoring the agrarian tradition are being sought. A threshing celebration using equipment from the 1920s has been held annually in Madison County since 1988, and the Madison County Plow Day was inaugurated in 1995 by the Grapevine community. These festivals are reminders of agricultural history, but they are also celebrations of the values that remain strong in the community—hard work, neighboring, and living with the rhythm of the seasons. Both are non-commercial events held by and for members of the community. No entrance fee is charged. There are no vendors hawking t-shirts and souvenirs. Conceived, organized, and enacted by local farmers, these events reflect a continuing pride in being part of the American agricultural system, which will help this community weather the transition in tobacco.

RAFI's Tobacco Farmer Survey Results

Betty Bailey

Rural Advancement Fund International – USA

Note: The following presents preliminary results of the Tobacco Farmer Survey. The final report may be accessed at www.rafiusa.org/tobacco/tobsurveyreportscreen.pdf. Please do not cite the following without contacting RAFI or consulting the final report.

Thank you all for coming back together, and thank you to everyone for putting this conference together. I am going to talk a little bit about the tobacco farmer survey that RAFI has conducted in cooperation with Wake Forest University. We have been conducting this survey over a several-year period. In 1997 we started interviewing 1,200 tobacco farmers in fourteen North Carolina counties, which are the top producing flue-cured tobacco counties in Eastern North Carolina. The survey asked farmers about their family situation, agricultural production, activities to cope with changes in the tobacco industry, and attitudes about the future of the industry and their options. We interviewed the same farmers again in 1999, and we just completed, in 2001, a third survey that tried to look at the changes in what farmers are doing and how they see the future, in order to get some sense of what would be helpful to them. The 2001 survey includes those who were farming tobacco in 1997 but had gotten out of tobacco by 2001. Nearly one in five of the tobacco farmers surveyed in 1997 are no longer farming tobacco.

It is a rule in our organization to ask rather than to tell the farmers. So we use the survey as one of the tools in finding out what the farmers are thinking, and to help us decide how best to support farmers and tobacco commu-

nities during these difficult times of change. Looking at the near certainty that there would be a decline in tobacco income, and looking at what farmers told us about the barriers to increasing income from other on-farm sources, we designed the Tobacco Communities Reinvestment Fund project, which is depicted in the video I will show after commenting on the survey results.

Figure 1 below shows results of the question, "What stands in the way of increasing your income from the other things you are doing on the farm or from other farm enterprises besides tobacco?"

Barriers	2001	1999
Place to sell	76%	78%
Lack of capital	69%	72%
Lack of low interest loans	67%	67%
Low labor supply	79%	78%
Lack of processing	82%	82%
Need added skills to grow	51%	55%
Lack of support from leaders	56%	58%
Equipment not convertible	60%	NA
Nothing as profitable	87%	93%

Figure 1. Barriers to Increasing Income from other Crops or Enterprises

The key barriers did not change a lot between 1999 and 2001. The top ones, as you can see, are not having a market or a place to sell goods, a lack of capital or a lack of low interest loans, lack of labor supply, and lack of processing. Those were the top ones; the key ones. We used this information to help us design the Reinvestment Fund Project that you are going to see a video about shortly.

The next figure (Figure 2) addresses a question about what people were doing to deal with the reductions in tobacco quota. And the first strategy is what most business people use, to cut costs. That was the answer given most often, but very close to this was the response "keep on doing what I am doing." It is very interesting that the manner of the response "I'm going to keep on doing what I'm doing" changed quite a bit from 1999 to 2001. Eight percent fewer are relying on this. Others really

Coping Strategies	% Response
Cut production expenses	22
Keep doing what I have been doing	20
Increase investment in non-tobacco	11
Get off-farm job	9
Increase tobacco production	7
Get out of tobacco	3
Retire	2
Other	26

Figure 2. Coping with Reductions in Quota

Intended Expenditure	% Response
Pay off debts	40
Retirement Account	24
Another business	11
Expand or diversify	6
Retirement	4
Other	15

Figure 3. Expenditure of Tobacco Settlement Funds

put an emphasis on increasing their investments in non-tobacco activity; 5% more than in 1999. A few were going to get an off-farm job (slightly more than in 1999), and some were increasing their tobacco production. I think this reflects some of the comments Blake Brown and others made earlier. A few were getting out of tobacco and a few were retiring, but far and away, people were intending to stay on the farm. Now whether they can do it or not is another story, but that is what the intent was.

Figure 3 indicates responses to the question "How are people spending their tobacco settlement money?" In part, we were looking at whether farmers are interested in investing in other kinds of enterprises. But what we learned is that clearly people need to put it into fundamentals like paying off debts and retirement funds. About 11% indicated investing in another business, and about 6% are expanding or diversifying their farm operations.

The final figure (Figure 4) illustrates answers to the question "Why did you get out of tobacco?" Between 1997 and 2001 about 18% of the farmers we had surveyed had left tobacco. About a third of them had retired. Almost a third again said that it is not profitable enough, which is important to hear since very often we also hear the response that nothing

Reason	% Response
Retired	30
Not enough money	29
Poor health	9
Tired of farming	5
Pushed out/cuts	4
Turned over/sold	4
Off-farm job	3
New business	3
Lacked labor	2
Government regulations	2
Other	9

Figure 4. Why Farmers are getting out of Tobacco

else is as profitable as tobacco. But even at that, for about a third of people, it is not profitable enough to continue farming. Eight percent cited poor health, 5% were plain tired of farming, and 3% each said they had taken an off-farm job or had turned over their farm to another family member or had started another business. Two percent said other crops were more profitable than tobacco. So, just to reiterate, nearly 1 in 5 of the people we surveyed in 1997 are no longer in tobacco.

I am just going to tell you a few more things about the survey group and I will try to keep that part short so we will have time enough to watch the video, which might be a little bit more interesting than me standing up here talking. The group surveyed was a stratified sample. So we had equal representation of small, medium, and large farms. The survey was not skewed toward one size farm or another. The age representation is probably what many of you would expect. About 10% were under 40 years of age, the biggest group was the 40 - 60 age group (62%), but a very meaningful 28% were over 60 looking towards retirement. This reflects the graying of the farm population in general, but tobacco farmers may not be as gray as the rest of the farm population. We utilized telephone surveys of about 30 minutes, and we had a 97% response rate. People wanted to take that much time to talk about what was going on, which is pretty unusual in the survey business. Most of the respondents were male. They identified themselves as the key operators, which is who we asked to speak to. Eight percent of the respondents were female. Only about 20% were working off the farm in 2001, but 47% of spouses were working off the farm, and 84% of those spouses working off the farm work full time. Nevertheless, the dependency of tobacco farmers in this survey group on off-farm income is way below what it is for the rest of the farm population. This again, I think, reflects the profitability of tobacco. And when we asked people why they were not working off the farm, the answer given

most often was "I'm too busy with my farming." Finally, it may be interesting to some of you to know that 71% of the farmers we interviewed do not smoke or chew.

Ninety percent of the farmers surveyed had received tobacco settlement money so we asked them "What portion of income losses were covered by the settlement funds received?" For 38% of farmers, the settlement only replaced about 10% of the lost income. For 79% of the respondents, the settlement replaced 75% or less of lost income.

We then asked for opinions about diversifying income, and the majority thought it was very important to do that. Sixty-six percent were very interested in trying to find a supplement for their tobacco income or to replace it. We asked, "If the tobacco program ended, what would you do?" Forty-two percent said they would either stop growing or grow less. We asked "Do the tobacco companies want to end the tobacco program?" Seventy-six percent said "yes." We asked, "Would Congress be eliminating the Tobacco program?" Sixty-three percent said "yes." So we can see people know that the tobacco program is on its way out. I think a lot of our speakers have said that, but I think the farmers know that. We asked "If your children came to you tonight, would you recommend to them that they raise tobacco?" Sixty-five percent said "no." We asked, "Do you expect to give up growing tobacco?" and 31% said "yes." They themselves expected, not just of their children but of themselves, to give up tobacco. We said, "Will you give up growing tobacco on your farm in one year?" and only 10% said "yes." But then when we asked, "In 5 years will you be growing tobacco on your farm?" 66% said they would not. It increased dramatically. So I think the handwriting is on the wall to a lot of farmers. One more relevant point supporting this expectation is the price per pound. We asked, would they grow tobacco for \$1.75 per pound, and 71% said "yes." When we asked if they would grow tobacco for \$1.50 per pound, however, only 19% said

"yes." I think we were talking earlier about the program going away, going to world price level. That, again, says a lot about what people think they will be doing if those changes come about.

We also asked about steps people were taking to learn about other profitable businesses or to try out other profitable on-farm enterprises. The biggest thing people were doing is visiting other farmers who have a profitable business which, I think, tells a lot of us who are trying to do supportive work, what is the best way to learn or what is the best way to be helpful. Another fairly large response was either reading about it or attending an on-farm tour or demonstration, and then also, going to informational meetings. These are kind of the main things people are doing, but the biggest thing was learning from another farmer.

We used this survey, as I said earlier, to help us design a project back in 1997, which we called the Tobacco Communities Reinvestment Fund. Now that we have a Tobacco Trust and the Golden LEAF Foundation it sounds sort of redundant, but at the time there had been no settlement agreement and none of those good pieces of work that you have heard so much about today. So we decided to do a pilot program in 6 counties in North Carolina. Some of the projects that people are doing include several green house projects growing high-value produce off-season. A lot of people have these facilities, and up to now they have been a single purpose facility. Some people are trying to look at something that is effective for whole communities, for example, working as a group trying to turn on-farm waste into something value-added such as fertilizer. Another of the community projects is the farmers' markets. As far as individual initiatives, there is a real range. My favorite is "pick your own grapes" and "catch your own catfish." A gentleman down in Columbus County started a project to create a recreational opportunity and also cut out some of the cost of harvesting the fish and harvesting the grapes by having people come and pick their own. He built a grading station

and put in his ponds and his grapes. He was actually irrigating the grapes with the water from the pond—trying to make more out of the whole system.

A group in Johnston County identified twelve different language groups right in their immediate area for whom goat meat was the preferred meat. Part of their market survey was to find out what cuts, what age of goat, what would please the customer, what the customer wanted. It varied a lot by different ethnic groups but the market is there, and there is also a fair market at the restaurant level. And then there is the market, really, of the whole East Coast that is not being filled. The biggest issue that the Johnston County Co-op found was not the marketing but the processing—that is, trying to find the capital to create its own processing operations. The capital was a barrier, but so was finding affordable processing that somebody else was doing.

A lot of the time, a project consists of looking at what people are already producing and figuring out an innovative marketing strategy, or some further processing a farmer can do to capture more income. For example, among the farmers we surveyed, soybean is the second most commonly grown crop. We had a soybean producer who is still growing soybeans, but he shifted to growing soybeans especially for the Japanese market. A lot of times it is not so much about finding something new to grow. Ninety-seven percent of the farmers we surveyed are growing lots of other things besides tobacco. They are just not making money from that. So for the farmer, it is more about knowing before planting a crop what he is going to do with it.

We had seventeen projects overall, and they are summarized in a report that is available from RAFI entitled "Agricultural Reinvestment." This video that you are about to see focuses on 6 of the projects and also on the general way that the pilot program operated, and there are a few lessons in it. A good teacher of these lessons are the farmers that are in the crowd,

and I suggest you talk to them on the side or ask questions when we get to the question and answer part. The project was made possible by generous grants from the Robert Wood Johnson Foundation, the Z. Smith Reynolds Foundation, and the Duke Endowment Rural Church Division. Thank you for your attention.

You may contact RAFI at: 274 Pittsboro Elementary School Road, PO Box 640, Pittsboro, NC 27312.
Tel: 919-542-1396 or on the web at:
www.rafiusa.org.

SESSION II:

**ALTERNATIVE CROPS,
EMERGING TECHNOLOGIES AND
FARM INCOME DIVERSIFICATION**

Nicotiana glauca

Trends in Alternative Cropping Patterns and Strategies for Research

Ed Estes

Department of Agricultural and Resource Economics
North Carolina State University

Thank you, it's a pleasure to be with you today. I am reminded as we get into this discussion to reiterate what has been said already, that there are no silver bullets. As many of the speakers we've heard this morning are indicating, we're not aware of one alternative. Certainly, there are a lot of alternatives that ought to be considered, and that people make money doing, including organics and some of the ideas that are on the program this afternoon—including the ones I'm going to discuss. But the universal alternative doesn't exist, and in fact for some people the good alternative will be to continue to produce tobacco, which of course is not precluded by this discussion. Each farmer has to consider what their resources are and what the market dictates. This means that we have to figure out who our competition is—it probably includes people sitting in this room.

So, we need to think about research and specialty crops. In my presentation today, I'm going to draw heavily on research conducted by the North Carolina Specialty Crops Program. Jeanine Davis and Keith Tyson operate an excellent program throughout the state. Jeanine is located in the mountains, and further work is being done at the R.P. Cunningham Research Station located in Kinston, NC.

Trends in NC Agriculture

Figure 1 provides some indication of what's been going on, and I would characterize this as one possible view of North Carolina Agriculture. If you look at net farm income in 1980 and in 2000—and these figures are not deflated

but are nominal values—you can see that it's increased about 288% since 1980. If you look at net income per farm, it's gone from about \$8,700 to \$54,000, an increase of 528%. So, some of the people who continue to farm have been successful. This includes some of our specialty crop producers, some of our traditional fruit and vegetable producers, and obviously our poultry and our swine production. Good or bad, these producers have contributed to the increase in these numbers. So generally, we do have a situation where agricultural income has continued to increase—even with the impact of Hurricane Floyd last year—and there are some people making money in agriculture in North Carolina.

At the same time, we have a situation where the number of farms is continuing to decline. This is of course true nationwide. It's a continuing concern, and leads to questions about the future of agriculture. When I talk to people—whether about specialty crops or traditional fruits and vegetables—one of the questions that I often ask is: “are your kids continu-

	1980	2000
Net Farm Income	\$802 million	\$3.1 billion
Net Farm Income per Farm	\$8,700	\$54,500
Number of Farms	91,000	57,000

Figure 1. One View of North Carolina Agriculture

ing to farm with you? Do you have children who are interested in farming?” Universally, I used to get a response that “no, they’re going to do something else.” In the last couple of years, however, I have had a few people say: “well, I do have one niece who’s maybe thinking about coming back” or “I have one son who’s maybe coming back from college.” So, there has been a little bit of a turnaround in recent years. And this situation, where your kids are going to continue on, and be fifth or sixth generation farmers, is a little different from a situation where you know you’re going be out of agriculture, and your land is your retirement plan. In the former scenario, we need to consider solutions, and try to diversify.

When thinking about our choices, there is a crop planting hierarchy that I think is important to think about (See Figure 2). Traditionally, many farmers have concentrated on low value, annual crops, at the bottom of the hierarchy. This would include corn and soybeans, for example—it’s a large acreage, mechanically harvested, the government provides a good floor for the price, and we can participate in government programs. So, many farmers said, “that’s a good deal, I can make a living from it.” Many farmers, however, found that they were getting profit squeezed. So they stopped looking at low value annuals, and looked to

low-value perennials, such as irrigated alfalfa. This is not a situation where they’re making a lot of money, but it’s more than corn or beans. Then, once again, you get caught in a round of price squeezes, so you begin to wonder if there’s a high-value alternative to these traditional crops. So, we look to things like tomatoes, or peppers. And the last step, now that you have the land, is to say “let me look at high value perennials,” and so you get something like Christmas trees over in the mountains or here down east. Now, as you move through this sequence, you’re absorbing more and more risk. You’ve gone from a small and flexible investment situation, to one with a very high fixed cost. So, you have to have the willingness to accept the risk.

If we look more closely at some of these alternative crops, we can see that there has been some increase. Between 1980 and 2000, for example, vegetables increased (in nominal terms) from \$117 million to \$163 million, a pretty good increase. During the same time, Christmas trees went from a \$10 million industry to a \$95 million industry. And the greenhouse and nursery industry—which includes a wide range of items, from bedding plants and flowers to vegetables and greenhouse tomatoes—increased substantially, from \$80 million to \$987 million. If you had told me in 1978,

<u>Commodity</u>		<u>Investment, Fixity</u>
4. High Value Perennial (Christmas trees)		4. Very high, fixed
3. High Value Annual (tomatoes, peppers)	↑	3. High, inflexible
2. Low Value Perennial (irrigated alfalfa)	↑	2. Moderate, flexible
1. Low Value Annual	↑	1. Low, very flexible

Figure 2. Crop Planting Hierarchy Sequence

when I first started in North Carolina, that the greenhouse and nursery industry would exceed the value of tobacco, I would never have believed it. But it does today, and that is something to think about.

It is important to realize that there are different ways of looking at 'alternative agriculture.' One might, for example, look at it as growing nontraditional crops, offering new products, or even new types of livestock. Or, it could simply be a new production system. We have a lot of people now using intensive production systems, such as drip irrigation and plastic culture, and this could be considered a bit 'non traditional.' Another alternative could be to sell traditional crops in unconventional ways, such as direct marketing or Community Supported Agriculture, where you essentially pre-sell your crop to people locally. Will that work for many farmers? No. Will it satisfy some who are not making a lot of money right now? Yes. It's just one of many ways to look at alternatives. Of course, there is also the alternative of off-farm employment or of selling off some assets. A lot of people I talk to begin with a lot of land, and if they continue to lose money, one option is to sell off some of their assets—not as a retirement fund, but as a way to continue to make money, and to be able to continue their way of life in farming.

So, there are a lot of different things we can look at. As I indicated earlier, there is no silver bullet that fits all guns. One of the many possibilities, however, is the greenhouse industry—essentially small fruits and vegetables—and that's what I'm going to talk about here. And I want to begin by talking about some of the fallacies that many people believe about agriculture. The first is the old traditional view that agriculture is defined by the commodity programs, and doesn't include nurseries, shrubs, flowers and specialty products. I still hear this in many meetings that I go to statewide—even at national meetings—but I can assure you that, if this attitude is not already dead, it will probably die soon. It is difficult to continue to try to

grow and sell a generic product. If you are trying to sell a supermarket chain a green pepper, and yours is no different from anybody else's; well, this is a dead end, because the business is so structured, and pretty much tied up with twelve month supplies. So, you need to provide added value, you need to offer something that gives you an advantage in the market place. This could be a production advantage, but certainly it has to be something that the buyer wants, and so you have to be attuned to the market.

This leads to a second fallacy, which is the belief that we don't need to market our product, only sell it. I can't tell you the number of meetings I've been to, where someone has said "just give me the name of an honest broker who will buy my product—that's all I want from you marketing guys." But you can lose money on *all* of these crops, believe me, if you don't pay any attention to the details of the market. A corollary to this is the belief that "nobody is growing crop x, y or z around here, so there must be a market for it." Too often, our marketing information is not based on experience, but on what we've heard at the seed store, the coffee chop, or wherever. I've been around farmers most of my life, and I can tell you they'll remember that the price of peppers in the second week in June 1993 was \$30 a case on the spot market. What they often do not remember is that the rest of that month it was \$3. What we're looking for is stability—trying to market products, rather than just sell them. Marketing and selling are not the same thing—I think most of you in this room are aware of that.

Fruit and Vegetable Alternatives

Now, let me talk a bit about fruits and vegetables. A lot of people have made money with fruits and vegetables, but of course it can be a risky business. And when we talk about a crop hierarchy, fruits and vegetables are pretty high up on the hierarchy. But they can be a money-maker, and that is why people are interested

in them. Obviously, you have to be able to withstand the off years when you lose money. Most of the people in the fruit and vegetable business are not making money every year. They are happy if they make money two or three years out of five, but when they do make money, they can make a lot of it.

Product diversity is important when it comes to fruits and vegetables. Let me explain what I mean by this, because there has been some change in this area. The ethnic market is much stronger than it used to be, and by the ethnic market, I mean growing particular varieties of crops that are in demand for certain ethnic groups. For example, the Boniato variety of the sweet potato is very popular with Cuban-Americans. If you go to Miami, you will find that all of the sweet potatoes that are sold are Boniatos. So, that is a market niche, and those sorts of ethnic market niches have increased, and they are an example of a sort of market subtlety that we need to be aware of. Another example is the wide variety of tomatoes that are sold in the supermarket these days. When I was in the business 30 years ago, there were three tomato varieties, or three 'Price Look Ups' (PLUs) sold in the supermarket. But if you go into any average supermarket like Harris Teeter or any other today, you will find fifteen different PLUs for tomatoes alone, ranging from grape tomatoes to vine-ripes to the imports from Holland. The supermarket business is a very different business these days. Rather than the 130 produce items that there used to be, there are now about 400 items rung up on the produce key, and that requires a supply chain that is very concentrated and extremely well managed, particularly since you are dealing with perishable items. If you want to be in the produce business, you need to understand how to fit into this supply chain network. Market access is important, and it is not easy.

One way to understand the market system for produce is to think in terms of an hour glass. On one end, there are a lot of produce growers,

and on the other end there are a lot of produce outlets, but in between, there are a much smaller number of distributors, and this has important implications for how the market works. Let's start with the produce growers. In the US, there are roughly 28,000 produce growers, and of course they operate on a seasonal basis. And then there are thousands of grocery stores (both independent ones and chain stores, along with supercenter stores), and of course millions of shoppers. Now, where do you think the power exists in the food distribution system? I always thought the supermarkets had the power to dominate things—that they could tell the produce growers what was going on. But the fact is, it's not the growers *or* the supermarkets. The power in the system exists at the level of the distributors—the 350 US buying headquarters. They are the buying headquarters for stores like Food Lion and Harris Teeter. That is the location of concentration in the market, and that is the key to how the marketing system works. This is a global market, it operates on a twelve-month produce supply basis, and this is the biggest change I have seen in the produce market in the years that I have been in it, starting from my time as a produce buyer 30 years ago for Giant supermarkets.

I talk to growers constantly, and I hear things like, "I've got the best darn greenhouse tomato that there is, and I know there has to be a market for it, 'cause this is a high quality product." But the fact is: that tomato will never be in the store unless it meets the buyer's needs, and fits into the slot that meets the marketing system. This is not to say that this is a good or a bad system, it's just the system that there is, and if you want to fit into the fruit and vegetable game, you need to figure out how you can get around it or participate in it—and there are plenty of people who have figured it out. The supermarket chains go to the very large fruit and vegetable grower-shipper distributors, such as A. Duda or T&A and they say, "we don't care where you get your produce, we just want you to supply us with

produce on an even, 12 month basis. We don't care if you get it from North Carolina for three weeks, then from New Jersey, then from Michigan, then from Washington State." The fact is, the large grower-shipper distributor companies are the ones that work the deal out, not just the supermarket chains. It is possible in North Carolina that a grower can act as an entrepreneurial individual, and put together a deal with a supermarket or a chain or a supplier, but they are not ever going to be anything more than a fill-in supplier on a seasonal basis. There are always opportunities to be a fill-in supplier, and you always hear stories about your neighbor selling Winn Dixie a couple of boxes of tomatoes, or even a pallet load every week. Those kind of short-term deals always exist, but they are not dependable or predictable, and the price is not predictable either.

Let me now turn to some recent studies that have looked at what sorts of specialty crops are in demand with buyers. In May of 2000, our friends at the North Carolina Department of Agriculture did a survey of buyers to see what specialty crops they were most interested in. If you are interested in growing specialty crops, I would recommend that you get a copy of this study. Let me go through the survey results. There was a *strong demand for grape tomatoes, colored peppers (yellows, full reds, some greens), seedless watermelons, romaine lettuce, greenhouse tomatoes, leaf lettuce, and hot peppers*. That is not to say that there is a huge demand for these things. We are probably not going to sell them by the tractor load, because of limited demand and because frankly, buyers can get enough from California or Florida. But the buyers are interested in some local supply to fill in the gaps in their other supplies, so for these products, there is a strong demand. The study also showed a *limited demand for sprite melon, kabocha squash, Boniato sweet potatoes, muscadine grapes, pink lady apples, and yellow flesh watermelons*.

We also have some specialty crop research

programs underway, and let me just quickly run through some of the crops that we are doing research on. Additional information about the specialty crops research program can be obtained by going to the specialty crops web address which is www.ncspecialtycrops.org

- First, there are two types of herbs—medicinal and culinary. *Culinary herbs* are those used in cooking, like basil, and medicinal herbs would be those used for health, those that have some health attributes.
- For example, we have worked with *echineacea* or purple coneflower, which has health benefits, and we see it in stores. It's used in cold and flu prevention. There is a certain amount of volatility in the price for it, but that is one of the things that the research is working on.
- We have also tried *black cohosh*. It is a perennial shrub, and its roots are used for health problems.
- *St. John's Wart* has also been grown in a number of research stations across the state, in Reedsville, for example. We did not enjoy particularly good stands with this, frankly. It needs well-drained soils. In some cases we made some mistakes, so we are trying to figure this one out. Also, some of the markets for this have been a little soft recently. With all of these medicinal herbs, it can vary a bit, but there are always some folks who will say they made a lot of money (or they lost a lot of money) in this one or that one.
- As for food crops, we have had some success with *sprite melon*—we sold about 800,000 of these. It is basically a small honeydew/large cantaloupe type of melon with a green flesh. It is very sweet. You may have seen them at Food Lion—they bought a lot from us. Harris Teeter bought a number of loads as well. We are currently working on a deal to sell them in the northeastern US. It is an excellent melon and growers

- have made some money on them, although supply is a bit limited.
- We have also worked with *cherry tomatoes*, one variety in particular that is very sweet, and almost golden. It will rival the grape tomato in terms of sweetness.
 - There are other kinds of crops as well. Take *pyrethrum*. It is a natural insecticide, harvested mechanically, which can be grown for a processing market. We have had four test plots throughout North Carolina and we have been able to grow it successfully in two of them, so it is a promising crop. A major problem has been weed control, but that is why we have studies and do research, so we are continuing to do that.
 - We can also take a look at gourds, such as the *huffa*, a natural sponge.
 - We also have some *sunflowers*. In western North Carolina, some growers are creating paths through their sunflower fields and then kids walk through it as agri-entertainment ,

if you will. Obviously, you can also harvest the sunflower seeds. You get the idea, there are a many possibilities.

I just want to end with one more comment about the difference between a niche market and a market niche (see Figure 3). I think there is a difference between the two, and as you think about specialty crops, I think this is something you need to be careful about. A niche market is something where there is a focused demand and a clear preference for a specific item. An example of this would be an organic tomato. If you walk into a store looking for an organic tomato and you don't find it, you are probably not likely to substitute something else for it (you might try another organic product, but in general you just want that one thing). Contrast this with a colored pepper. If a buyer goes in looking for a yellow pepper and doesn't find it, they are probably willing to substitute a red pepper instead. So a yellow pepper is an example of a market niche, as opposed to a niche market. It is an important difference be-

<u>Niche Market:</u> • <i>focused demand & clear preference for item;</i> • <i>price insensitivity, so wide range for prices and markup;</i> • <i>local market saturates quickly as growers learn about buyer interest</i> • <i>sold in specialty outlets</i> • <i>demand dominates buy decisions, but often there is easy market saturation</i> • <u>examples:</u> organic produce, medicinal herbs, elephant garlic, microgreens	<u>Market Niche:</u> • <i>broad demand, where there are a lot of close substitutes;</i> • <i>price sensitive, so price is very important to buyer;</i> • <i>has price limits, so really driven by cost and overall supply situation</i> • <i>sold in mainstream grocery</i> • <i>supply availability and comparative price dominate buy decisions</i> • <u>examples:</u> greenhouse tomatoes, yellow peppers, sweet onions, seedless watermelon
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Figure 3. Niche Market vs. Market Niche

cause it has implications for price, and for the size of the market. With a niche market (like the organic tomato), the customer really wants that one product (focused demand), and so the price is relatively insensitive, but the market is not huge and it saturates fairly quickly. On the other hand, with the market niche (like the peppers), the customer is more willing to substitute, so the price of the item is more sensitive—the price has to be competitive.

Niche market items tend to sell at specialty stores, whereas market niche items are often available in mainstream grocery stores. Just to

give you a few more examples, in addition to organic produce, niche market items would include medicinal herbs, elephant garlic, and micro-greens. Market niche items would include the yellow peppers, and also greenhouse tomatoes, sweet onions, and seedless watermelons. I'll stop here, but let me just emphasize that when you make these specialty crop decisions, I think this niche-market/market niche distinction is an important one to keep in mind, because it makes a difference for price and market size. Thank you.

Livestock Alternatives for Small Farmers: Economic Viability or Liability?

M. Ray McKinnie

Administrator and Associate Dean
North Carolina Cooperative Extension Program
North Carolina A&T State University

I am going to continue in the tradition of the speakers you have heard here today, in that I will tell you that I did not come here with a gun loaded with silver bullets. I don't have an answer as to the "one thing" that will replace tobacco in Eastern North Carolina. I can tell you that no one thing exists. That is not to say that there aren't alternatives, and I will talk about that, but there is no one crop that will do it. One of the differences between alternatives that work and those that do not has to do with marketing. The small farmer has to be willing to do market research and base his or her product development on that—you need to have an ability to market it, produce it, and manage the income, costs and the profits associated with it. So, if you have an idea, and you can do the marketing, then there is room for success. NC State and the other universities can do all the research and explore every idea, but it's the people out there who really have the opportunity—you've got to get on the web sites and search a lot and look for these things, and then evaluate them for yourselves. At North Carolina A&T, we have developed what we call a Decision Model for Small Farmers, a workbook that helps people to work through this process. People have to work through the market research, get the information, sort through it, and then it comes down to the bottom line—either "I ought to try this" or "I ought to leave this alone." And that is what has to be involved in sorting through the

menu of alternatives out there. But today I want to talk with you about small-scale livestock alternatives, as economically viable livestock production units, for small farms.

One of the things we can learn immediately when we look at the US agriculture industry is that concentration and consolidation has seriously crippled the economic opportunities of small farms. Certainly, we have seen this consolidation firsthand in North Carolina, where in the past we were talking about 3 or 4 major swine companies, and now we're maybe talking about 1 or 2. This situation, coupled with depressed market prices for traditional crops and livestock, has sent small family farms in search of new alternative agricultural enterprises. In their search, many small farmers have asked whether or not livestock production is a viable enterprise for small farms. If approached in the traditional sense, it would seem that small farms are at a competitive disadvantage relative to the big producers, in terms of scale of production and numbers marketed. But there are ways in which small farmers can retain a production advantage. If you're small, you can have a specialty area or niche, but you need to know how to capitalize on it. When the angle of direct marketing or value-added processing is considered, small farms can be highly successful. Critically important to that success, however, is the ability of producers to handle marketing as well as market development for themselves. The level of success achieved by a farmer will depend

upon his/her abilities to produce a top-notch product, and to build a customer base from which to market. So, when it comes to specific livestock enterprises, there are no “silver bullet enterprises” that will guarantee success for the small farmer. Today, the key factor in the success and profitability of small farm livestock enterprises is “good marketing.”

Marketing Options

When I talk to farmers about direct marketing, there are a couple things that we have to clarify before we can get very far. There are two basic questions that must be answered by every producer engaged in direct and/or value-added marketing. Those questions are: “am I marketing my product or just selling it?” and “where are my markets?” Let’s begin with the question of marketing versus selling. I define marketing as the active, coordinated effort of placing goods and services into the consumer’s hands in an organized and effective way. In contrast, I define selling as a simpler process, involving the exchange of goods and services to the consumer for a negotiated price. I think it is very important for small producers to realize the difference between these two concepts, because if they think they are practicing marketing, but all they are really doing is selling, they will be much less likely to be successful. Selling is just exchanging goods for a price, but marketing is a lot harder, because it requires the seller to think about what the customer wants and how they want it. To be an effective marketer, producers must first *know and understand the demands of the market*. Second, they must be able to *deliver a quality product or service*, and third, they must *deliver that product on time*. In general, they must be prepared to deliver a product or service to the customer in the quality, form, condition, size, color and/or package that the customer prefers, and at the time the customer specifies. You must have a commitment to excellence, in terms of these three factors, along with good marketing skills—this will make for a success-

ful venture into direct and/or value-added marketing. Now let me tell you about some of the market options that are out there, and some of the specific characteristics of these different livestock niches.

To begin with, there are direct sales options. With direct sales, basically you cut out the middleman, so the product goes from your farm, through processing, and then right to the customer. Some examples of this kind of product include the freezer market, ethnic and religious markets, gourmet markets, retail grocery stores, and restaurants—these are all direct sales. With the freezer market, live animals are sold to the customer for home consumption, and the producer arranges for the processing and packaging of the animal for the customer. The animal may be sold on a per-pound or per-head basis, with processing costs figured into either the pound or the head price. The ethnic market is similar, but the producer must be sensitive to the cultural customs and preferences of the ethnic or religious group. Many gourmet markets and upscale restaurants are looking for things like antibiotic/hormone-free products, and along with retail stores, they may be only looking for premium cuts of meat. So each of these markets has specific needs and desires that a producer can serve, but what is crucial in this area is the producer’s reputation and the quality of the product. You must build a reputation in these markets. You’ve got to be known as the guy who has a great quality product and who can deliver it consistently.

Another market option for the small producer is specialized sales, and here we are talking about holiday market sales. These specialized sales generally offer a higher return for animals sold, but here again, the quality of the product is very important. When marketing to processors, these sales capitalize on the quality of the animals offered. There are a number of important things to keep in mind when considering these sales. First, certain sales are designed to take advantage of various holiday markets; for instance, various ethnic groups in

the US consume a lot of goat meat at Easter. The sales may vary time-wise; they may be held weekly, monthly, or even annually or semi-annually. At specialized sales, animals are weighed and graded in accordance with state or USDA standards, and animals are auctioned on a per pound basis in small to large lots.

Now, a third market option that is associated with livestock alternatives is the weekly auction market. For this one, you can go to the North Carolina Department of Agriculture (NCDA) and get a listing of all the livestock markets, with published sale dates. These weekly auctions provide another market outlet for farm animals, but unlike the specialized sales, the animals at weekly auctions may be sorted but not graded. Market prices may vary, and the animals may be sold on a per head basis versus a per pound basis. It can be important to keep these differences in mind, because if you have invested a lot in genetics and produced an expensive Boer goat, for instance, but then your goat gets sorted in with all the other goats, you may not be able to get any financial reward on your investment in genetics. In addition, certain markets have the reputation for being able to sell animals at a very good market price, whereas others may not do as well. So, you have to know the markets and take advantage of that.

Livestock Alternatives

In addition to the market options I have just discussed, there are also a number of livestock alternatives available to the small farmer. I am going to list some specifics, but I'm only listing a few. I don't have all the answers, but these are some examples. To begin with, there is poultry. There is not a lot of room in the poultry industry, because it is mega-consolidated and vertically integrated as an industry. But the "pasture poultry" industry concept is gaining a small foothold, and there's even a pasture poultry producers' association. Pasture poultry means that the poultry (chickens, turkeys, etc.) roam/graze on fresh grass and pas-

ture and they have an opportunity to be exposed to fresh grass daily. Then they process and sell these chickens, and there is tremendous interest in it, and a market for it. People are saying it's more flavorful—that there's a particular taste to it. We also have free-range chickens and turkeys. This is a similar concept, except that they are out in a pen during the day, where they can free range, but then they are put back in at night. Free-range egg production is the same thing. People have been very successful in that, because they have made a market niche.

Then we move along to the issue of swine. One thing you are hearing more and more about is antibiotic and hormone-free pork. There is some interest in this, and people are beginning to carve out a market there. There is also free-range pork, a concept being imported from Europe. Europe is imposing so many restrictions on farming operations that they are moving more and more to an outdoor/free-range production system in a lot of areas, so that is a niche area as well. Turning to beef and sheep, there is also a market for antibiotic and hormone free beef and lamb. And there is also a market for grass or grain fed freezer beef or lamb—there are opportunities to do that on a small, consistent basis. One of the things that is consistent with any of these market areas is the importance of developing a customer list or clientele. With these sorts of products, it is not always sufficient to just call the county agent and ask where you can sell your pasture poultry or whatever. You need to evolve the customer list, and then once you have it, you can 'grow into the business' verses 'go into the business.'

I have also dealt a lot with the rabbit industry over the years. I have seen commercial rabbit production go from zero to a gazillion and back to zero again. Right now, we are back at zero because of a failure of marketing. Everybody who raised rabbits wanted to have a market, but you don't need a market, you can sell them yourself, if you are willing

to develop a customer base. In North Carolina law, it says that you can process up to 1,000 rabbits or poultry a year on your farm without inspection, as long as you sell them directly for consumption. You can't have them in a cooler sitting at the flea market—you can't sell them like that. But you can process and freeze them at home and have people come to you directly to buy them. So you can do very well at home with a small operation, but you have to work to develop it. Note that there are rules and regulations governing pet markets in the United States. So, if you intend to raise rabbits on the farm to sell to the pet industry, or maybe even be a pet dealer, you have to be licensed. People from NCDA can put you in contact with the various government licensing agencies that do that sort of thing. But one of the things that may make it difficult to break into the pet industry is the importance of reputation, quality and consistency. In the pet industry, people really want to deal with people they know, and people who can guarantee a consistent product, because pet dealers want to make sure that the pet will not get sick. They want to know the pets are healthy, and that they're free of internal parasites and diseases. So most pet brokers have a restricted list of people they buy from and they stick with it. Rabbit producers can also sell to the biomedical industry; but again, consistency and reputation are very important. I know of only one rabbit producer that really had a lead into that market, and he was very secure in it. But it is the same sort of thing. Since it is for research, buyers are very concerned about consistency and results, and they do not want to buy from a different producer every time. They are looking for animals that are healthy and consistently sized, and if you can meet their requirements then they might buy from you. This consistency is important even for the meat industry—again, you need to be able to produce what you say you can produce, whether that is a 5 pound fryer or 3 pounds or whatever. It needs to be

of high quality and good taste, and if it is, then you have market value. But even then, you might have to put some effort in to develop a customer base of people who eat rabbit meat. You might have to start by giving some away until you find that customer base, and then you can gear your production up based on that. As the demand grows, then you can grow your production.

One of the last areas in the livestock industry is the exotics, such as ratites (ostrich, emu and rhea), and even potbelly pigs. Concerning exotic birds, I think we have seen that industry go from a novelty, to a breeders market, and now it is at the level of trying to convert into a real industry. A real industry means it is not just based on breeding, and on buying and selling breeding stock back and forth. Right now, this means trying to process these birds into a finished product—like feathers and leather—and make money. But the industry is suffering. In North Carolina, we are not big. In Texas, they're further along, so there are places where they are actually processing these birds and turning it into a real product, and some places have sold ostrich meat. And of course, we know we have seen the novelty of the Vietnamese Pot Belly Pig, used as pets. But once again, when it is a pet for sale, you need to move it along the market. Some people are finding that these things are cute, but when you get three or four or more, they no longer are so cute and no longer a novelty. This is the point where I get a phone call asking for advice about markets, and I have to say that there is no market, that you need to develop a market. If you find a market, I can supply all the production information you need, but I'd rather tell people what the market situation is up front, and let them choose to develop a consumer driven market—and then we can work on that.

So in summary, I'd like to say that there is always going to be an interest in livestock production, and this is something that I want to see continue. But there has been a shift in the industry and the focus now must be on mar-

keting. When you choose to be engaged in an alternative product, you also must make the choice to be involved with marketing—if the market does not exist, you need to provide the market. You need to build and know your customer base, and you can do that by focusing on your value added—what your product brings to the equation—because that is the part that your customer will be interested in. But at the same time, the markets are evolving, and you need to respond to customer demand. And

then finally, I think it is also very important, with whatever product you produce, to pay attention to timing. The worst thing you can do is to create a demand and then be unable to develop the product on time. If you said it was going to be ready in March, and it's not ready until April, someone else is going to deliver on time and you will lose that market. And then let me just conclude by saying that, while there are no 'silver bullets', there are opportunities and they exist out there.

Upscale Pork Markets for Small-Scale Hog Producers

Charles Talbott

Coordinator, Small-Scale Hog Producer Project
North Carolina A&T State University

Thank you for inviting me, I appreciate the opportunity to come down here. I want to talk to you today about a project we have begun with Niman Ranch Pork Company, a cooperative of 200 small-scale producers in the Midwest. Paul Willis is the president, and he started it just three years ago. At that time they had over 100 producers, and now they have 200 producers. This project is in collaboration with NCDA, NCSU, the North Carolina Rural Farms Coalition, Heifer Project International, and the Niman Ranch Pork Company. I became associated with them last year, and we are now shipping about 30 hogs a week to Niman Ranch's parent company out in California. What we are trying to do here is re-vitalize the small-scale hog industry in North Carolina, primarily for food security reasons, but also to address some of the issues that the corporate confinement units are currently facing—mainly animal welfare issues, environmental issues, and the feeding of sub-therapeutic levels of antibiotics.

Since 1983, North Carolina has gone from being number 15 in hog production to number two (since 1994), with 9 million hogs on inventory. But that increase has come at the expense of the small-scale producers. For a time the hog population really remained fairly consistent—there were about 2 million hogs in the state. Then, in the early 90s, Wendell Murphy of Murphy Farms started the confinement industry, and this became the model for the state. As a result, the hog inventory grew over four

times, to reach more than 9 million hogs in the state. Currently, it remains at about that level, primarily due to the swine moratorium. This growth has really come with the contract growers, and it has had a cost. In 1983, we had over 23,000 small-scale hog producers in the state, and now we have fewer than 4,000. Also, in 1983 the average number of hogs on a farm was 100 or less, whereas now the average number is 1,500 to 2,000 per farm.¹ In the process, we have essentially gone from a situation where hogs were raised extensively on pasture, to a mass production system. Duplin and Sampson Counties have the largest hog population in the world. In those counties, there are more than 20-25 hogs for every person.

Every time we lose a small farmer, we increase the possibility of a food crisis. I think this becomes evident when your production system is reduced to only two or three major players. For example, the Smithfield facility in Tarboro has one of the largest "kill floors" in the world, with a capacity for 33,000 hogs a day. But they contract with their farmers, and it is hard for an independent farmer to break into that. It is hard for the farmer to sell, and that has contributed to low hog prices. Certainly in 1998 and 1999, the system was just all bottled up: there was demand for pork, but all the independent farmers had no way to kill or sell their hogs.

In the long run, as we lose more small farmers, we stand a chance of not having enough

to eat; with the loss of that farmer, we have lost the experience and knowledge that goes with him. With this corporate, integrated confinement system, we stand the chance of losing the basic knowledge that goes into raising a pig from piglet to market. It's a situation very much like the automobile industry, with separate units and departments. People are trained just for their specific segment. We send these piglets off to a nursery in another county, and then they might go out of state. Everyone has a compartmentalized job. What this means is that in the long run, we have few farmers who know how to breed, to manage the sow, and to raise the hog entirely. And again, this is much like the automobile industry: only one person knows how to put on the front end, one person works on the engine, another works on the transmission—it's all compartmentalized. There is no comprehensive knowledge base. I should say here that I am certainly not against confinement farming; I grew up in the university system and I believe in efficiency. But I believe that there is also a place for small farmers, and when we think about food security, I think the small farmers are especially important, because they help us to retain our knowledge base.

As I said, in 1983 there were 23,000 hog farmers. And as far as the background for this project, knowing how many farmers there were, I just thought to myself, "well, there still must be a knowledge base." I envisioned the typical North Carolina farm of 20 years ago, where the tobacco farmer had his tobacco allotment, maybe some mules, and then pigs that he killed in the fall. And there was a connection between tobacco farmers and hog farmers. So, I called up the NCDA and I asked them how many tobacco farmers also sold hogs, and it turns out that 11% of them do. So, we started with the supposition that there were farmers out there who already had the know-how in hogs. There is no market anymore, but they have the know-how, and they may be more apt to try an alternative enterprise if they have this know-

how and they like it. I mean, I loved producing hogs. Hogs are really fun to work with, and if you can make money at it, that makes it even better. In fact, it's really discouraging when you send a truckload off and you know you are going to lose money.

Now, let me turn to some potential angles for marketing. First and foremost, I would say that pork quality is the number one angle for marketing. I was a big fan of the "other white meat" campaign. But I read an article on the "Art of Eating" from a gourmet publication, and this article indicated that when it came to mass-produced pork, the taste just wasn't there. Basically the taste has been bred out of these hogs. In fact, we tried to create a low-fat hog in the industry, and in many cases when we removed the fat, we removed a lot of the taste. This same gourmet article was where I was first introduced to Niman Ranch and some of the alternative pork production systems—the sort of systems I think we might be able to bring to North Carolina. With Niman Ranch Pork Company, there has been a revitalization of small-scale production.

In the gourmet article, the author indicated that the lean, confinement-raised, corporate pork was almost impossible to cook without making it dry and tough. The flavor is bland, so the texture stands out. In fact, that's why a lot of the meats today are marinated. It's a convenience food that overcomes a lot of the problems of a very lean cut of meat. It's not that you can't have a good lean cut of meat and have it taste great, but that sort of meat can be very unforgiving when it comes to cooking. And of the 17 million hogs that are conventionally marketed in this state each year, they are all pretty much fed the same diet and they all come from the same 'lean genetics.' So, this gave me an idea—there was an opening here for doing things differently. We don't have to produce the same model of pork that the confinement producers do. We could produce a pork that was better, that stands out, and we could compete this way. I felt that this was an

approach that might work, and of course it would also address other issues, such as animal welfare and the feeding of sub-therapeutic levels of antibiotics. Those are important issues, but you also have to produce a pork that is better, and I think you can.

What influences the taste of pork? Certainly genetics are important. According to the Pork Producers Council, the Duroc and the Berkshire varieties of pork are certainly outstanding in terms of the quality of taste. However, just because you have Durocs in your herd, that does not necessarily mean you are going to have good quality meat—diet is also important. Several years ago, I spoke about hogs and diet at a conference in Cuba. I was interested in whether or not one could capture a unique flavor for meat by allowing hogs to graze on acorns in the woods. After I spoke, a fellow came up to me and said he was involved with a project raising hogs under cork trees—they call it an Iberico Ham. These Iberico Hams come from large Iberian pigs that graze under cork and oak trees. For two months of the year, they put two hogs per hectare underneath the trees, so that they can eat the acorns that are on the ground there. The acorns contain fatty acids, and when the hogs are allowed to eat them, it leads to a very high quality meat. This Iberico ham costs about five times the price of conventional pork.

So, there are many studies on this issue of hog diet and pork taste, and I am particularly interested in pursuing it for small-scale producers, as a form of market diversification. I recently spoke at a conference in Front Royal, Virginia, and I met a woman who was turning her hogs out under an orchard. She had cherries, peaches, and apples, and she followed the hogs through the orchard. She was trying to identify specific flavors in the meat, so she could specify an “apple fed hog” versus a “cherry fed hog,” and so on, and market those qualities. That is really what I would like to try—to have different types of diets. I would like to feed hogs with low levels of garlic or

sage. This might help taste, and it also would have de-worming properties. Perhaps one could even try for a self-basting ham!

What else influences the taste of pork? John McGlone at Texas Tech University has done studies that show that animals raised out on pasture are more flavorful and more tender. This research comes from the Pork Industry Institute—the studies are listed on their web site.² Freshness is also important. With beef, we try to keep it for about ten days in coolers to age and to improve the taste. But you don't want to do that with pork, you want to send it right out. Stress is also a big factor, particularly with pre-slaughter stress. That can influence the taste of pork, and the quality, particularly in terms of color and water-holding capacity. So all of these are issues that are confronting the industry, and these are the sorts of issues that the Niman Ranch Pork Company is really addressing in order to come up with an ‘upscale’ pork. Given this, I think there is an opportunity to develop the small-scale pork producer market in North Carolina. We have a knowledge base here, and we can ship to the east coast markets much more easily.

As I mentioned, we are currently involved in a small project, funded in part by a grant from Golden LEAF. We have four main objectives in this project. Our first objective is to *produce upscale pork for niche markets*. There are essentially two ways we can go about this. The first is by *emphasizing pork quality* in a way that is different from that practiced by the confinement industry. Certainly, there are other sorts of independent production. There are some farmers who are going to farmers' markets, and selling their pork from the back of a truck. But most independent producers don't really want that consumer contact, so this is a real option for small-scale producers. If you go to the Niman Ranch home page,³ they indicate that their pork is raised exclusively by a select group of Iowa and mid-west family farmers, who raise their hogs free range, treat them humanely, feed them only the finest grains and

other natural ingredients, never supplementing the feed with sub-therapeutic levels of antibiotics, or artificial growth stimulants of any kind. In addition to the ecological soundness and humaneness of these practices, many people believe that this production process produces the best tasting and most tender pork available. As I said, there are also other options that we are trying to pursue, particularly with different flavors and different diets. But with this brand, this is one option and we are bringing these hogs in next week. We hope to get up and running and sell our first hogs in the Christmas market next December.

The second type of niche marketing is to produce an upscale pork that appeals to an alternative market, one that requires that animals are raised in accordance with *animal welfare standards*, and are not fed sub-therapeutic levels of antibiotics. These issues are certainly pertinent in Europe. Right now, the European Union has banned all confinement crates (or farrowing crates), as well as tethering, and that may benefit us. McDonalds has also started looking at these issues. For instance, they have made a major change in terms of who they buy their eggs from. They no longer purchase eggs from producers who practice forced molting with their hens, and they also require a larger space for their hens. So, the animal welfare issues are very important in Europe, and they may become more important here very soon as well. In fact, according to the National Commission on Small Farms, the USDA is now looking at this reliance in the industry on sub-therapeutic levels of antibiotics, and certainly with antibiotic resistance, this may lead to changes in the policies in the confinement program as well.

Our second major objective is to *assist in developing market access for small-scale producers* in North Carolina through the farmer-owned Niman Ranch Pork Company. Niman's founder, Paul Willis, has spoken to the Carolina Farm Stewardship Association conference, and we have already been to eight meetings to

talk with farmers around the state. We have also begun enrolling farmers. Our goal is to have ten farmers enrolled this year, and we now have five that are ready and have signed the contracts. They will receive animals after the quarantine period of two months. There is also an affiliation with the Heifer Project International, an organization that helps farmers with limited resource. Our hope is that small farmers can serve as demonstrators for the rest of the state.

Our third objective was to develop *participatory farmer research* in collaboration with North Carolina A&T. We have one project planned, where we intend to put up some hoop structures that are about one-tenth the cost of a finishing unit. We will farrow inside them, using a Swedish-style farrowing system that allows the sow access to go out, to roam around, and to come back to her nest. She will build a nest, and after 10 or 14 days, when the piglets are old enough, they will come out and co-mingle together. They will be raised like feral pigs that have sounders—they are really a matriarchal society and the females all travel together. This is very similar to a Swedish-style system that is getting some recognition in this country. As part of our research, in this exercise we intend to have half of our pigs stay inside, and half of the pigs go out and hog down the corn. This is part of the whole system we are trying to put together, where we take a look at having the animal harvest its own feed, thus cutting down on some of the mechanization in the process. There is a book that has just come out, for instance, that looks at the healing properties of animals. It suggests that they can sort out and get what they need on their own, if given the opportunity. In another study that we just completed at A&T, we took leaves that would have been headed for the landfill, and we put them in 50 by 50 foot plots. We found that, compared to a group where there are no leaves, the side with the leaves was a real muddy mess. But when we give the hogs a chance to "express themselves"

in the mud, what we find is that our sows are continuously turning the mulch and the manure, and in so doing, they are developing an organic soil. We would like to take this project one step further, and try to develop organic pork as well. We feel that this would be an integrated system that would certainly lend itself to the diversified market.

And finally, our fourth objective is to provide *marketing and technical expertise in developing organic pork*. As I suggested earlier, this might include a situation where hogs harvest cherries and peaches, or pumpkins—anything that might be able to produce a unique flavor in the meat. And also as I mentioned earlier, with the Heifer Project—with Niman Ranch, the NCDA and NCSU—the expected outcome is that 30 project farmers will market 200 hogs per year, over a three-year time frame. We expect to start ten next year with this project, and ten the following year. (I have some applications if you are interested. I also have some more information on crop profit-

ability, sustainable systems with pork, and a new publication that you might be interested in.) We estimate that the cost of production will be between \$35 and \$40 dollars—which is typical for the Niman Ranch core producers. But with Niman Ranch, there is a floor; the price never goes below forty cents, or \$40 a hundred weight, because they want to keep these producers around next year. So, based on \$45 dollar hogs, a farmer could expect to net \$5,000 per acre if they use these hoop structures, and possibly up to \$7,000 per acre based on \$55 dollar hogs. Hopefully, the project will revitalize the small-scale hog industry in North Carolina, and would allow farmers to be involved in research that matters.

¹This information comes from hogwatch.org, a website sponsored by Environmental Defense, a non-profit environmental organization.

²<http://www.depts.ttu.edu/porkindustryinstitute/>

³<http://www.nimanranch.com/index.htm>

Kenaf in Eastern North Carolina

Bert Nimmo
Greene Natural Fibers

Thank you for the invitation. I am a tobacco and cotton farmer, and I am going to commence by talking to you briefly about the history of kenaf. Kenaf is a plant indigenous to Africa. It is currently being grown in several areas throughout the world, mostly in warmer climates. It is a member of the hibiscus family, and is grown primarily for its fiber. The US government, after World War II, did a lot of research involving kenaf, which was to be used as a replacement for imported fiber crops such as hemp, ramie and jute—used primarily in cordage production. There has been a lot of research on kenaf across the United States, involving many universities, including North Carolina State University. Dr. Bill Fike did a lot of research back in the mid-80s on kenaf production, which was carried out primarily in the blacklands of North Carolina. He looked at producing kenaf as a replacement for hemp bast fibers currently used in the production of cigarette paper. He demonstrated that kenaf can be grown in North Carolina, and that you could successfully produce enough tonnage at a given price to produce profit for the farmer. The cigarette industry, however, did not accept kenaf as a viable replacement. There were some issues about contamination from the soil, and taste in the cigarettes from the kenaf paper.

Kenaf is currently grown in Texas, Mississippi, Florida, Louisiana, Oklahoma, Georgia, and North Carolina. It has been grown in Maryland, Pennsylvania and Delaware. The primary production areas, prior to the last couple of years, have been in Texas and Mississippi. The

Texas area of production has been growing several thousand acres for many years and they have been selling their production into markets including the automobile, paper and building products industries. In Mississippi, they initially produced kenaf for the manufacture of paper. That did not work out well, so they have been selling the product into the animal bedding industry with a small proportion of the bast fiber, which I will touch on later, going into paper production.

My experience with kenaf began in January 2000. After the flood of 1999, we experienced significant losses. We also saw a decline in income from tobacco and row crops such as cotton, corn, and soybeans as a result of low commodity prices. A group of nine farmers in Greene and Pitt Counties began to explore the possibility of growing kenaf on the farmland in North Carolina. We proceeded to purchase some seeds out of the Mississippi State University stock, and we planted the crop. We had about 25 acres in the year 2000. We monitored the test plots, harvested the crops, and then we sent the fiber to Canada to have it processed in a hemp processing facility (we did not perceive the current processing technology being used in Texas and Mississippi as capable of supplying a high enough quality fiber to enter certain markets that we were pursuing). We received those fibers back from Canada around January or February this past year. In fact, we sent samples to several of the customers that we were pursuing and we are proud to say that the specifications of the fi-

bers exceeded what they required. We continue to send samples around the world: to Japan, France, Belgium, Germany, as far away as California here in the United States and then up into the automobile production area around Ohio and Indiana.

I am going to touch on the production of kenaf in North Carolina—particularly our most recent crop that was planted this past spring (about the 20th of June, although generally this crop should go in the ground much earlier than that date). Kenaf needs to be planted after the last frost-free day in April and then should be completed by the 1st of June. We were late getting the crop in this year in some instances. This crop is extremely hardy—the seeds jump out of the ground in a matter of two or three days after planting, and it grows very quickly (see Figure 1). We are purchasing our seed out of Mexico. You cannot produce this seed in Eastern North Carolina, although you can in the very southern regions of Florida and Texas. Around here, about the time it starts fruiting—going to flower—we are going to have frost, so you do not get any seeds here.

Most of the production in Greene and Pitt Counties has been on 7-1/2 to 15-inch rows. This crop will mature in about 120 days and it

will reach a height of around 10 to 12 feet. And at that particular time, it is time to start cutting the crop. Figure 2 is an example of cutting—this was in late September of 2000. We just used a standard sickle bar mower, and you can see that is a small tractor. Most farmers have small tractors and some type of cutting device. Some of the farmers in 2001 were using disc mowers and we achieved the same success in the cutting process. After cutting the kenaf, it is raked and windrowed using a standard hay rake.

I want to touch on a subject that probably most of you are not aware of, and that is called retting (see Figure 3). It is a very important process in producing kenaf. Retting, although it sounds a little bit like rotting, is actually the de-lignification of the crop. Lignins are the natural glues in nature, and you've got to break down the lignins to achieve separation of the two fibers, bast and core. You can tell when these crops are ready to be harvested—when it is properly retted—by going and picking it up and twisting it. If the bast fibers, which are the exterior, stringy fibers, separate from the core fibers pretty easily, then it is ready to be harvested. This process of retting can take anywhere from 30 to 60 days. It is primarily



Figure 1. Successful kenaf stand in Greene County, NC with 18" to 24" plants – 7/6/2001

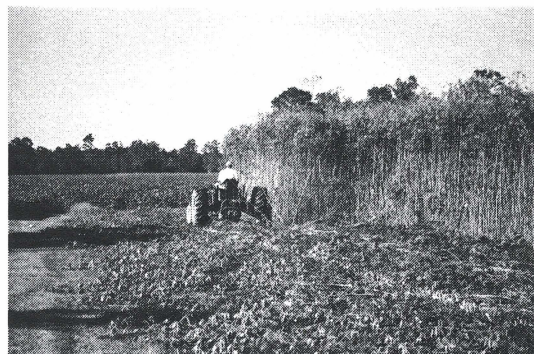


Figure 2. Cutting 6+ ton/acre kenaf crop in Greene County, NC – 9/25/2000

achieved through moisture, temperature and microbial activities. When you cut this crop, it is going to lie on the ground. If it rains on it, that is okay; that is just going to speed up the process of retting so you don't have to worry about the crop being damaged. Of course, if it lies in water for a month it will be damaged. But you do not have to worry about extensive rains damaging the fruit, because we are not producing the fruit here. We are not producing seed. We are simply producing fiber, not unlike tobacco. Everybody knows tobacco is pretty resistant to disease and drought. Kenaf is much the same way: you don't have to worry about going through a fruiting process, since all we're after is the stalk.

In general, farmers do not have to make any major investment in equipment to produce this crop. Most every farmer has a grain drill, a chisel plow, a disk harrow—they can plant it. It really does not require much effort to produce a crop. I met with Dr. Johnny Wynn a couple of years ago and I will never forget what he said. He sat down and said, "Guys, you can produce this crop with your eyes closed, but can you market it?" So the challenges of production are not too great. It can become a problem if you have to go out and purchase your

own harvesting equipment. Figure 4 is an example of the harvesting process. This is practically the only specialized piece of equipment that you need in the production of kenaf. It can take a significant amount of capital to buy a tractor large enough to pull the baler, and the baler itself is imported equipment, costing around \$65,000. But we view that as a service industry, much like a cotton harvester or grain harvester would be for some individuals.

In the year 2000 we got a gentleman out of Pennsylvania to come down with his baler. We did not have any in Greene County, and there were very few in North Carolina. But we perceived this piece of equipment to be the proper piece of equipment for the harvesting of the crop. You will note that this is a pretty big bale. The dimensions on that particular bale are 3 feet tall, 4 feet wide, and about 8 feet long. These bales will weigh around 700 pounds each. About 7 pounds per cubic foot is what we were shooting for in this bale. There are currently two balers owned by farmers in Greene County, and we have used these balers this year in the harvesting of the kenaf that was planted in the year 2001. You can also use round balers, and we have actually done so. Some of our 2000 crop was harvested with a



Figure 3. Retting cut 6+ ton/acre kenaf crop in Greene County, NC – 10/20/2000



Figure 4. Baling windrowed and dried, fully retted kenaf crop in Greene County, NC – 11/20/2000

round baler. But it's tough—the crop is so coarse, that it is difficult to begin that process of wrapping when starting the first part of the bale. Also, in the storage of kenaf, you can store 60% more in square bales than you can in round bales. The density on a round bale is around five pounds per cubic foot; the density on a square bale is around seven pounds per cubic foot and you can put a whole lot more squares in there than you can circles. After the crop is baled, it is then loaded on trailers and trucks, using forklifts or skid steer loaders. It is then shipped to the warehouse for storage. This particular facility (see Figure 5) is located in Greene County, and it is around 60,000 square feet, more or less. This building is owned by Ham Farms; we are leasing some space from them to store crops prior to building our own storage facility.

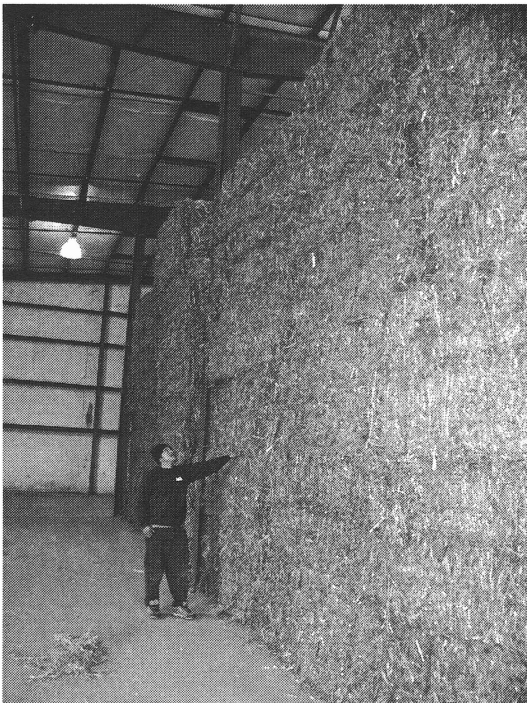


Figure 5. Bales of Greene County kenaf stored in Greene County, NC pending processing – 1/30/2001

Figure 6 provides an example of the kenaf farm budget. Of course, you have nematicide and you notice that I have got a question mark beside those nematicide costs. This crop is very susceptible to nematodes, but if you do not have a nematode problem, then you do not have to treat for it. The best way to determine whether you have a nematode level that requires using a soil fumigant is to submit the soil for central testing. The method for controlling the nematodes in kenaf is to do a nematode assay, and I am sure many of you who are farmers in here know what I am talking about.

Lime is required to keep the soil pH at around 6.0, which is standard for soybeans, tobacco, and cotton production, and its cost is usually around \$10 an acre. The nitrogen requirements are around 100 pounds per acre.

Nematicide (?)	\$100
Lime	\$ 10
Nitrogen	\$ 20
Potash	\$ 20
Seeds	\$ 35
Herbicide	\$ 20
Fuel	\$ 15
Repairs, etc.	\$ 15
Labor	\$ 15
Land	\$ 50
Harvest	\$ 75
<u>Machinery, etc.</u>	<u>\$ 25</u>
Expenses	\$400
Income: 10,000 @ .05/lb.	\$500
Net Income	\$100

Figure 6. Kenaf farm budget for Greene County, North Carolina (2001); use of nematicide is optional and, to date, has not been subscribed by any farmer. True annual kenaf production expenses are therefore estimated approximately \$300

The cost of potash, at around 120 pounds, is \$20 an acre; and seeds are around \$35 per acre. You want to apply about 10 pounds per acre. You want a final stand of around 100,000 plants per acre. Herbicides—you can use fairly inexpensive herbicides in production, primarily prep land, soil incorporated. You can use spray over the top. If you have grass and weed problems, you can overcome them with post-applications using something such as Select for grass and Staple for broadleaf weeds.

Fuel is budgeted at \$15 an acre, which is very generous for that category, then we get to repairs, labor, land, etc. The harvesting cost is pretty expensive—up there with the cost of the nematicides at around \$75 an acre. That would probably be a process that is contracted out to people within the community who will own balers and perform the services of cutting, raking, baling, and removing the crop from the field. Machinery costs are estimated at approximately \$25 an acre. Total expenses are around \$400 acre. It is fairly capital intensive. Now, look at the income line down at the bottom. You have around 10,000 pounds, at a nickel a pound, which would return you \$500 per acre gross. We perceive 10,000 pounds per acre to be the minimum production for the year 2000. We did not have a single test plot that yielded less than 10,000 pounds per acre. Some of the test plots yielded very close to 14,000. You can imagine, at a nickel a pound, if you produce a little bit more tonnage than 10,000 pounds, it will give you a little higher profit than net income of \$100 an acre. Now we produced the crop so those farmers can make a profit on it. What are we going to do next?

In November of 2001 an S-corporation was formed. Sixteen investors got together and pledged capital and put up cash and we formed a company called Greene Natural Fibers. Greene Natural Fibers is currently in the process of building a manufacturing facility. We have received approval from the North Carolina Department of Environment and Natural Resources for the sedimentation and erosion

control plan. We have our plans for the building and put the site work in the hands of contractors. We are currently waiting for them to reply and give us bids. We plan to start building our facility, which includes a 40,000 square foot manufacturing facility, this coming month. We are also going to build around 160,000 square feet of raw goods warehousing facilities—all of it located in Greene County. We already have a piece of land surveyed, of around 11 acres. If all goes according to plan, we plan to start processing in July. We are purchasing our equipment from a company in Germany by the name of TEMAFA. They have delivered 1/3 of the equipment and it is in a warehouse in Greene County—the same place where the raw materials are stored. We will start putting this in our facility upon completion of the construction. Engineers from Germany will spend about 60 days with us installing the equipment and also training personnel to work with it. We are going to employ around 30 people full time. We are going to run the facility 24 hours a day, seven days a week.

Now I will discuss some of the products we are going to be producing. There are two constituents of the plant: the first is the core material, which is a really fibrous, lightweight and highly absorptive material. You can see in



Figure 7. Value-added kenaf core fiber absorbent products—oil absorbent and horse bedding

Figure 7 that we are going to be producing animal bedding. This is an example of some that we had bagged and cleaned, and it came from what we sent to Canada from the 2000 crop. It is a very pretty product, and we have been sending some to Florida. A gentleman who works with us went to Florida a few weeks ago with 100 bags and set up a tent stall at the big horse show in Palm Beach, Florida. Since then we have been receiving phone calls and messages from people who tested the product, and they want to know when they can start buying it. We are going to send some to Gulfport, Mississippi next week for the same purposes, and we anticipate the same response from that market.

Figure 8 shows a stall of kenaf—a very pretty product, clean and white-looking. It looks good inside the stall. This product out-performs the current leading bedding material, wood shavings, which is our largest competitor. Our product is going to be competitive with the prices of existing popular products and, with respect to absorption, it is going to out-perform them on the level of about two to one. So we do not anticipate any problems entering the market. It

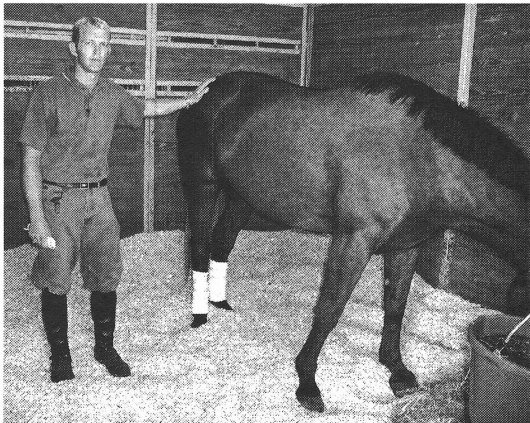


Figure 8. Kenaf premium horse bedding in use, Wellington, Florida 2/13/2002, owner: Mike Morrissey, COO, Stadium Jumping Corporation

can also be used for kitty litter—highly absorptive and with very high odor reducing characteristics. The reason for that is because when the kenaf core absorbs liquids, urine, etc., it goes to the interior part of the plant. It does not stay on the surface—on the outside—so it, therefore, masks the odor that normally comes from urine and other similar substances.

The second type of kenaf fiber is the bast, a stringy fiber on the exterior of the plant. The bast product will be used in the production of interior parts for cars. Figure 9 happens to be a current model Chrysler Sebring door panel. You cannot tell that there is any kenaf in it because what you see is a vinyl exterior—the surface you see when you're sitting inside the car. If you turn the panel around you can see that the kenaf bast fibers, which are blended with polypropylene on a fifty-fifty basis, are utilized. This product is replacing fiberglass, plastics and wood fibers. You wonder why they would start using kenaf fibers in the production of parts in an automobile. Well this trend started in Europe probably seven or eight years ago. There were mandates in the European Community to develop automobiles that are either biodegradable or recyclable. A certain percentage of those cars had to achieve that result by a specified dead-

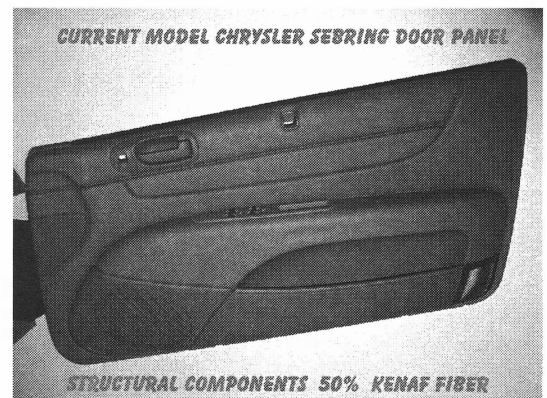


Figure 9. Automotive industry kenaf application: Chrysler door panel front

line. So, the automakers started utilizing natural fibers in the production of certain parts of the car. What they found out is that this is actually cheaper to produce than the current fiberglass method. Ultimately, it is a price issue. Automobile manufacturers could make more money selling a part with natural fibers used in it. It is also lighter, and is just as strong. It is also safer, because it doesn't crush and create shards. It crumples and does less bodily injury in a crash. These products have to go through extensive testing to be used in the manufacture of automobiles—you don't just start using natural fibers to produce a product; it takes several years to achieve this. At any rate, in Europe over the last four years, there has been a 700% increase in the use of these fibers in the production of automobile parts. We expect that trend to move here to the United States. There is currently less than 3% market penetration in the use of natural fibers in the production of parts for automobiles. Three-tenths of one percent—that is a very small amount. Can you imagine if we could achieve a level with 25%? Right now, these fibers are being imported primarily from Canada, Europe, and Asia. Our goal is to replace these imported fibers, and we have certainly had a lot of success lately working with manufacturers in achieving that.

Kenaf can also be used in the production of paper. We are not currently focusing on kenaf in the production of paper, because none of the current paper manufacturers in our area are interested extensively in the production of kenaf paper. There are several companies, however, currently producing kenaf paper. Another example is building products, which was our initial focus (see Figure 10). We determined after a period of time, however, that it would require too much capital. You are looking at anywhere from \$15 to \$100 million in investment in a facility to produce these types of boards, and you would be going into a market that's already saturated with products like this, and we don't want to go in and lose any money right at the start.

Now, what is going to happen with kenaf in Eastern North Carolina? In 2000 we had 25 acres. In 2001 we had 1700 acres and we completed the harvest of that crop and it is in storage as of today. Where do we go from here? Our manufacturing facility has the capability of processing 30 million pounds of fibers a year. That is approximately 3,000 acres at 10,000 pounds per acre. So we are going to plant 3,000 acres this coming year. We have the seed in inventory, enough to plant more than that. But right now we're focusing on 3,000 acres at this point. These acres will probably be planted in Greene and Pitt counties, and potentially some in surrounding counties. It is highly sensitive to freight costs because you're producing so much bulk freight, there is so much mass volume, and it requires a lot of transportation costs to get it to a processing facility. You cannot go far before the freight costs become prohibitive to the farmer. I would say we are limited to about a 15-mile radius currently. If production grows due to increased demand, we do anticipate expanding into other areas, kind of like cotton gins. You set up a production area around the processing facility.

Long-term, there are a lot of studies out there indicating that the use of natural fibers in automobile manufacturing—also in building materi-

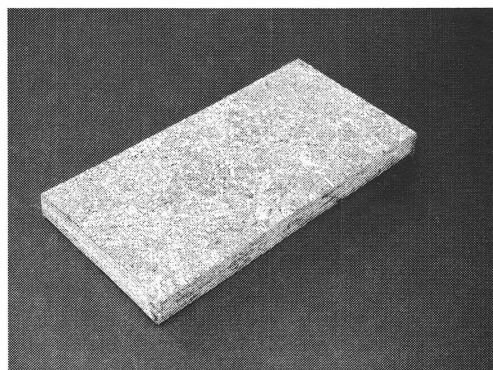


Figure 10. Greene County manufactured kenaf lumber product.

als and other products—is going to grow exponentially. Demand for our products is continuing to grow and we will, accordingly, continue to expand acreage as well as production and processing capacity (see Figure 11). We look forward to doing so. The same trend is continuing in Europe. I was on the phone with a gentleman last week, who is a major importer of hemp fibers for industrial applications. He is concerned that there is a severe shortage of bast fibers in Europe at the moment, because fiber consumption in Europe has expanded so rapidly in the use of industrial applications and building components. We anticipate the same thing happening in the United States. I appreciate everybody's time, and thank you for having me today.

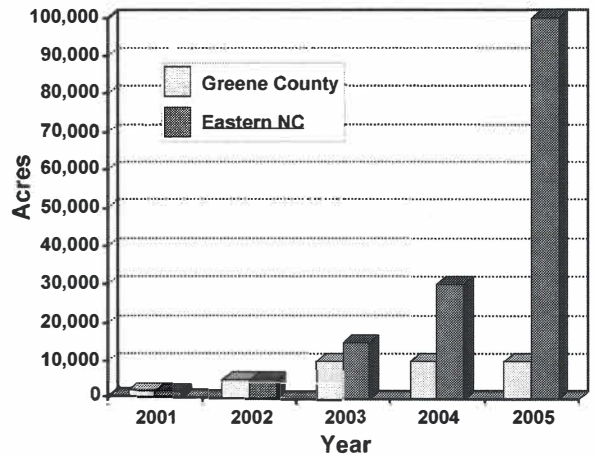


Figure 11. Projected North Carolina kenaf acreage

Organic Farming Alternatives

Tony Kleese

Carolina Farm Stewardship Association

First, I should say that I agree with everybody else, that there are no silver bullets out there. What it really boils down to is that we have to change our mindset about how we market things. I teach in the Sustainable Farming Program at Central Carolina Community College, and we tell people there all the time that, as farmers, they are going to spend at least 50% of their time marketing, because it's not just about farming anymore. Farmers have to spend time on the phone selling their product. So I'm going to talk about organic farming alternatives here. Some of the other speakers here today have touched on this issue, but I want to emphasize it.

As farmers, we are now competing in a global economic environment, and this trend has had an impact on almost every commodity. Cotton provides one of the most recent examples. For a time, the price was really good and everyone got into it. Then, the price dropped and we were all stuck. The key is supply and demand. We are working in a free market economy, which is all about supply and demand, so we have to understand that. What you have to do is figure out what makes your product different or unique—is it the price, is it the quality, is it the quantity, the service you provide? Perhaps it's your production practices—something different about how you are producing your product. In my opinion, it is all about putting a face and a place on agriculture. It's about connecting with the consumer, making sure you have a good relationship, and then diversifying your crops and markets. There

is no single "silver bullet" to success, because it is diversity that is the key to sustainability. Diversity is going to make you sustainable because with any one crop—like tomatoes, for instance—there may be great prices for it this year, but poor prices next year; and if all your eggs are in that one "tomato" basket, you will fail. So, farmers must diversify their situation, and not just rely on one thing if they are going to be sustainable. But we have heard a lot about 'sustainable agriculture', so let me begin with a discussion of this term.

What is sustainability? What is sustainable agriculture? It is something that is *environmentally sound*, and doesn't degrade the environment for future generations. It at least maintains the environmental status quo, and it hopefully provides that natural resource base for the future. Further, it must be *economically viable*. It should allow the farmer to make a living, but also be affordable for the consumer within a broader context. People need to be able to buy food. And it needs to be *socially equitable or just*. This is a difficult thing to pin down, but it goes to the heart of what we are talking about in terms of the rural agrarian economy. We must be able to set up a social system that supports the rural economy. We can't just grow our crop and hope it sells. So, these are some of the main issues that are involved in a sustainable system, and I think that when you are talking about a sustainable system, it is important to ask these three questions about your situation: Is it sound in terms of marketability? Is it economically viable? And

will it be socially just? That connection with the consumer is very important, and this is particularly the case when one turns to organic production practices or eco-labels and regional labels. One of the things I would like to focus on today is the issue of organics. Dr. McKinnie mentioned the market for smaller-scale, hormone and antibiotic-free products, and I would also like to see a focus on the local aspects of production. As I mentioned, we are competing in a global environment, and we may not be able to compete with South America or California, for instance, on price. However, we can find other ways to differentiate ourselves within the market, and one of those ways is to emphasize the local aspects of our production. However, doing that means we must educate the public about why it is important to support local agriculture.

I would like to get into a little bit of the nitty-gritty about the issue of "organic production", because I think there are a lot of misconceptions out there about the nature of organic production, and a lot of people are not clear about what the term means. I want to draw on the definition of organic that was submitted to the USDA by the national organic standards board. First, organic production is *an ecological production management system*. It is about *how* you grow the crop. It *promotes bio-diversity, and the biological activity of the soil*. It *restores, maintains, and enhances ecological balance*, and that is what you are trying to achieve out there. Organic production also *integrates the parts of a farming system into an ecological whole*. You are trying to look at the whole system and how all of the pieces fit together. Organic production *minimizes the pollution of the air, water and soil*. It does not guarantee that there will not be any pollution, but it minimizes it and takes it down to as low a level as possible. Finally, *synthetic fertilizers and pesticides are prohibited*, because they do not enhance the ecological balance of the soil. When you spray herbicide or insecticide on the field, you are basically damaging the ecological bal-

ance out there. When you put synthetic fertilizers on your soil year after year, you destroy the ecological balance of your soil. For this reason—and this is important for a lot of farmers—you must wait three years from the last application of a prohibited substance on the field before you can be called organic. So, that is one of the barriers for farmers who want to get into organics. They must wait that three years, and some farmers don't have the luxury to do that. But if you have set aside land, or some land that you can take immediately and get into production, then you can use that, and you don't have to wait the full three years.

Now, one of the things I want to show you are some of the statistics on organics, because there is a lot of growth out there in the marketplace. In 1997, certified organic farming systems were used on 1.35 million acres of cropland in 49 states. According to a recent USDA study, between 1992 and 1997, US-certified organic crops more than doubled. They are actually collecting data right now to update this study. Consumer demand for organically grown food has increased 20% or more annually since the late 1980s, and it continues to increase every year. I challenge anybody to show me a commodity that has had 20% growth for over ten years, and a medium term growth forecast range from 5 to 10 percent annually for Germany, 20 to 30 percent for the United States, and 30 to 40 percent for Denmark. England has a huge market for organics, and several of their grocery stores have gone totally organic, so they are looking for the product over there as well.

Many of you might know of a publication for Packer (they just did a study recently on a Fresh Trends report). Well, 34% of consumers surveyed said they had purchased organic produce in the past six months. Basically, organic products continue to show that kind of growth trend out there, and more and more people are buying them. For this reason, growers generally can expect a 20 to 50 percent premium in the marketplace. We did a study with Dr. Ed

Estes back in '97 or '98 of the retail operations in this state, and we were able to get price data for about a fifteen-month window. Prices went up and down, but in general, you do receive a premium for the crop, and that's why you would want to go organic, because it gives you the opportunity to access that premium. You might have noticed that Harris Teeter, Kroger, a lot of the grocery stores—mainstream grocery stores—are now carrying organic product. The problem is that all of it comes from California, and we've got to figure out a way to capture the market.

One common misconception out there is that organic costs are necessarily higher than conventional costs. This is not necessarily the case. You might have some higher labor costs. I would agree that you'd probably have some higher front end costs, with trying to build up that nutrition and organic matter back in your soil, but over the long term it actually evens out and you actually have reduced inputs in the longer run. We are doing another study with Ed Estes right now, looking at the production costs of nine organic commodities. We have collected data on these from three farmers each, and we will publish that information early this year, probably in April.

There are, however, some obstacles involved when shifting to organic production. One of the obstacles to the adoption of organics can be the large managerial costs. Other obstacles that people often suggest include some issues about labor, as well as a risk from shifting to a new way of farming, a limited awareness of organic farming systems, a lack of marketing and technical infrastructure, and an inability to capture the market economy—meaning a sort of economy of scale issue. So those are some of the barriers that are out there. What I witness here in North Carolina is that the main barriers are managerial costs, certification, just the hassle of keeping records (none of us got into farming to keep records!), and then access to materials that are approved for use on organic farms. Unfortunately, these materials are not readily

available yet, and we as an organization are trying to do something to address that, and I'll touch on that a little bit later.

So, let me talk a little bit about the process of certification—because you can't just go out there and say "Well I'm organic," at least not anymore you can't do that. And I want to point out what organic certification is. It is a third-party verification of organic production practices for crops, livestock, and processing facilities. It is also a valuable marketing tool for farmers. It is a green label, of sorts; it is a way for consumers to identify organically-grown or hormone and antibiotic-free products. Consumers who are concerned about how their food is produced, or who want to support an ecological production management system, can then identify that product in the marketplace. When there is no direct link between you and the consumer, there needs to be a third party evaluator out there to make the decision about whether the farmer gets that organic certification label or not. What kinds of things get covered in a certification process? There's soil management, tillage, crop rotation, cover crops—your whole management plan. How does your whole system work, your seed and seedling sources, and your greenhouse management? The new national standards require organic seed and organic transplants. We don't want you to plant the crop out there and then run into a pest problem and panic and just run down to the store and buy something to spray on it. Instead, we want you to have a plan for how you will deal with that pest problem, because it's probably going to show up out there. Certification also covers post-harvest handling and storage, washing, cooling, packaging, and the land use history. One of the questions that we had on our application was: had this land been an apple orchard in the past? One of the reasons why that question is being asked is because arsenic and lead were used quite a lot in apple orchards. Some of you may have heard that there's an apple orchard up in the mountains that was converted over to a housing de-

velopment. Now they are telling the children not to go outside and play in the soil because it's so contaminated. So, that is the kind of land history that we are looking at. We look at a farm map, a description, acreages, and buffers, because we want to know what's going on around you. Are there aerial spray applications going on next to your field? Is there a conventional operation that buffers right up against your field? It is possible to have both organic and conventional operations, but it means that you will have to keep some very serious records, and we are going to want to know what's going on in that conventional operation as well.

Another important thing to keep in mind is that organic does not allow the use of genetically modified organisms (GMOs). If you are growing organic, you are also going to have to be aware of your local neighbors. If you are trying to grow organic feed corn and your neighbors are growing genetically modified BT corn, there's a strong probability that pollen is going to be blowing around your field and could contaminate your corn. So be aware of that, especially in this eastern part of the state, where both crops exist. If you're the contaminator, you can be held liable—it's called 'GMO trespass.' We'll have to see how that plays out. (Incidentally, a lot of people claim that we have to have GMOs to feed the world—that organic production just can't do it. I don't agree with that. Some studies just came out that showed that for most commodities, organic yields are 95% of conventional yields, and in drought years they are actually better because the soil has a higher water holding capacity.)

So, record keeping is a very big piece of organic certification. The bottom line is that this is a paper trail. When and if somebody were to get sick from your produce, we want to be able to follow that product all the way back to your farm—to the field—and then through your records to be able to tell what went on in your field and how you grew that crop. So, organic production is partly about

having a paper trail—and I hate it—but that's the way it is unfortunately. We can't be on your farm 24 hours a day and monitor what you're doing, so we've got to have some way to back it up.

Just recently, the USDA has implemented a National Organic Program. The good thing about this is that it is creating one uniform standard for the entire country, so that if you buy something from California it is the same as New England, or North Carolina. This is intended to help facilitate interstate trade and reduce confusion in the marketplace. So let me give you a little bit of history about this. In 1990 the Organic Foods Production Act was passed as part of the 1990 Farm Bill. They formed what was called the National Organic Standards Board, and the Rural Advancement Foundation International (RAFI) did a lot of work in supporting this process—in particular, Michael Sligh was the first chairman of the National Organic Standards Board. They went around the country and collected feedback from the organic community, and came back to the USDA in 1996 and said, "here's what we think it should be." Unfortunately, in 1997 the USDA released the first proposed rule, which was a fiasco. They just got it wrong, and so the organic community raised a lot of Cain. As a matter of fact, there were 270,000 comments to the first proposed rule, and 99% of them were negative, because the USDA just didn't get it right the first time. Well, they understood they didn't get it right, so they pulled back and they agreed to rewrite the proposed rule, and the final rules were published in the Federal Register in December of 2000, and went into effect in April of 2001.

As I mentioned earlier, the USDA is not going to do the certification. They are going to sub-contract it out to state Departments of Agriculture and nonprofit organizations, and also to for-profit entities. The USDA had to go through a process to accredit these agencies, so all of these individuals—all those certifiers who wanted to certify for the USDA—had to

apply for accreditation. They had a deadline of October, 2001, although after 9/11 the USDA moved the deadline to December. All of those applications are now in. My understanding is there are 85 certifiers who applied for accreditation (not all of them in the US). Clearly there will be quite a selection of certifiers out there. The USDA is supposed to release a list of accredited certifiers in April of 2002, so then we will know who the accredited certifiers are. Then, anybody who wants to use the term organic, or who wants to be a certified entity (whether that's a farmer or manufacturing processor) will need to come into compliance under one of these accredited certifiers by October 2002—that is the phase-in period. Basically, we are moving from a nonprofit, grassroots movement, to a federally-regulated label, and this is the process that we are going through right now.

So, what does this mean for farmers? Under this new system, the use of the word 'organic' is now regulated by the USDA. I can tell you, this does not bode well for some farmers out there who might feel that they started this thing, and now the USDA has taken it away from them. But it is important to remember that this change has some very positive impacts in the long run as well. In the past, consumers might have seen organic products on the market, they may have wanted to purchase them, but there was no guarantee that those products really were organic. This new law is meant to change that, and to solidify the definition of organic. Now, a producer must be certified in order to use the term organic in their marketing. The standards have been developed for a wide range of soil-based crops, many of which are grown in North Carolina. We have seen organic sweet potatoes and organic cotton. Some work is being done looking at peanuts, and they are real close to going organic. One question is how to defoliate the crop, and I think they are using citrus acid to do this now—it can be done. There is also organic tobacco production going on in the state

of North Carolina, both burly and flue cured. A lot of people see that as an oxymoron—organic tobacco. But, it's about how the crop is produced—not necessarily that it's healthy. I'm not sure exactly where things stand right now, but several of the conventional growers are switching over to organic tobacco production, and they were getting, I believe, \$3 a pound for organic tobacco last year. There are standards for mushrooms as well, and now they are trying to look at greenhouse standards and hydroponics standards, although they are not in place yet. So, there are a lot of possibilities out there.

If you would like more information on the actual program itself, you can go to the USDA National Organic Program website.¹ You can view the whole rule, you can see FAQs (frequently asked questions), and you can see their timeline. I'll give the USDA a lot of credit on this—this is the first rule where they actually received comments electronically over the web, and they've done a good job of posting things. They might be a little slower than we want them to be—they're not perfect—but they've done a good job. They really have opened themselves to receive feedback (whether they take that feedback or not is a good question!), and compared to what usually happens in a rule-making process, this one has been relatively open. Still, the problem is that only 1 tenth of 1 percent of the entire USDA research budget goes to organic. If they put even 5% into it, we'd be light years ahead of where we are right now. Most organic research is either funded by one very small organization called the Organic Farming Research Foundation, or an organization of the Federal Government called SARE, Sustainable Agriculture Research and Education. And that is it. The rest of it is done from farmers just learning it from each other.

So, what are some of the things that are going on right now to support organic farming in North Carolina? The North Carolina Department of Agriculture (NCDAR) has decided to put in a cost-share for organic growers, and this is

a really unique thing. We are one of only three states in the entire country that are doing this, and I think this came from the fact that groups like ours and RAFI and others went to the USDA and to the NCDA and said that farmers really need some help with all the costs. Depending upon the size of an organic operation, certification will cost about \$500 to \$1,000 dollars per year. It is scale specific—a very small grower will not get the same charge as a very large grower. The NCDA took some specialty crops money from the USDA, and put \$250,000 into to a cost-share program, which will be spread out over three years. They are going to guarantee a cost share of half of your certification costs—up to \$500 dollars. So a producer will be able to get half of their costs back. That is pretty exciting, and I applaud Agriculture Commissioner Meg Scott Phipps for her efforts in putting this together. It shows that the North Carolina Department of Agriculture does think that organics are something that farmers should look at.

Also, we have just received some funding from the Rural Center (specifically we received it from the Agriculture Advancement Consortium), and it is going to be for certification education, because growers are going to need some really good education about how to become certified under the National Organic Program. This is true for both the growers that were certified in the past and also for those who might want to go into this now. We received enough money to do nine training sessions across the state. We are planning to do three toward the coast, three in the Piedmont, and three in the mountains. We are working on the details of that right now. We plan to do three this spring, and then—we recognize that farmers can't just be sitting inside the rest of the year (every time of the year is hard on you!)—so we'll do the rest them in the fall and the winter. Make sure you keep in touch with us, and I'll give you our website so that you can monitor that schedule and see what we put together.² The training will be approximately 5 or 6 hours long.

We are bringing in expertise from across the country to help put this together. The goal will be that, when you leave that workshop you will be able to put an application together and apply for certification.

In addition, the NCDA has dedicated staff to supporting organic agriculture. In particular, a gentleman by the name of Doug Sutton has been given duties at the NCDA to focus on this, and he's the gentleman that you should contact for the cost sharing information as well. There is, for those of you who don't know, a Center for Environmental Farming Systems in Goldsboro, and it is an excellent facility. It is the largest certified organic research facility in the entire country. It's a collaboration between the North Carolina Department of Agriculture, NC State University, and NC A&T. They are conducting research, and not only on large-scale bulk commodities like soybeans and corn. They've got vegetable crops in there too, and they've got integrated systems experiments. I know they've got a beef cattle operation there and I think they are looking at doing a swine operation too. Dr. Nancy Creamer of NC State is doing some excellent work there, and I can tell you—I travel all around the South—that we are definitely seen as a leader in the Southeast for our work on organic and sustainable practices. And then, as you know, there is the Goodness Grows in North Carolina program here. I am not saying that it is a perfect scenario, but it is an attempt to show people that these products come from North Carolina, which I think is a very, very important thing. We need to continue to focus on this, and to educate consumers as to why it is important to support farms and farmers. I live in the Chapel Hill area, where there is a lot of urban sprawl going on. People say they want to preserve farms and farmers, but their first response is to go out there and buy out the farmland. The next thing that happens is that trees pop up, and then it's no longer a farm (at least not an annual crop farm, it might be a tree farm!). But the bottom line is, we have got to preserve

farming in order to preserve the farmer. We have got to make farming a viable option, and I think part of that is to show people that if they want to preserve agriculture, and if they want North Carolina to stay an agrarian state, we have to figure out ways to support our farmers. The great thing about the 'Goodness Grows' program is that it does designate products that are grown in North Carolina. So, if it is important to consumers, they can buy that product.

So, I really encourage folks to keep in touch with us. Our mission is to support and expand local and organic agriculture in the Carolinas by inspiring, educating, and organizing farmers and consumers. We want to see more local organic food systems. I'd like to see us have an integrated local organic food system in the Southeast, so that we could give California a run for their money. It was mentioned earlier that the reason why California beats us all the time is because they have a twelve month, year-round supply, but if you look at the micro climates from Columbia, South Carolina to Boone, North Carolina you are basically talking about a production area that is able to do everything except citrus. And if you throw Georgia and

Florida into the mix, we can give California a run for their money. But it means that we must band together and create this food system, and this is a long-term project. I understand we are not going to do this today, but it is something that I think we all need to be considering. We are competing in this big market, and we have got to figure out a way to separate ourselves. The market demand is there. I am seeing some of the same things that have happened in conventional agriculture now happen in organics. In California and Mexico, large-scale organic production is starting to lower the price, but I think that's why we've got to go out there and show that local and organic is the way we should be going. The reason why I believe in organic production is that we've got to do it in an environmentally sound way. We can't degrade our environment any further than we have, and local is the way we're all going to stay in business.

¹ <http://www.ams.usda.gov/nop/>

² <http://www.carolinafarmstewards.org/>

SESSION III:

**PRODUCER ALLIANCES AND
FARMER-OWNED VALUE-ADDED BUSINESS**

Nicotiana glauca

Adopting a Cooperative Approach to Local Economic Development¹

Christopher D. Merrett
Illinois Institute for Rural Affairs
Western Illinois University

According to a report in the *New York Times*, rural America is experiencing economic and demographic decline (Egan 2002). The purpose of this essay is to examine the causes of this decline, and then to suggest one possible way that rural economic developers, farmers, government officials, researchers, and other interested parties can work together to reinvigorate rural communities. A caveat is required. The research reported here was conducted primarily in the American Midwest. The audience for this journal is located primarily in the American Southeast. The trick will be to reinterpret the findings of this research focusing on the Midwest in order to find relevance for rural communities in North Carolina and the Southeastern region of the United States.

There are a number of political and economic forces undermining rural communities, leading to farm consolidation and rural economic decline. There has been a secular decline in the number of farms and a growing concentration of agribusiness ownership since the Second World War. However, these trends accelerated during the 1980s because of the Farm Crisis. During the 1970s, grain markets in the USSR and China opened up. Farmers were encouraged to borrow money to expand production to meet this increased demand. However, in the early 1980s, the Federal Reserve Bank raised interest rates to slow inflation. Farmers with large loans could not make their loan payments, forcing banks to foreclose on many farm loans. In addition to the Farm Crisis, farmers have also

been put under growing pressure by the vertical integration of production in the agricultural sector. A few large firms such as Cargill, ADM, and other firms control an increasingly large proportion of the farm input and processing sector. For example, ConAgra, another giant agribusiness, owns commodity processing facilities as well as brand names such as Butterball, the popular turkey trademark. Hence, ConAgra owns portions of the value-chain from the "farm gate to the dinner plate." Under these increasingly monopolistic conditions, farmers are less able to negotiate a fair price for their harvested commodities.

Farmers also have to confront what Cochrane (1993) calls the "technological treadmill." Improved farm technology in the twentieth century translated into increased productivity, and hence, commodity supply. As the supply of commodities increased, it acted to suppress farm prices. With very small profit margins, the farmer was forced to increase output in order to make a profit. Output could be increased by enlarging the size of the farm, and / or by using more sophisticated and expensive technology. The technological treadmill results in a tendency towards larger farms in order to amortize the costs of increasingly capital-intensive farm operations. As a result, the least successful farms go bankrupt or are sold off to neighboring farmers. Many farmers forced off the farm due to consolidation moved away from their home community to find gainful employment. The tendency to-

wards larger farms necessarily leads to fewer farmers in a community.

Farm consolidation is therefore a key process in rural community decline. What we are trying to do is to help reduce farm consolidation and population out-migration. We propose to accomplish this by working on rural economic and community development strategies that unite, not just farmers—although they're certainly the core of what we're trying to do—but farmers and the non-farm rural population. We would like to get them to work more closely together because traditionally, farmers and their non-farming rural neighbors have not talked to each other. It is our idea to promote rural economic development that helps farmers and the non-farm population work together to improve conditions within an entire region. We believe we can develop a plan focused on value-added agriculture, where commodities will be processed locally, generating higher on-farm profits while creating local jobs and tax revenues. Certainly, one way of organizing producers to accomplish this is through a concept called *New Generation Cooperatives* (NGCs). For many farmers, the word co-op is a little problematic, suggesting something "anti-capitalistic." Let me suggest to you, however, that farmers who are involved in NGCs are very market-oriented, they just happen to enjoy being capitalistic with their neighbors.

This paper discusses value-added agriculture that can be pursued through the cooperative business model. If you attended this conference yesterday, you received a good primer on "value-added agriculture." Today, I am going to give you my perspective on that same topic, emphasizing the role of different cooperative structures in that process. Most of you likely know that the traditional farm cooperative is not a particularly efficient business model. Therefore, this essay will discuss how NGCs differ from the traditional co-ops, comparing their respective benefits and costs. I will then report on a survey of NGCs that we recently completed. I will conclude by directing you to

some other resources that should allow you to supplement the information I present today.

"Value-added agriculture" is one of those familiar catch phrases that have ambiguous or multiple meanings. The question is: What does it actually mean? If we take some of the standard commodity grower scenarios, we know that once the farmer sells a given commodity, he ceases to have any further concerns about it (Figure 1). Hopefully he has received a fair market price, which is debatable under today's market circumstances. Now, as the commodity moves along the so-called value chain from the farmer to the consumer somebody else is making money from that commodity. Somebody else is adding value to the commodity, whether by simply shipping it from point A to point B, or actually transforming it. Somebody else is adding value—earning profits that are not being earned by the farmer—as the commodity is transformed and moved towards the consumer. What we are suggesting is that we can keep more commodity-derived money in the local community by processing commodities locally. This will allow the farmer to reach up the value chain and engage in the processing and distribution of this commodity. The key is that as the farmer moves up the value chain he moves closer to the consumer—and to increasing returns on his investment. Ultimately, value-added agriculture is about increasing the

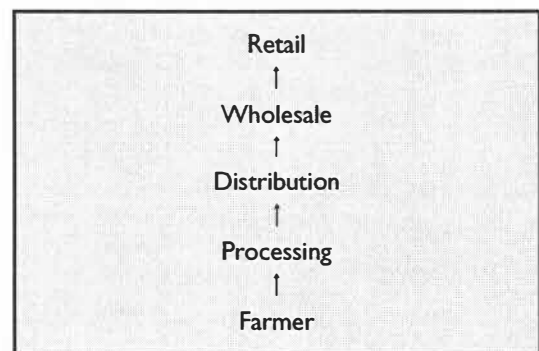


Figure 1. Value-Added Agriculture

farmers' profits.

The key step is for the farmer to move into processing. This poses a number of specific challenges. First, there is the problem of raising start up capital. Some of these processing facilities can cost several hundred thousand dollars to tens of millions of dollars. Very few farmers have that kind of money sitting around that they can invest in such a venture. Any kind of processing facility, of course, has inherent legal and tax issues such as how to incorporate the enterprise, how to distribute profits, or how to manage liability issues. Any successful business has to conduct marketing studies to identify the product and the market that the nascent firm is about to enter. There is the issue of technical expertise, environmental issues and management expertise. This is clearly beyond the capability of any single farmer, both with respect to cost and expertise. A potential solution to these various obstacles is for individual producers to invest in a special variant of the producer cooperative—the so-called *New Generation Co-op*.

Let us take a look at how this NGC differs from other, more familiar, institutional forms

(Figure 2). First, we have the issue of membership. A traditional cooperative usually has an open membership policy. You pay your membership fees and you're able to join. By contrast a new generation co-op has a closed membership policy. Now, that sounds perhaps a little bit exclusionary, but there are important reasons for limiting membership. The size of traditional cooperatives can vary from several hundred to over ten thousand members. They can be extremely large, a situation that can cause anonymity among members. In many ways, it is no different than belonging to the National Geographic Society. One seldom, if ever, meets other members. In contrast, the average NGC will have only several hundred people, with the largest having perhaps as many as two thousand members. The cost to join a traditional co-op can be fairly nominal, perhaps several hundred dollars. A new generation co-op, on the other hand, requires a substantial up-front investment. The usual approach is to buy shares, with a single share costing from \$1,000 to, perhaps, \$5,000. There will also be a minimum requirement that you purchase maybe two or three shares. Now, why is this

Issue	Traditional Co-op	NGC
Membership	Open	Closed
Size	10,000+	500 to 2,000
Cost to Join	Membership Fees \$100	Shares at \$5,000+
Delivery Rights	Not Usually	Always
Liquidity of Investment	Not Usually	Shares Traded on Open Market
Expected ROI	< 8%	10 to 20%
Mindset	Commodity Grower	Entrepreneur (Risk)

Figure 2. Comparing Cooperative Structure

important? Well, with a traditional co-op there is often a problem of members not patronizing their cooperative—the so-called “free rider” problem. If farmers can get a better price somewhere else, they’ll sell it to the processor who’s offering a better price. This means less revenue for the co-op.

In the case of the NGC, a farmer is given a guaranteed price and he can sell an amount of commodity in proportion to the number of shares that he owns. Therefore the NGC member is assured a market and guaranteed a price. There is also an obligation, of course, that if for some reason the commodity is not of the appropriate quality or if there is crop failure, that co-op member still has to deliver; so he may actually have to purchase commodities on the open market and sell them to the co-op. The point is that there is a much greater commitment between the producer and the co-op.

Liquidity of investment is a real problem for traditional co-ops because once you invest in one, it is difficult to get your money back. With a new generation co-op, the shares that you buy are tradable or sellable so it’s a much more liquid, more flexible arrangement. Expected return on invested capital is much higher for a new generation co-op. There is, of course, also some risk involved. This requires a very different mindset, with farmers having to think in a more entrepreneurial fashion. There are many states now with a legal structure known as a limited liability partnership. This means that the non-farmers can actually invest—so local business folks can invest in the processing facility. They do not have the same voting rights as the producers do, but they can expect the same returns on investment.

What are some of the benefits of NGCs? Well, certainly there are economies of scale at work. NGC members can raise start-up capital more easily, but there’s also the sharing of risk. NGCs provide a guaranteed price in the market. As more and more processors dominate the market, perhaps farmers are feeling squeezed out, and what a new generation co-

op does is to provide a guaranteed market for a portion of the farmer’s harvest. NGCs also provide what Robert Putnam (2000) calls social capital. Some communities feel as if things are not the way they used to be. People are too busy. They are not interacting with one another the way they used to. They don’t know their neighbors any more. Evidence suggests that membership in a NGC tends to reinvigorate these feelings of trust and “knowing,” if you will, within a community. So we have collaboration and cooperation between farmers, but we also have farmers and the non-farming community working together as well.

There are, in addition to quality of life and income issues, economic multiplier effects on the community (Leistritz and Sell 2001). We are referring to the construction of a new processing facility, which would contribute to the local tax base. The NGC will also create new jobs. The quality of jobs is certainly an open question, with some high paying white collar jobs, but typically also many low paying jobs. This is an issue that must be dealt with, by the community, up front. Last, but certainly not least, let me again suggest the issue of risk. While a higher return is expected, there is also significant opportunity for financial loss. A farmer must evaluate the possibility that he might lose 5 to 10 thousand dollars on the venture. He must begin to think more like an entrepreneur. He should also know that small businesses have a typical 5-year failure rate of around 50%. So if you’re going to become an entrepreneur, you should expect a higher rate of return but you should also expect to confront higher risks. That poses the question of how to mitigate these risks. Answering that question is a central feature of my research.

Next, I would like to report on a survey we conducted on NGCs in the United States. We asked the following questions: How can we help new generation co-ops be more successful? How can we ensure that farmers are going to get a positive return on their investment? Now, as a geographer, I am interested in

regions and regional differences. One of the questions that I wanted to ask was: How applicable is this model outside the core region where they typically occur, namely, the upper Midwest? Is there something about the local culture out there that facilitates the creation and operation of such institutions? We also have to be aware that we are talking about farmers—500 to 1,000 farmers—getting together and working together to process commodities. It turns out that there are some other companies already doing that, for example, behemoths such as ADM and Cargill. These are enormous, multinational agri-businesses. Farmers have to understand the global market if they are going to compete.

This is a very serious challenge that we have attempted to help farmers address in several ways. We have organized conferences—very much like this one here. We have written case studies that discuss examples of successful and failed attempts to use the NGC model. We have an edited book that discusses the underlying theory and applications of cooperative enterprise. We have also gone out to organize producers. Mary Holmes, a colleague at the Illinois Institute for Rural Affairs, has been instrumental in organizing five producer groups, two of which are actually investing in ethanol processing co-operatives in the state of Illinois. We have also surveyed NGC members to gain a better understanding of why they were inspired to invest several thousand dollars in a NGC.

Allow me to briefly address this survey and give you an overview of what is occurring here. We know overall that the number of farmers in the United States is in decline, and with them the number of open membership cooperatives in the United States—from around 8,000 in 1970 to approximately 4,000 today. Fully half the open membership co-ops have disappeared during this time period. On the other hand, the number of closed membership NGCs has increased dramatically—mostly in the Midwest, but there has also been significant growth on the west coast, and evidence that the NGC con-

cept has diffused eastward too. Folks in North Carolina might say: “are there other commodities being processed in the Midwest that might be applicable to North Carolina?” Well perhaps there are.

The single most common type of NGC is a corn processing cooperative producing ethanol. You might be aware that the gas additive MTBE (methyl tertiary butyl ether), which was originally used to replace lead in unleaded gasoline, has been found to be carcinogenic. Ethanol provides a similar function in raising fuel octane, but it does so in a more environmentally friendly fashion. Hence, there will be increased demand for ethanol as a gasoline additive. The ethanol farmers are merely getting on the “additive” bandwagon. There are also wheat co-ops, with wheat farmers selling wheat to their own co-op and producing bread (Carter 2000). So, farmers are becoming bread makers. Wheat farmers in North Dakota are making pasta. Hence, some wheat farmers are also becoming pasta growers. Turkey farmers in Iowa are processing them to meet Subway’s requirements.

There are egg-producing NGCs. There is, for instance, a cooperative in Renville, Minnesota, where members sell corn to their own poultry facility. Their chickens eat the corn, lay the eggs, the eggs are broken on site and sold to Pillsbury and McDonalds in the form of liquid egg, shipped by tanker truck into the twin cities. So if you’re in the Midwest there’s a good chance that if you have an Egg McMuffin it came from one of these farmer co-ops.

This large increase in new generation farmer cooperatives begs the question: Where are farmers getting the money to achieve this? Based on our survey, about 50% of the startup capital is coming from the farmers themselves. Remember, we are talking about a processing facility that might cost 20, 40 or even 60 million dollars, with farmers themselves raising somewhere around 40 to 50 percent of that startup capital. Once farmers raise about forty percent of a project’s capital requirements, they can expect to generate strong interest from both private lend-

ers and local community leaders—offering tax and other local development assistance. We asked the board of directors of these co-ops: “What were some of the factors contributing to your success?” We asked them on a scale of 1 to 5—with 1 being unimportant and 5 being very important—to what they attributed their success? Their answer was: markets and marketing perception; availability of experienced, professional managers; and the availability of local capital. These are the primary factors contributing to co-op success. They also said that marketing the product and attracting members to participate—recruiting farmers, who are very independently minded individuals—is a big challenge, a *very* big challenge.

So let me move to the conclusion. What is the potential for new generation co-ops? I believe there is great potential. I believe they can help producers achieve, as a group, objectives they could not achieve as individuals. What we have discovered is that farmers truly do have an entrepreneurial mindset. There are now examples of fledgling NGCs in the American Southeast. For example, two NGCs are exploring the potential for a soybean processing facility in North Carolina—the Grain Growers Cooperative is headquartered in Zebulon, North Carolina and Tidewater Soybean processors is located in Pantego (Associated Press 2002; USDA 2002). Farmers in Virginia are studying the potential for producer-owned ethanol processors (Virginia Farm Bureau 2002). Farmers in Georgia are investigating the feasibility of a pork-processing cooperative (Sunbelt Pork Coop

2002). Farmers across rural America are actively exploring how they can reach up the value chain to improve on-farm income and the economic vitality of their surrounding communities.

However, I cannot overstate the importance of a NGC hiring a professional manager. Many farmers believe they can do it themselves, and we have case studies to show that occasionally they can, but often they fail because they do not know the market and/or they do not have the time to devote to full-time management. The challenge of running a farm, working in an off-farm job *and* raising a family is usually too much for one person to handle. With the NGC, farmers must confront the fact that they will face increased risk for increased return on investment. A professional manager will help reduce this risk. I want to emphasize this point with a few successful examples from our case studies: Golden Oval Egg—a corn co-op selling feeder chickens and liquid eggs; Mountain View Harvest—a wheat co-op making bread; US Premium Beef - 21st Century Alliance with pinto beans, dairy, flour and tortillas, and so forth—successes, each and every one of them. With that, let me say thank you very much.

¹Special thanks are extended to Norman Walzer for his help with this research. Additionally, special thanks to the Illinois Council for Agricultural Research (C-FAR) who helped fund a portion of this research.

Bibliography

- Associated Press.** 2002. Cooperative searching for best site for soybean diesel plant. *The Charlotte Observer*. November 23. Accessed online: <http://www.charlotte.com/mld/observer/news/local/4586754.htm>
- Carter, David.** 2000. Going against the grain: The story of Mountain View Harvest Cooperative. In *New Generation Cooperatives: Case Studies*, edited by Mary Holmes, Norm Walzer and Christopher D. Merrett, pp. 43-54. Macomb, IL: Illinois Institute for Rural Affairs. Available online: <<http://www.value-added.org>>
- Cochrane, W.W.** 1993. *The Development of American Agriculture*, 2nd Edition. Minneapolis, MN: The University of Minnesota Press.
- Cropp, Bob.** 2001. Starting a New Generation Cooperative. In *A Cooperative Approach to Local Economic Development*, edited by Christopher D. Merrett and Norman Walzer, pp. 25-40. Westport, CT: Quorum Press.
- Egan, Timothy.** 2002. Pastoral Poverty: The Seeds of Decline. *New York Times*. December 8. Available online: <http://www.nytimes.com/2002/12/08/weekinreview/08EGAN.html>.
- Egerstrom, Lee.** 1994. *Make No Small Plans*. Rochester, MN: Lone Oak Press.
- Fulton, Murray.** 2001. Traditional versus New Generation Cooperatives. In *A Cooperative Approach to Local Economic Development*, edited by Christopher D. Merrett and Norman Walzer, pp. 11-24. Westport, CT: Quorum Press.
- Fulton, Joan and Kevin Andreson.** 2001. Value-Added Enterprises in the Rural Community. In *A Cooperative Approach to Local Economic Development*, edited by Christopher D. Merrett and Norman Walzer, pp. 129-46. Westport, CT: Quorum Press.
- Hanson, Mark.** 2001. Cooperative Organization for Value-Added Agribusiness. In *A Cooperative Approach to Local Economic Development*, edited by Christopher D. Merrett and Norman Walzer, pp. 41-54. Westport, CT: Quorum Press.
- Lasley, Paul, Larry Leistritz, Linda Lobao and Katherine Meyer,** editors. 1995. *Beyond the Amber Waves of Grain*. Boulder, CO: Westview Press.
- Leistritz, F Larry and Randall Sell.** 2001. Socioeconomic impacts of agricultural processing plants. *Journal of the Community Development Society*. 32 (1): 130-159.
- Merrett, Christopher D. and Norman Walzer,** editors. 2001. *A Cooperative Approach to Local Economic Development*. Westport, CT: Quorum Press.
- Putnam, Robert.** 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.
- Sunbelt Pork Coop.** 1998. The hog industry's 'forgotten' Southeast. *Successful Farming Online*. March 11. Accessed online: <http://www.agriculture.com>
- USDA.** 2002. Value-Added Agricultural Product Market Development Grant Selections. Accessed online: http://www.rurdev.usda.gov/rd/newsroom/2002/value_ad.htm
- Virginia Farm Bureau.** 2002. Farm Bureau hopes to decrease foreign oil dependency. *Farm Bureau News*. Accessed online: http://www.vafb.com/news/2002/oct/103102_1.htm

Reducing Tobacco Dependence

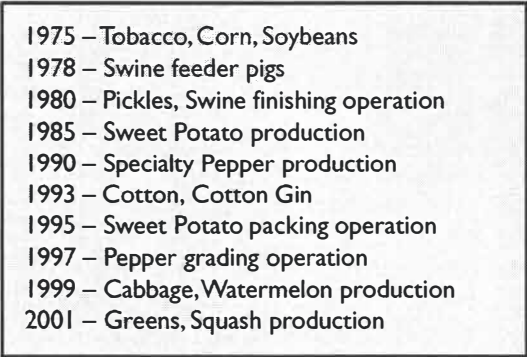
Bobby Ham
Ham Farms

I appreciate you having me here today. It is quite an honor to be here. I would like to get started by first saying that I am from Greene County and that Greene County is one of the most tobacco dependent counties in the United States. As a matter of fact, it ranks second in the United States, and first in North Carolina. I would like to start by giving you a little background on our farming operations (see Figure 1). We started farming in 1975, with a 300-acre tobacco, corn and soybean farm. By the mid 1980s we had reached our peak in acreage, with about 1,000 acres of tobacco and over 4,000 acres of row crops. Today our farm has been reduced somewhat in size, but we still have around 3,000 acres of vegetables and 2,000 acres of cotton. I am not going to go over each one of these enterprises right now, because that would take up too much of my allotted

time. They do, however, make an interesting story. Some things we have tried over the years have been successful, and certainly some have not been so successful. It has taken several years of trial and error to get to where we are today.

Early on when I started farming, I tried to identify some clear goals to pursue. One of those goals was to reduce our tobacco dependency down to around 25% of our gross farm revenues. In Greene County that is a pretty tough task. But, I think you will see in Figure 2 that with the help of a major recent reduction in tobacco quotas we have reached that goal. In 1981, 70% of the gross revenues on our farm were from tobacco. By 2001 it had been reduced to below 20%, with sweet potatoes becoming our main crop at close to 50%—about half from processing and half from the actual growing of the potatoes.

Figure 3 shows one of our first ventures into processing vegetables. In 1982 we started buying pickles for Dean Foods—at that time they were actually Cates Pickle out of Faison, North Carolina. We would break pickles down into nine different grades and sizes. This allowed the processing plants to take the pickles straight into the plant and process them. This photo depicts people culling out the bad product. We shipped starting in late May—about 20 loads of pickles per day through mid-July. At the time we installed this particular operation, we also added a cooling facility with forced-air coolers, which I designed myself (with the help of Mike Boyette from N. C. State University). The coolers were unique in that they could cool twelve tractor-trailer loads of pro-



1975 – Tobacco, Corn, Soybeans
1978 – Swine feeder pigs
1980 – Pickles, Swine finishing operation
1985 – Sweet Potato production
1990 – Specialty Pepper production
1993 – Cotton, Cotton Gin
1995 – Sweet Potato packing operation
1997 – Pepper grading operation
1999 – Cabbage, Watermelon production
2001 – Greens, Squash production

Figure 1. Ham Farms, Greene County, North Carolina: Operational Overview

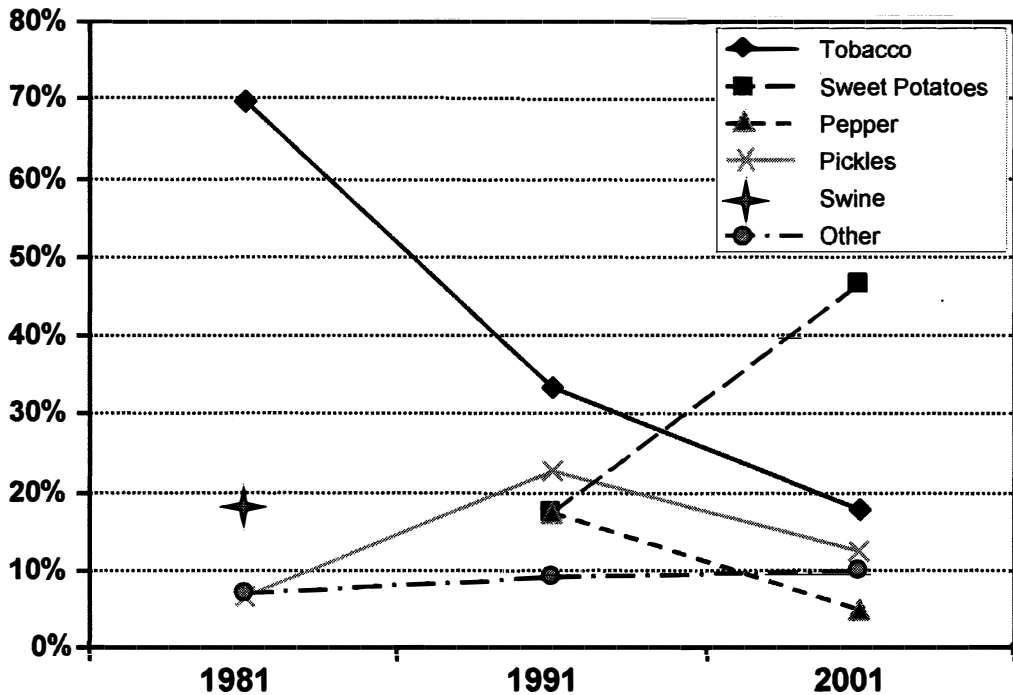


Figure 2. Ham Farms, Greene County, North Carolina: Value-added Farming

duce from field temperatures to around 40 degrees F every four hours. Developing the cucumber operation led us into a lot of relationships that have continued to help us over the years. When you are processing a product, one of the first things you realize is that you need an efficient way to get rid of all the off-grade products, and processors are excellent means of doing that. With our relationship with Dean Foods we were able to get into specialty peppers—which in the mid 1990s we shipped all over the country. Unfortunately, with increasing volume we had a lot of souring of our hot peppers. Also, hot pepper prices sank very low. So, we made a strategic decision to pull back on that initiative. In the last couple of years, however, that business looks to be picking back up. One of the big issues is that, as we have gone along, we have continued to learn how to do everything that we do better. This has made us gradually more competitive across the board.

Sweet potatoes are now the main crop that we grow in Greene, Lenoir and Pitt Counties. Today we process about 4,000 acres of sweet potatoes at our facility in Greene County. We buy from area farmers, although the bulk we grow ourselves. We control the process from planting to shipping. That is certainly one of the key selling points in our operation. You see in Figure 4 the small plants that we get from NC State University. That is our B-14 clone, our replicable seed stock. What we do is pluck the eye out of the core of the potato that we seed, and grow it in a test tube to be sold. We take the initial plant we receive from the university and multiply it—grow our own seed on the farm while also supplying it to our growers. We do not sell seeds. This allows us to effect strict controls over our growers and ensure that the quality of the potato that we run through our facility is the very best in the world. It is about a two-year process to produce a

field-grade commercial potato.

We also pride ourselves in dealing directly with the people who sell our produce to the retail customer. That brings to me to one of the most important aspects of produce processing. A lot of people can grow a product, but marketing the product is key to a successful business—whether it is agricultural produce or any other business. You have got to have a market before you can produce a product. We think the key aspects of our marketing program are: maintaining a year-round supply; contracting on an annual basis; maintaining strict quality controls; offering packaging options; and providing timely and comprehensive customer service. We only started marketing sweet potatoes in 1995, so we are fairly new to the industry. I believe this year approximately 40,000 acres in North Carolina will be planted in sweet potatoes. Looking at my numbers, that gives me approximately a 10% market share.

Our newest acquisition is a storage facility in Greene County. It is going to allow us to consolidate our storage. This, along with our facility on our farm site—which is about half the size—will bring us to a storage capacity of about a million and a half bushels. Forty percent of that capacity is climate controlled—around 400,000 square feet. Processing sweet

potatoes is a very labor-intensive business. We have to buy storage bins; we have to have the building; we have to have the capital to hold these potatoes on a year-round basis because we sell potatoes twelve months of the year. If things work as planned, we will never really run out of potatoes. As a first rate supplier, that is the worst thing that can happen to you—run out of potatoes. Now, having gone to a complete, cured crop the emphasis is on good storage and good equipment to be able to store this product year round.

We sell very little product in North Carolina, and we don't try to impact local markets. Most of our product is shipped overseas and across the United States. We contract with Wal-Mart, our largest customer, on a year-round, set-price basis. We ship tractor-trailer loads of potatoes to all their locations east of the Mississippi River, with the exception of Louisiana and Mississippi, which grow their own potatoes and are supplied by our competitors. We also have several local restaurant chains and food service companies with which we have the same type relationship. These stable, contractual relationships have been a key to allowing us to grow our markets at a rapid rate.

In order to maintain these relationships we must have good quality control—and to keep



Figure 3. Ham Farms, Greene County, North Carolina: Pickling Cucumbers



Figure 4. Ham Farms, Greene County, North Carolina: From the Seed to the Consumer

improving quality controls. Just this year we have made another major investment—moving from a hand-packing operation, with very limited sizing capabilities, to state-of-the-art automatic graders (see Figure 5). While there are a few more graders like this in the state of North Carolina, I don't think our competitors in Louisiana and Mississippi have anything like this. We do, however, trump even our North Carolina competitors/colleagues by having the first North Carolina grader with a color-grading capability. We can grade by weight, length, diameter, and now also by color. What you see in Figure 5 are digital cameras that continuously monitor throughput, transmitting that data to the controlling computers. This innovation has meant a major reduction in both labor and basic production costs. During Thanksgiving this year, for instance, we were able to run around 1,250 bushels per hour. This 'video-capable' grader allows us, instantaneously, to grade by sophisticated parameters such as length-to-width ratios and the subtle aspects of potato shape.

Food safety is becoming an increasingly important issue when it comes to capturing market. Our commitment to food safety is absolute. We have the ability to trace our product back to the field. We can tell our buyers which

workers actually harvested a given crop, and on what day in what field. We can tell them all the chemicals that were or were not applied to a given batch of potatoes. This is all done through computer programs that are connected to field-deployed hand-held devices. It is amazing what you can do with a little hand-held computer out in the field. This gives us a great trace-back program and an excellent recall program. On each package we ship from our plant, we actually print a lot number that identifies it on each 40 pound box. This is a huge asset for a food service company that is selling potatoes on a one-box basis. From an environmental standpoint, we use as little chemical input as possible to be able to provide a good and safe product, and we always work to ensure that the chemicals we use are environmentally friendly.

We do a lot of custom labeling. We produce six-kilogram boxes that were designed for a customer in Israel. They act as a selling agent for us in the UK, the Netherlands and other parts of Europe. We ship from our facility in cold storage containers to ports in Charleston, and it arrives overseas in about 10 days. Israel is a producer of sweet potatoes, but Israeli growers are not able to produce enough to last on a year-round basis, so our relationship with them has supplied us another market to fill, and allows them to do a better job meeting their customer requirements. We have other food service companies that we do special labeling for. We worked with one company to develop packaging that allowed the printing of lot numbers on all the boxes. This company was adamant that the lot numbers be traced back to a place on the farm. Since we were already well equipped to do that, with our information already in place, it was no problem for us to provide them with the service they required.

There is another labeling project that we are particularly proud of. Thanks to Sue Johnson-Langdon over at the North Carolina Sweet Potato Commission, who continues to supply us with high quality recipes and pic-

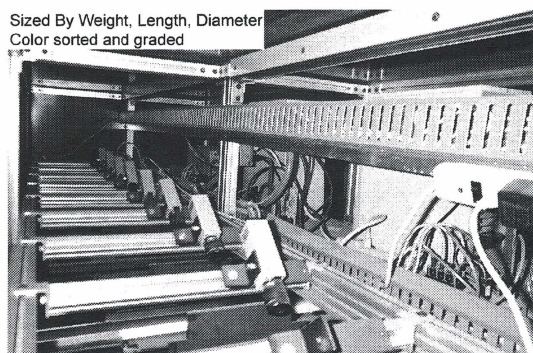


Figure 5. Ham Farms, Greene County, North Carolina: Quality Control Grader, Sorts by Length, Weight, Diameter and Color

tures of the very attractive dishes that result, we were able to create beautifully attractive three- and five-pound 'convenience' bags for local grocery store customers. These bags are, of course, also boxed in 40-pound containers. We have found that changing the recipes once a week on these bags is a wonderful way to keep the sweet potato concept fresh in people's minds and to promote the industry as a whole. We also do tray packs, which are two to four potatoes to a pack. This dramatically extends shelf life on potatoes by minimizing bruising and handling damage. When we first started doing this, we packed some and set them on our desks in the sales office; we had them there for sixty days and we could not even tell that they had changed. It is an expensive process, and many people are not willing to pay the price, but for some people it's just the ticket.

We have acquired bagging machines. One particular machine from Spain allows us to pack in a mesh bag and apply whatever additional attractive packaging we choose. We use this, for instance, to apply Sue's recipes. We also insert the North Carolina Goodness Grows label inside each bag in order to promote North Carolina vegetables—a concept that appears to be really taking off. We have now had this machine for about 8 months, but we have only really started to exploit its capabilities during the past 30 to 40 days. The next item is our automatic box builder, which allows us to do 40 pound boxes, 6 kilogram boxes, 10 pound boxes and other specific sizes, using both plastic and cardboard stock (see Figure 6). Normally box builders will set up just for one style of box. We can change at any time to any of these different grades and go to a different box style to satisfy our customers—delivering a completely customized product.

With respect to customer service, we will do whatever it takes to satisfy our customers. In our operation, our customers are number one. Yes, we like to promote our own products and our own name and name brands, but such aspirations are always subordinated to

what the customer wants. What we are trying to do are 'fill-in' orders for our regular customers—people who buy lots of sweet potatoes, but also want "a hundred boxes of this" and/or "50 boxes of that." What we do not grow ourselves we are able to bring into our cooling facilities from other growers to supply their needs. We also do specialty sweet potatoes, which are white. We are using our greenhouses to grow this 'boniato' potato for the Spanish market. We hope that within two years we should have adequate supplies to meet that marketplace, while also beginning to penetrate other markets. There is also a Japanese type of sweet potato, with purple flesh, and we hope to have that available on a volume basis in the near future. We sell organic sweet potatoes, as well. We have a grower who's currently growing organic sweet potatoes, and he and I work very closely together. There is a market for organic sweet potatoes, but it's very small at this time, and there's not a lot of room for expansion. This is something that a smaller farmer probably has a better opportunity to exploit—I don't see many buyers with demand for a thousand boxes of organic sweet potatoes at this time. While I think that market is growing, it's going to take some time to truly develop.

Our long-term goals are to continue providing more and more value in our existing

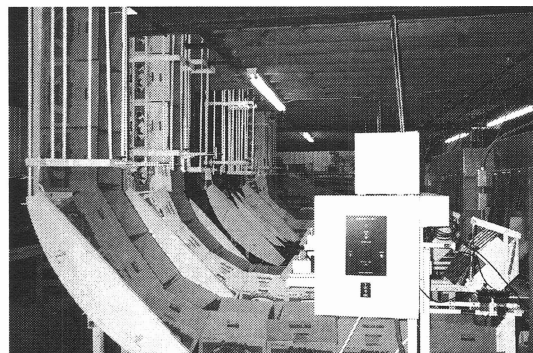


Figure 6. Ham Farms, Greene County, North Carolina: Automated Box Fillers

crops, while also diversifying somewhat away from sweet potatoes. We would like to get to the point where we can sell every potato that comes out of the field. That is a major struggle within the sweet potato industry—being able to move all the potatoes that we grow and harvest. The American consumer is accustomed to seeing perfect products lying on the shelf. We do sell to processors some of the ‘off’ products that we can’t sell to the consumer, but we’re looking into new marketing concepts. That has been a major impetus behind our bags. They also give us the opportunity to put some different sizes of potatoes in a bag—something different than the average housewife would pick up as she walks through the store. She will pick up the three pounds of potatoes in the bag and never really look to see what’s in it. The product is just as good as the ‘big’ potato she would normally pick up. Now we are able to sell it as well as those big potatoes. It is just a marketing technique.

I think in the future there will be an increase in plastic, microwaveable packaging—particularly in the frozen food counter. I think that will provide a great opportunity for a lot of products. The white potato has moved into that arena, and I foresee the sweet potato moving into those types of products as well. You can put a sweet potato in the microwave, zap it for a minute or two, and you’ve basically got a baked sweet potato. The product I’m speaking of has been baked for twenty minutes, the proper way, and then frozen; the consumer just warms it back up. I think it’s a very inter-

esting, very attractive feature. Fresh cuts have been something that we’ve all worked on with the sweet potato—particularly fries. The biggest problem we face is trying to maintain a pretty color. If we can ever overcome that little problem, the same way that the white potato has, I think we’ve got an excellent opportunity with fried stick sweet potatoes.

Ultimately, one of the biggest reasons for our success has been our affiliation with a lot of good groups here in North Carolina. Sue, from the North Carolina Sweet Potato Commission, for example has been a great help to us. I served on that board, and I have supported that commission in many ways, as they have me. For years I served as President of the North Carolina Vegetables Growers Association, and we are still closely associated with that group. We are listed with the Blue Book, Red Book, Five a Day Program, United Fresh Fruit and Vegetable Association, and Produce Merchandisers Association. We try to support the industry and they in turn support us. We were very fortunate this year to have received a loan and grant from the Global Transpark in Kinston, to help facilitate our recent expansion. I think that they have done a wonderful job. Certainly, from our point of view, we are very appreciative of their support. We have had a lot of support from the North Carolina State University and all its associations—particularly the Goodness Grows Program. We have been a member of that initiative from its inception and are very proud of that fact. In closing, I would like to thank you for your time and attention.

A Feasibility Study of Value-Added Business: Opportunities for Agriculture and Processing Initiatives in Eastern North Carolina

Billy Dunham

Craven County Cooperative Extension Program

The Sparks Company of Memphis, Tennessee conducted the feasibility study that I want to discuss with you today. The study is a cooperative effort of the Craven County Government and the Global Transpark (GTP), with funding from the Golden LEAF Foundation. We were interested in finding a consulting group with experience in agricultural surveys, which proved to be a problem—we found that there were few groups who had done studies focusing on agriculture as an alternative means of production. The purpose of our study was to explore ways to improve returns to the production of agriculture in the communities in the GTP area. We wanted to analyze the eco-

nomie feasibility of establishing a cold storage facility, or any other type of processing facility, located in a centralized area of Eastern North Carolina. In our study, we concentrated on counties that are within 1-2 hours of the GTP, which is located in Kinston, North Carolina. We were interested in exploring which crops could be grown and in identifying the domestic and international demand for various foods and crops with potential for production in North Carolina, particularly the eastern region of the state.

One of the factors we examined was emerging produce trends. Figure 1 indicates that between 1987 and 1997, there was significant growth in packaged salads. In 1987 one rarely heard of going to the grocery store and buying a pre-cut salad mixed with carrots and other vegetables—ready to open and put on a plate. By 1997 that industry had grown to almost 10% of produce sales. In our examination of areas with potential, we noted that convenience is one of the major growth areas among today's consumers. As is evident in Figure 2, fresh vegetable consumption in the United States is growing. Annual per capita consumption over the past 30 years has grown from approximately 140 pounds to 180 pounds. With respect to fruits, consumption is also growing, with an increase from approximately 90 pounds per person in 1970 to 130 pounds in 1998 (see Figure 3).

PERCENT OF PRODUCE SALES BY CATEGORY		
Product Category	1987	1997
Packaged Salads	*	9.7%
Organic	*	1.7%
Fresh-Cut	*	5.2%
Nationally Branded	7.2%	18.9%
Private Label	*	6.4%
Packaged, Bagged & Tray-Wrapped	35.0%	26.2%

Source: Economic Research Service/USDA

Figure 1. Emerging Produce Trends

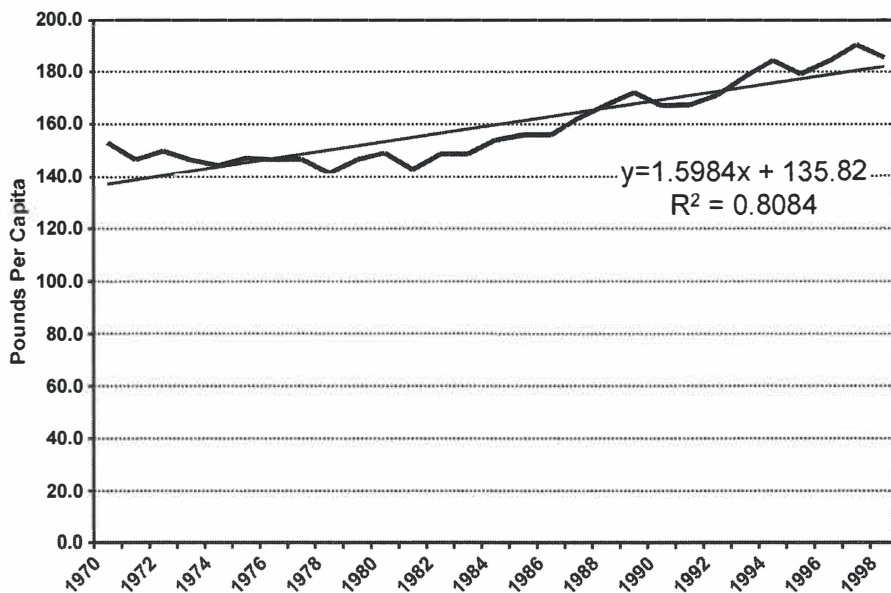


Figure 2. Fresh Vegetables: Total U.S. Per Capita Consumption

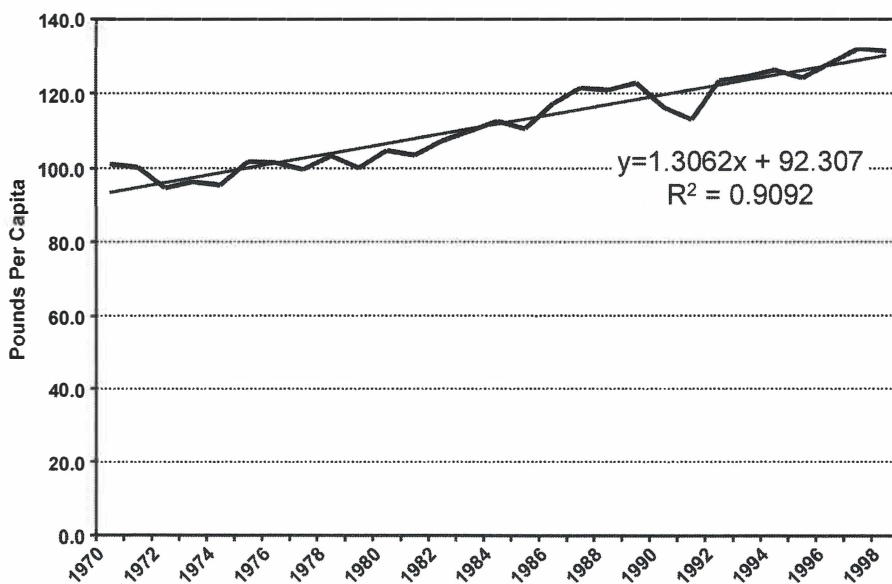


Figure 3. Fresh Fruit: Total U.S. Per Capita Consumption

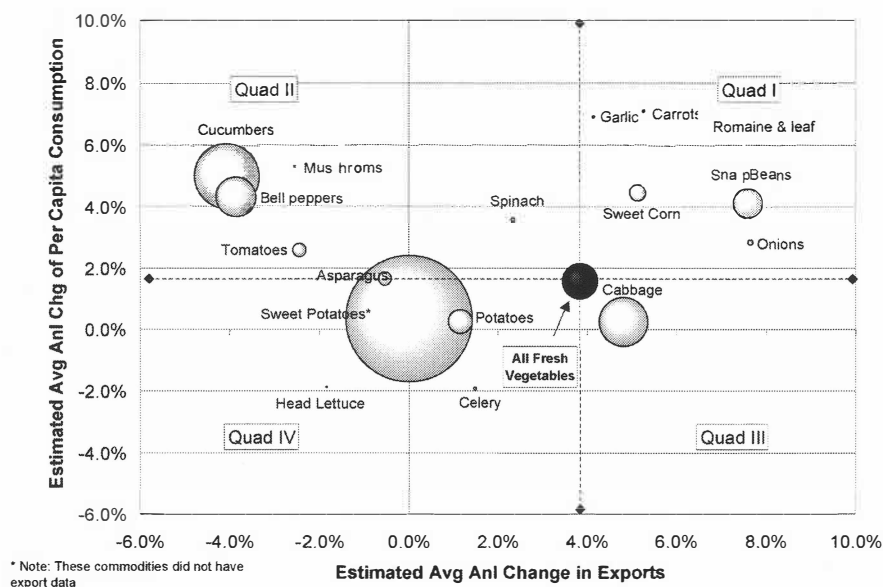


Figure 4. Domestic and International Demand Growth for Vegetables

The study analyzed consumer demand for 33 fruits and 43 vegetables. Most consumer demand is for fresh fruits and vegetables, in contrast to those that are canned, frozen, dried or juice. Figures 4 and 5 show the products in greatest demand by consumers today. As you can see, the fruits in greatest demand include strawberries, pears, cantaloupes, grapes, honeydews, apples, peaches and sweet cherries. These are the major fruits that people are interested in purchasing today.

What other enterprise activities could we consider? An examination of US aquaculture supplies this year reveals tremendous growth. In this region of North Carolina, we know that production of both hybrid striped bass and catfish has grown over the past ten years. Figure 6 demonstrates the growth pattern of aquaculture as a new entity.

Some success stories of value-added businesses include Delta Pride Catfish, Inc. (a co-operative), Driscoll Strawberry Associates, Price Cold Storage and Packaging Co., Sunset Pro-

STRONG DEMAND TRENDS		
<u>Domestic</u>	<u>Export</u>	<u>Domestic/ Export</u>
Cantaloupes	Apples	Strawberries
Grapes	Peaches	Pears
Honeydew	Sweet Cherries	

Figure 5. US Consumer Demand for Fresh Fruit, Long-Run Trend (1970-1998)

duce, and Tabasco. For these major companies, one of the prime drivers of their success was that they took the time required to develop and expand their markets. Also, the companies had a spark of creativity—they sought new knowledge and technology to incorporate into their operations and product development. The firms looked to both domestic and international markets for sales and growth potential. Also, all of the firms expanded their

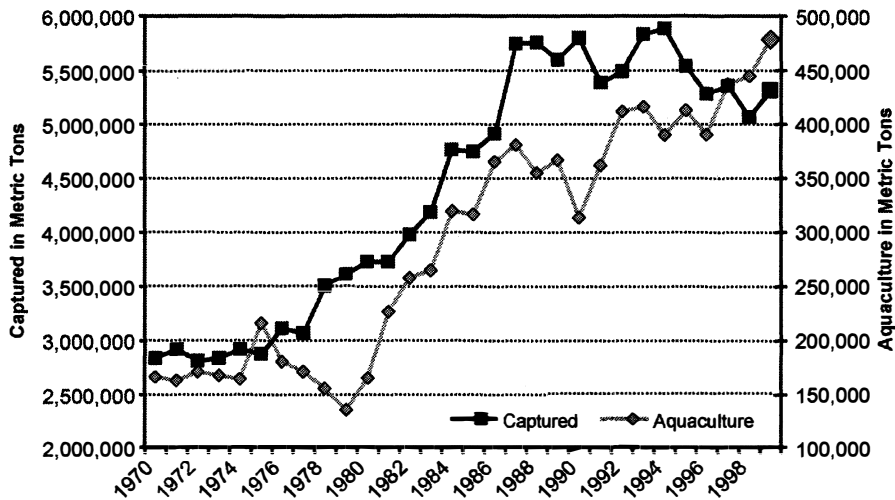


Figure 6. U.S. Aquaculture Production versus Captured Fishery Supply

operations by making capital acquisitions. In addition, with the exception of Tabasco, all of the firms integrated vertically to grow, package and ship their products. Not only does this add value, but it also ensures that the product produced and sold on the market is of a high quality. At a meeting I attended, a speaker from a major company made the statement that McDonald's has committed, within the next three years, to know where the potato for their French fries comes from; what variety it was; who grew it; where it was grown, and the chemicals that were used. In other words, McDonald's will control their product from the time it goes into the ground on the farm until it is sold to the consumer.

Many of these successful firms' commodities were graded and inspected by federal agencies at levels higher than the minimum requirements—their products were of the highest quality. The firms researched and learned what the consumer wanted regarding the produce/commodity, as well as the traits and quality of the market niche they could serve. One of the points I found to be quite interesting was that all of

these firms began as independent, family-owned operations. And yet, production in the firms was sufficiently large, and of adequate quality, so that they were able to compete nationwide.

Shifting to the project analysis: is a cold storage facility located in Eastern North Carolina feasible? An examination of the cold storage capacity in North Carolina and the US indicates that North Carolina cooler space grew rapidly in the early 1990s and has fallen off in 1999, whereas the US cooler space has had a gradual trend upward over the past few years (see Figure 7). Figure 8, which presents the growth index of freezers in North Carolina, shows how fast space grew from the 1980s through the 1990s. The relationship of North Carolina freezers to processors explains the rapid growth (see Figure 9). Production of meat in North Carolina has grown rapidly in the past 10 to 15 years, resulting in increased need for cooler space. We have likely reached that capacity with recent legislation placing a moratorium on growth in hog production. Cooler capacity has most likely reached a maximum with respect to meats.

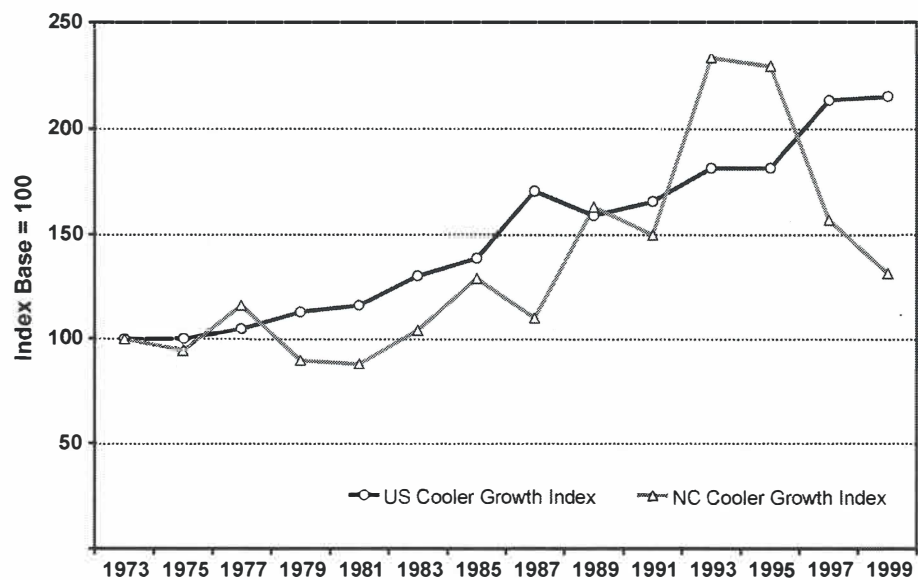


Figure 7. U.S. and North Carolina Growth Index for Useable Cooler Capacity

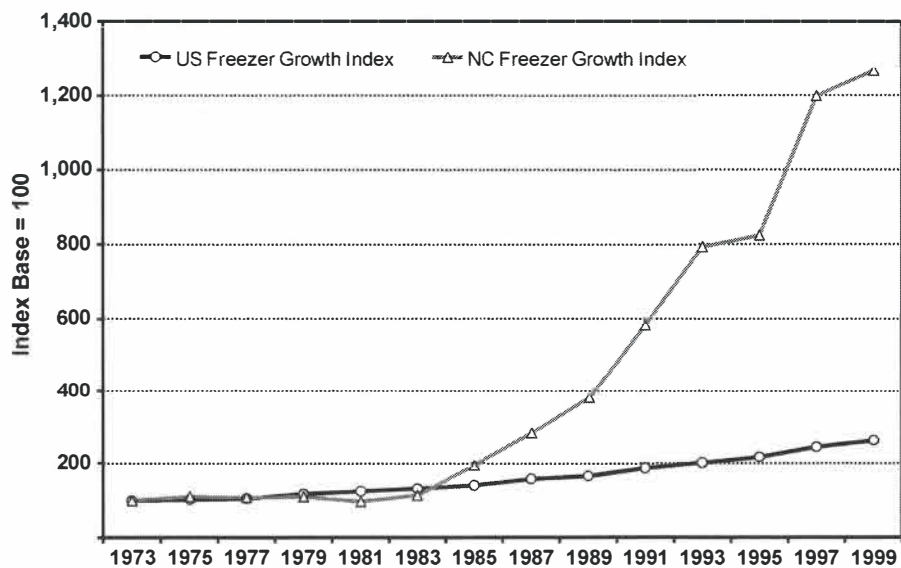


Figure 8. U.S. and North Carolina Growth Index for Useable Freezer Capacity

Trucks move 94% of fruits and vegetables in the US. Figure 10 shows North Carolina's production and export of fruits and vegetables by volume in 2000. Clearly, sweet potatoes are the major export product from this area. The survey demonstrated that Eastern North Carolina is able to produce almost any vegetable, as long as there is access to processing, transportation and markets. Figure 11 indicates the time of year that fruit and vegetable products are produced and shipped from North Carolina. It is notable that there is a time of year that North Carolina has no activity. To establish a processing facility here, it would be necessary to pick up other products for the months of January, February, March, April and December. For half the year there would be no produce unless we introduce a new crop. Analysis of driving times also suggests it is not a short and easy transportation route from the GTP to major roads, nor is it easy to transport product to Kinston for subsequent shipping.

In summary and recommendation, with

respect to strengths, North Carolina has a strong agricultural production base that can be leveraged to develop various agricultural opportunities. North Carolina is able to produce almost any crop that is sold in the United States. Kinston is close to major metropolitan centers. By truck or car, one is able to reach major cities, and even Canada, within 16 hours. Another strength is that North Carolina grows many of the fruits and vegetables that have strong domestic and international demand (e.g. watermelons, cantaloupes, sweet corn and bell peppers). North Carolina also has strong and proactive support for the producer/grower, including organizations such as the State Department of Agriculture, NC State University and North Carolina A&T, which provide a wealth of knowledge about production for new crops or existing traditional crops. In addition, North Carolina has a positive population growth profile. This provides the opportunity for local farmers to establish new food enterprises to meet re-

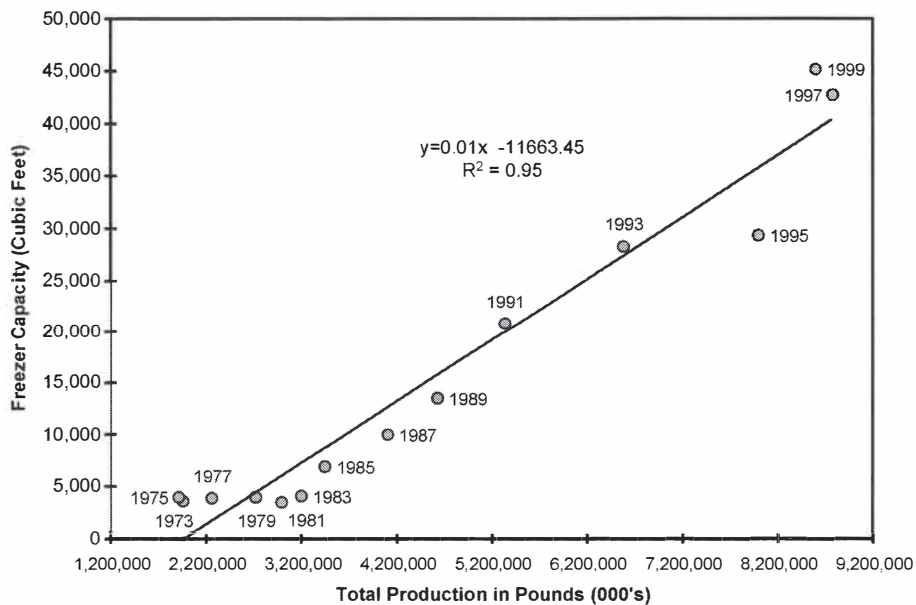


Figure 9. Relationship of North Carolina Freezer Capacity to Total Annual Production of Broilers, Turkeys & Hogs

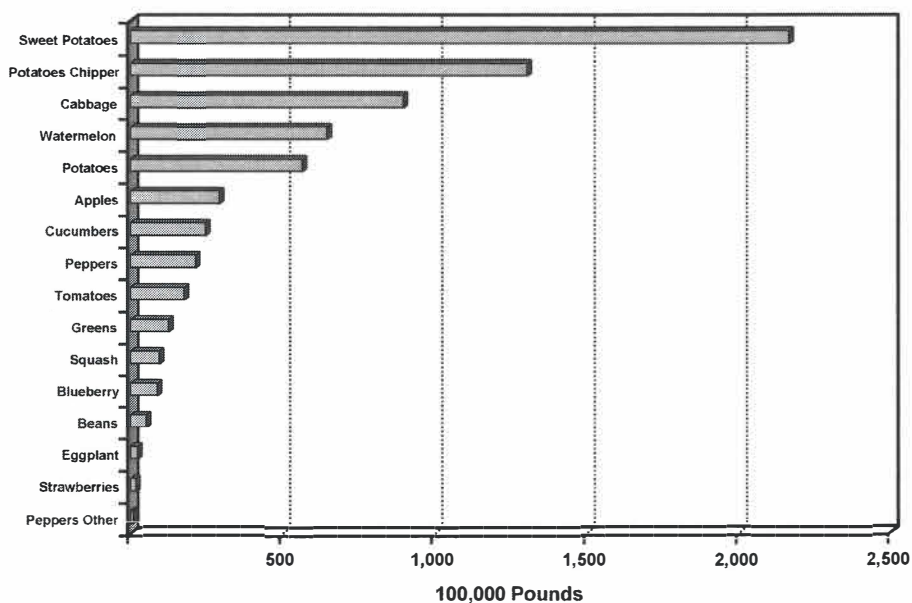


Figure 10. Shipments of North Carolina Fruits & Vegetables by Volume, 2000

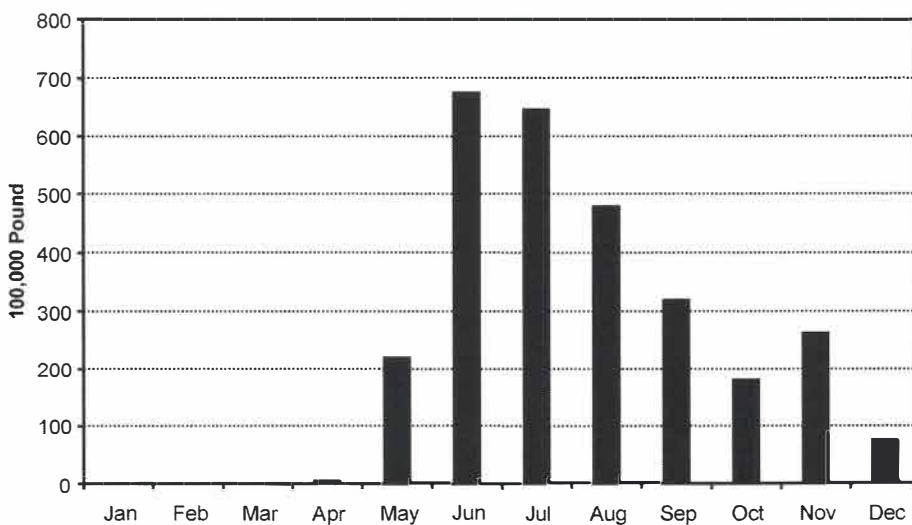


Figure 11. Fresh Fruit and Vegetable Shipments (except potatoes) from North Carolina by Month, 2000

gional demand opportunities. Local producers have the potential to discover new niche markets emerging from the income and population growth in their communities.

With respect to weaknesses, the GTP facility is not located in the primary agricultural production areas of the state, such as Sampson and Duplin Counties. This does not mean that the East could not produce alternative crops such as vegetables in the GTP region—the soil and climatic conditions are similar to those of the major producing counties. We could grow these crops; however, we have not been innovative enough to break into these markets—unlike Sampson and Duplin. Unfortunately, access to the GTP via truck from the major produce production areas is not optimal. Route 70 has multiple access points, and the highway network is even less friendly when traveling east and west. The in-state highways of I-40 and I-95 are clearly better transportation arteries and connection points for transporting bulk agricultural commodities. The infrastructure, particularly the highway system, needs improvement. As for air transportation, it is generally not a cost efficient mode of transportation for agricultural products due to issues of bulk. Typically, the only agricultural products that are transported by air are those with high perishability and substantial time utility. It is possible to transport by air if piggybacking with some other product to fill an airplane. It is possible to package produce in smaller quantities or organize cooperatives (such as those mentioned earlier) to develop value-added products, such as juice, rather than shipping just the raw material. The GTP, however, should not rely on the expectation that their airfield is ideal for servicing agricultural products. It is also important to note that much of the produce harvested in the region is quickly cooled and sent directly to market via reefer truck. In some cases, there is no need for an intermediate holding step at a cold storage facility in Kinston. With regard to foreign shipments (by boat), most of the food products start in Florida

and bypass the ports of Wilmington and Morehead City, going further up the coast to Philadelphia and Delaware. In fact, the Port of Wilmington is trying to decide what to do with their under-utilized (473,638 cu. ft.) refrigerated storage facility. Subsequently, back hauling opportunities are not as readily available by ship out of North Carolina. Another weakness is that farms in the region have not utilized the ‘cooperative’ organization structure, often because of their independent nature with regard to business. This is a cultural issue and may impede attempts to raise the necessary capital and critical mass of commodity for large-scale processing and marketing efforts.

Thus, there is no ‘quick fix’ by putting in a cold storage, or any other type of processing facility, to stimulate agriculture linked to the GTP. Agricultural markets take a relatively long time to develop and there is no guarantee that, “if you build it, they will come.” During the remainder of our presentation, we encourage people to reflect on the earlier speakers in this session, to consider forming cooperative groups to pull farmers together, to produce specialty niche market products, in order to be successful in the growth of fruits and vegetables. In the wholesale and retail sectors of the food industry, North Carolina is perceived by many to have very little brand recognition of their commodities (with the possible exception of sweet potatoes, hogs and turkeys). With respect to tobacco, of course, North Carolina is well known as it produces 60% of the flue-cured tobacco in the United States. But as far as products such as corn flakes, oatmeal and fruits and vegetables—we do not have a name. In North Carolina we must work on ways to develop brands or names that are identified with our products. When you buy Irish potatoes for your home—what do you think of? You think of a white potato from Idaho. When you envision a sweet potato—you think of North Carolina sweet potatoes. That is the type of innovative approach we must take to develop alternative enterprises to replace tobacco.

What are some opportunities identified by

the study? The GTP could act as a catalyst for change in the region from a value-added perspective. The producer/grower needs to perceive a need or a benefit in taking their commodity to the GTP. Transportation is only one aspect of the marketing process. The GTP might possibly assist in the initial steps of sorting and packaging to attract business, and establish the need for cold storage and transportation. There is a possibility that the GTP could serve as a catalyst to start cooperatives as mentioned earlier. Producer/growers have the opportunity to join forces to develop branded/premium produce items that are grown in the region. The GTP could stimulate the solicitation of grants from various federal agencies. Also, the GTP could pull together a group of people to examine and identify new enterprises and value-added initiatives using existing products.

The US and Canadian trading relationship is the largest in the world. North Carolina is ideally situated to reach the major population centers of Toronto and Montreal in one day overland. The state should identify those indigenous crops with strong export trends, in order to develop a marketing presence in Canada. North Carolina also has potential for developing trade relations with the Caribbean Basin—particularly for specialized niche products. The Caribbean region, however, is very small from a population perspective.

There are several potential threats to consider. Major produce players, such as California and Florida, already have a volume advantage in most commodities. If they feel threatened by competition, they might exert market leverage to retain their share. They could flood the market with cheaper products to put North Carolina producers out of business if they so desire. Furthermore, those on the supply-side (growers/shippers) need not use a cold storage facility in Kinston; they are able to access cities along the East Coast using refrigerated trucks. The need for freezer space at Kinston may be limited because of a slowdown in the production of meat-based production (broilers, turkeys and pork) in

the region, due in part to environmental concerns over the impact of live animal production. Another potential threat is foreign competition, leveraging low cost labor and cheap land that could undercut local production—particularly in commodity (non-value-added) type products. Initially, the GTP should be cautious with the concept of constructing a cooler/freezer facility. Many of the growers already ship their produce directly from the farms to the retailer or wholesaler by refrigerated trucks, thus bypassing that particular facility. Some also have private facilities close to their fields to chill produce.

While there are opportunities for alternative crops in Eastern North Carolina, it will be challenging. Anything that we are currently producing is already being produced somewhere else in the country and the markets are solid. If we develop a product around here, we need to develop some type of value-added dimension. We must also develop brand name and regional identification among consumers. We can produce snap beans, butterbeans, sweet corn and tomatoes in North Carolina, but we are not able to compete with Florida and California, with their extended seasons and existing markets. If farmers are to become successful with the crops they are currently growing, they must build their own local markets, such as farmers' markets, roadside stands and other regional outlets. There is also the risk of flooding regional markets, as there is limited local demand.

The following, then, is a brief review of recommendations based on study findings. The GTP should recruit a nationally known food processor to become a tenant at the facilities. The processor would be able to use cold storage space and the transportation networks, while improving marketing opportunities for the producers in the region. The GTP should also hire expertise in the area of business development, with an eye towards attracting value-added food processing activities. Furthermore, the GTP should recruit companies and carrier services that need overnight air service via the facility. The greater the volume of ac-

tivity from non-agricultural cargo, the greater the opportunity for 'piggy-backing' certain agricultural products. The GTP should organize a task force, including such institutions as NC State University, the Department of Agriculture, the North Carolina Technological Development Authority, (TDA) and the Department of Commerce. The task force should be charged with producing a strategic plan for procuring state and federal government funding for various economic development (incubator, value-added) activities that will assist the producer/grower, rural communities, and the GTP.

The USDA Rural Business-Cooperative Service has the following mission statement: "to promote understanding and use of the cooperative form of business as a viable organizational option for marketing and distributing agricultural products." The Rural Business-Cooperative Service makes grants available under the Rural Business Enterprise Grants Program to public bodies, private nonprofit corporations and federally recognized tribal groups to finance and facilitate the development of small and emerging private enterprise activities (in this case value-added processing). Also, within the USDA Rural Business-Cooperative Service unit is the Rural Cooperative Development Grant Program (RCDG). RCDG grants are made for, "establishing and operating centers for cooperative development for the primary purpose of improving the economic condition of rural areas through the development of new cooperatives and improving operations of existing cooperatives."

Other recommendations emerging from the study include:

- Enter into a dialogue with the TDA to explore the potential for accessing funding for grower/producer value-added initiatives via their Rural Loan Program, which would link together with the GTP.
 - GTP and other business enterprises along route 70 should lobby for an analysis of the highway, with the expressed intent to improve the flow of traffic.
 - North Carolina State University should increase the number of fruit and vegetable enterprise activities and the frequency of their reporting.
- The following are summary highlights of study conclusions:
- The state of North Carolina is endowed with strong human capital, has an important institutional infrastructure (North Carolina State University, State Department of Agriculture, Global Transpark), and has access to prime domestic markets (e.g., only 9.3 hours to New York City; 13 hours to Boston; and 15 hours to Toronto).
 - The state produces a highly diversified basket of agricultural products.
 - Demand analysis shows that many of our fruits (e.g., watermelons, cantaloupes and honey dew melons) and vegetables (bell peppers, sweet corn and snap beans) crops have strong consumer demand trends.
 - North Carolina is able to compete in segments of the fresh fruit and vegetable market because of the significant transportation in the eastern United States.
 - Some of the wholesale and retail sectors of the food industry perceive North Carolina as having very little product brand recognition other than hogs and turkeys.
 - Analysis shows that the potential need for freezer space at Kinston may be limited if animal processing activities slow in the state.
 - An issue faced not just by North Carolina, but the US in general, is foreign competition. There is the potential that foreign competitors will be able to leverage their lower costs for land and labor; the two countries to watch are Chile and Mexico.

Cashing In: Corporations, The Ultimate Farmer Collective?

Paul Skillicorn

Carolina Kenaf Farmers' Foundation

I have enjoyed listening to the previous speakers. They have made my own presentation somewhat easier—particularly Dr. Merritt's talk on the new cooperatives. Much of what he has proposed is mirrored in my own recommendations—albeit reduced somewhat as to dimension. Here, we are talking about 20 people as opposed to 500 people, and while I propose looking at many of the same issues, my recommendation comes from a somewhat different angle.

My task today is to stir the waters a bit—present some interesting ideas and hopefully persuade you (the audience) to give them some serious thought. I have been doing precisely that, here in Eastern North Carolina for the last three years—both with kenaf and with duckweed. I don't know whether many of you have heard of duckweed. In addition to the new crop, kenaf, I am also promoting the general cause of duckweed—also as a new agricultural crop. It takes a very patient approach to get a new crop—basically a brand new concept—on the ground, working and accepted. Once you have finally succeeded in gaining local acceptance—inducing local farmers to adopt a new product and the new processes that go along with it—you must then deal with the peculiarities of state and local bureaucracies, and the various rules they enforce. So, I now find myself a Greene County resident working on these two new 'things' and I am very pleased to be doing so. Indeed, from the kenaf side of the equation, we have a number of people at this conference. Mr. Larry Moye, at the back of this

hall, is one of the great local sponsors of kenaf, and we are very pleased to have him with us. Larry is a farmer from Greene County who has dared to think outside the envelope. What I am proposing today is to do precisely that—to have the daring to think outside the envelope—to examine carefully who you are and to ask the question: what advantage do I have in life and how should I take that advantage and move forward? I am asking farmers to think somewhat beyond the cooperative framework when considering what can be achieved at the farm level and how to do it. Perhaps, just perhaps, the tried and true corporation provides the answer as the ultimate farmer collective.

During my three-year tenure with the

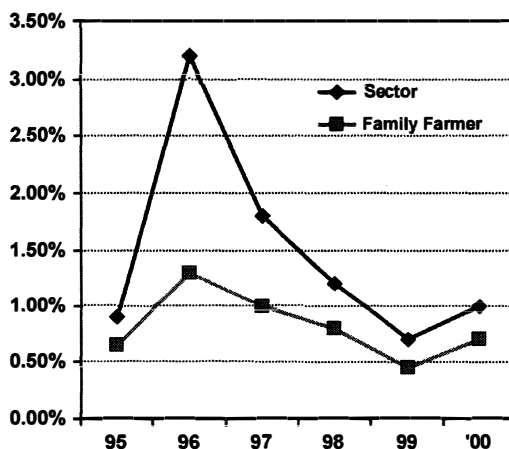


Figure 1. US Farm Sector & Family Farmer Return on Equity (1995 Through 2000)

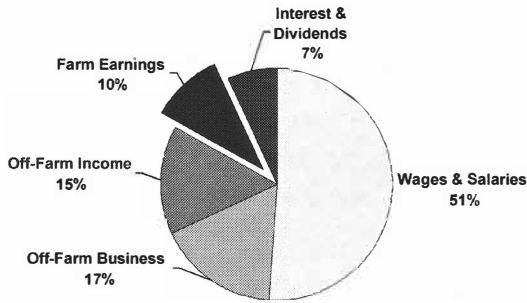


Figure 2. Sources Of Income for the 'Average' US Farm Family (2000)

Carolina Kenaf Farmers Foundation, and more recently with Greene Natural Fibers, it has been my privilege to talk and work with a large number of local farmers. While this has been an education in itself, I was particularly shocked to discover the true level farmers are producing at relative to their invested equity (see Figure 1). The bottom line in Figure 1 is particularly important. Since 1996, the average family farm in the United States has earned a net return on equity of less than 1%. This is shocking, astonishing, and certainly very sad. At another level, however, it demonstrates an incredible opportunity—and, it is the nature of that opportunity that is the focus of my presentation today. Certainly, at a very simplistic level, even a farmer, if he thinks outside the box, must be able to do better than a 1% return on his equity. It is instructive to note that only 10% of the 'statistical' family farmer's net earnings come from his farm (see Figure 2). Wages and salaries comprise 51% of earnings. In Greene County where I now live, every farmer's wife seems to work in the school system. That's the diad, the farmer and the teacher—not just here, but across the country you have exactly the same thing. This statistical farmer has half a million dollars in equity and he is making only 4,250 net dollars on that not inconsiderable wealth—most of it land. It is noteworthy that, at \$10,000, the capi-

tal gains on the simple appreciation of the farmer's land assets is more than 2.5 times his direct farm income. Indeed, while the gradual appreciation of his land asset is his principal strength, it does not give him cash in his pocket. As we move along with this presentation, I would like to talk about the possibility of using that wealth a little more efficiently.

Figure 3 shows that all the farm support and farm service industries are making a reasonable return (10% or better) on equity, while the farmer down here at the left, gets a pathetic 0.9%. Next up from the bottom are farm product distribution services, which is a function often served by farm cooperatives. At a return of around 1%, these institutions do not fare much better than the farmer himself. Now, take a look at all the other industries that surround the farm and, in fact, use what the farmer is producing (perhaps exploit is a more appropriate term): farm supply, milling companies, bakeries, dairy products, meat products, cereal companies (which are immensely profitable at an average annual return of 70%), farm machinery, trucking, warehousing, agriculture services, grocery stores, other food stores, restaurants, food processing, restau-

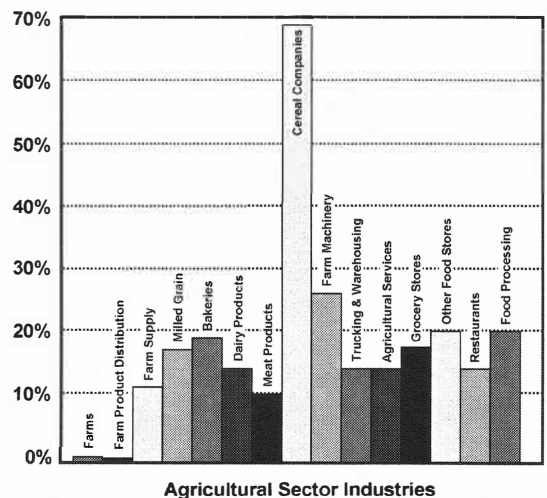


Figure 3. Farm Return on Equity (ROE) Compared to Other Ag-Related Industries

rants and food processing. Beyond cereals, I think 'other food stores' is going to be a category worth keeping a close eye on. We have gone through a stage where the Food Lion, or its equivalent large grocery store, is increasingly providing a very mundane service. There is clearly a growing opportunity to get into specialty marketing of foodstuff. The green grocer from fifty years ago is going to come back as a better, and ironically less expensive, way to retail fresh produce. Farmers, as the growers of food—the original suppliers—have the opportunity to take these businesses for themselves. They can, selectively, participate in any or all of these value-added business. The big advantage they have is that ultimately it all comes from 'down on the farm.' If farmers just stop producing food or fiber, all these farm-dependent value-added industries would simply die. The control ultimately rests with the farmer—if he chooses to exercise it. There is no logical reason why farmers should earn 1% on their investment while everyone else is netting 10 to 20 percent, or even above. That they are not doing so was for me a truly shocking revelation.

It is instructive to look at the leverage from farm to retail for a number of specific products (see Figure 4). If we look at pork, for instance—noting that the leverage on pork from farm to retail is not as great as with many other products—we still see that there is a 405% increase from the farmer to the retail level. Only recently, when Mr. Joe Luter of Smithfield Foods was doing his magic in this state, it was much, much more than that. Lettuce, with 500% increases from farm to retail, achieves similar results to pork. Shortening and oils occupy the next rung on the ladder, with farm-to-retail leverage of between 500% and 800%. Canola, a high-end oil, occupies the upper end of that spectrum, with generic, mixed oil shortening at the bottom. Higher still, we see corn—that is corn on the cob, not processed or processing corn—at 800%. What is startling about that increase in price is that almost nothing is actually done to corn to get it to the grocery store shelf. French-fried potatoes are higher still at 1,000%. Again, not much goes into making a French-fried potato and freezing it. The equipment necessary to achieve this, and the expertise required to run it, is trivial. As Bobby Ham, the previous speaker noted, "it's all in the mar-

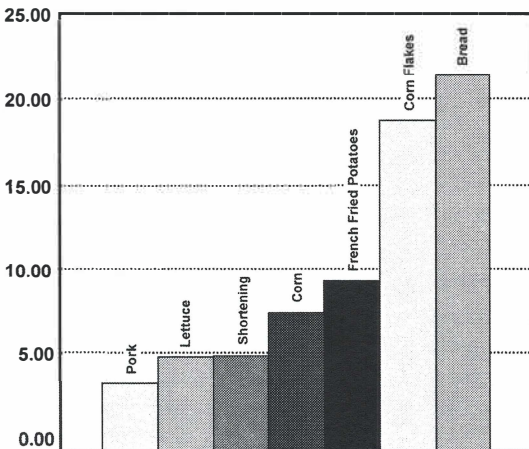


Figure 4. US Retail to Farm Value Ratios for Selected Agricultural Value-Added Products

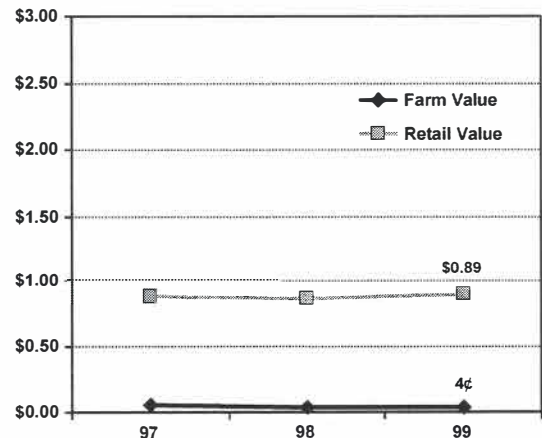


Figure 5. Retail To Farm Price Spread For 1 lb. of Bread (1997 – 1999)

keting.” Corn flakes is a classic—that old line of “2 cents worth of corn flakes in the box”—is a fact, with 9 cents paid to the farmer for a pound of corn flakes that retail for \$1.76. Finally, bread ‘takes the cake’ with a farm to retail leverage of around 2400%—and there are other examples that go even higher still.

Looking at the specific farm to retail price spread graph for bread, it is sobering to see the farmer stuck down there at four cents per pound for the wheat he delivers, while the bread made from it is selling for an average of 89 cents per pound. Many arguments have been made as to why this is the case. The issue is not to dwell on those arguments but to look at what farmers can do to begin moving up the chain. This is the same message echoed by all of the speakers who have gone before me. How can we take the farmer from his 1% return and bring him in line with everybody else at 10% or greater? Figure 6 shows the potential income accruing to a farmer earning a 10% return on equity. If, for instance, a farmer earned at 10%, which is the low end of a normal return, we would see farm family income going from around \$40,000 to over \$100,000—a massive increase in earnings—and, frankly, there’s no reason why the farmer can’t achieve that. Why must we believe that farmers have to be stuck down there at the bottom—always being ground into the dirt?

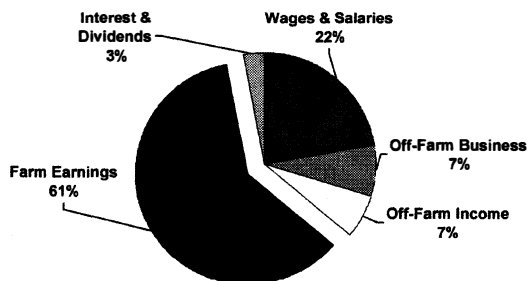


Figure 6. Farm Operator Potential Sources Of Income Assuming Farm Earnings ROE of 10%

Let us look at what real value farmers actually control. The US Department of Agriculture estimates that farmers control approximately one trillion dollars in assets (see Figure 7), most of which is land. The top portion of the bar to the left represents non-real estate assets, including machinery and equipment. The incredible statistic here is the value of the land asset—eight hundred billion dollars in land holdings. Notice from the earlier income graphic (Figure 2) that the statistically average farmer is getting up to ten thousand dollars a year in capital gains on his assets. Unlike many industries, his primary asset, therefore, continues inexorably to gain strength through time. If you take a hard look at the US economy, you will find that there are really only two significant chunks of capital—two ‘pots of value’ sitting out there—that are really not performing (namely, generating reasonable income on value). One is this trillion dollars in farm real estate. The other is the American investment in houses and homes. It has always bothered me that we are sitting on an incredible amount of wealth in this country—houses—that are not performing. That, of course, is the subject of another essay at another time—and, frankly, there is not much that can be done about it. Farmer equity, on the other hand, is another issue—and, something can indeed be done about it. At one percent return on value, it is clearly not performing. It has got to be able to perform above that and I think much can be done to achieve that.

I think it is a useful exercise at this point to apply this redemptive thinking to a fairly typical US agricultural scenario—any scenario. My partners and I are, as Mr. Nimmo has already presented to you, engaged in a new crop development effort in neighboring Greene County. This is a reasonably modest effort, and approximately the right size for such a project—around twenty or so partners. Note that we are talking about twenty participants and not a thousand. Its important that you have around twenty, or maybe less than twenty, because

above that number institutional dissonance increases exponentially. People, as individuals, cease to exist. The dynamic of twenty people together is a very positive, powerful dynamic. Five hundred together is sheer dissonance. At that point you simply have a lot of people making a lot of noise—and that is when the ‘outside’ managers take over. With the small group, each partner has a voice, and farmers unambiguously retain control over their own enterprise. Individual partners feel sufficiently incentivized and empowered to exercise the collective will necessary to ‘make it happen.’ They are both able and willing to put in that extra energy—that each of us knows we’ve got—to make something work. At the level of twenty or less we have an entrepreneurial dynamic. Above that it simply doesn’t work.

The other important parameter is the size of the project. Kenaf in Greene County is a five million dollar project. That is an interesting number. At one level it is small enough to be doable. Five million dollars is not an impos-

sible amount to raise. At another level, it is sufficient to cover around 90% of all agricultural value-added projects that farmers may elect to pursue. There is not all that much out there in the agricultural value added domain with a base ‘entry fee’ greater than five million dollars. There is no clear advantage obtained, for instance, in building a hundred million dollar tomato processing plant. In fact, if you go to California today you will find that all the big tomato processing plants are either bankrupt or perilously close to being so—and if that is not enough, with few exceptions they also have huge, seemingly intractable problems maintaining compliance with environmental regulations. They are ponderous and inflexible. Most are run by MBA’s who do not, in any real sense, understand agriculture. Consequently, they tend to be weak, poorly performing institutions. Increasingly in this economy, the spoils go to the small, flexible, quick, and nimble. The inherent advantage that farmers have over companies like ADM, Cargill, and Kellogg is that they can elect to operate in such a nimble manner, while the big oligopolies now find themselves hopeless burdened with the massive weight of poorly performing equipment and machinery, and people who don’t really know the business. They are weighed down by yesterday’s paradigm.

Five million dollars can get you into practically anything. If you want to make bread you can make bread. If you want to make pasta you can make pasta. If you want to grow and process fish you can do so. It is my contention that five million dollars can get you into practically every aspect of farm value-added processing. Within that context, it is worth considering an approach specifically crafted by the SEC as a mechanism for capitalizing small businesses—known affectionately in the securities industry as “Reg D.” (SEC Regulation D, Rule 504). There have been some shenanigans associated with Reg. D—particularly by people artificially pumping stock values in the OTC (over the counter)

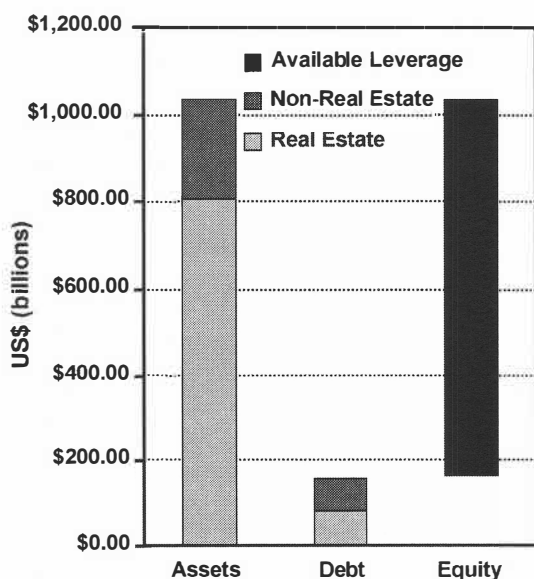


Figure 7. Farm Assets, Debt and Equity (1997)

market. It remains, nevertheless, a very useful mechanism for taking a new company public at minimal cost. Under Reg. D, 504 all the underwriting costs and much of the paperwork overhead of taking a company public are waived. The catch is that you can only raise a million dollars in that first year, and you cannot raise more than that with respect to direct equity investment during startup. If you are able to maintain that cap then you can go public. After the fact, you still have to go through the motions of filing with the SEC, but quite frankly once you simply make up your mind to do it, the paperwork is really not that intimidating. The added incentive here, is that once you have completed all the SEC requirements, you can again begin raising capital—through the magic of the stock market this time.

I propose the Reg. D, Rule 504 approach for consideration as an attractive, alternate mechanism because it can serve, quickly, to bring farmers into the mainstream of the US economy. Today, everybody is participating in the market. Everybody, that is, except US farmers. There is almost no market participation by farmers. I asked Bobby Ham (previous speaker) yesterday: “Bobby, have you thought about going public?” His story is incredible. We are talking about 40% annual growth rates. His is a fantastic business by any criterion, and he is driving it with all the zeal and verve of the very best entrepreneur. This is the kind of thing the markets love. It is simply a great story. That said, Bobby is not in the market. The question we have to ask is what does that mean for him, both in the short and long run?

An average scenario in which a group of farmers grow Durham wheat might be expected to have the following key characteristics:

- 20 Partners
- \$5 million Project: \$50,000+ Investment
\$200,000 in Guarantees for each Partner
- Regulation D, Rule 504 Public Offering
- Farmers Grow Durham Wheat
- Company Produces ‘Specialty’ Pastas
- \$1 million net earnings after year three

The farmers would like to benefit by adding value to their wheat. Having researched the market, they realize that the specialty pasta business is huge—certainly big enough to accommodate another small market entrant. I have picked pasta as an example here—almost at random. We could have picked something else. It might, for instance, have been corn and grits. Indeed, it could have been almost anything. The agricultural market is extremely broad and very, very deep. The prevalence of generic labels has also served, significantly, to open up the market. Increasingly, grocery stores are going to generic labels. In fact if you look at the food industry as a whole—not just food but other products as well—consumers are abandoning major brand names and settling instead for more cost-effective generic labels. Personally, I find the quality of generics, with minor exceptions, to be just as good as the major branded products. I never, for instance, buy anything but generic brand aspirin. When I buy pasta I buy the generic label, and I notice that people around me are also increasingly doing the same thing. The impact on advertising firms in this economy is huge. They are being abandoned. Clearly, the specific benefits of advertising today are diminishing very rapidly. Farmers have the opportunity to come in and supply generic labels very quickly. It is my opinion that they are truly missing the boat if they do not do so. You can expect to create a company such as this with an investment of around one million dollars supported with another four million in guaranteed debt.

The farmers who own this company can predictably expect to be netting a million dollars a year in their third year of operations. What does that mean? Take a look at Figure 8. With either an S Corp or an LLC, both of which serve as useful ‘dividend machines,’ each of the twenty partners would be putting \$50,000

a year in his pocket from his pasta operation. I think we can all agree that most farmers would be very happy with such a return, which comes on top of their direct earnings on Durham wheat. Co-ops of the traditional type would be expected to yield a somewhat lower return because they typically have less efficient management, and, therefore, higher overhead costs. While proponents of co-ops may argue to the contrary, evidence suggests—and it is overwhelming—that a co-op will generate significantly lower dividends than a comparable company—all things being equal. If the farmers elect to do a Reg. D 504 it would be managed to maximize growth—not just dividends. You are obliged to set the company up, and to run it in such a manner as to demonstrate what the market—what investors—want. That is growth, and it dictates reinvestment. A farmer/partner subscribing to a Reg. D 504 approach must typically reinvest at least half of the company's profits to drive that growth. The result is a capital gain. The farmer is not putting the money in his pocket now, but he is generating increased real wealth that far exceeds the value of the dividend he has withheld—and, it is taxed at half the rate.

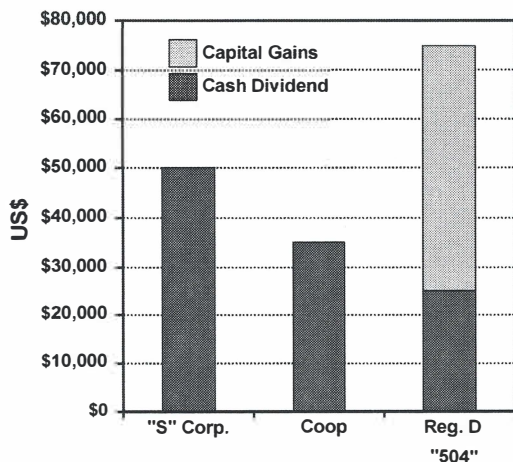


Figure 8. Three Cash Income Scenarios for Hypothetical Pasta Company in Year Three

What does all this mean? Let us assume that our pasta company has been quite successful. The twenty partners are collectively making a million dollars a year. They have worked very hard for three straight years. They have been putting in overtime. They have been working nights. Their wives are disaffected. What point have they arrived at? What have they achieved for all the pain they have experienced... and inflicted? Looking at Figure 9, the left-hand bars, we see that the S Corp (or LLC), co-op and Reg. D approaches will generate similar book values—in the \$70,000 to \$150,000 range. The Reg. D company value is approximately double that of the other two because it has adopted a growth as opposed to dividend approach. Each farmer will have put around \$70,000 less into his pocket during those three years than would the S Corp farmers.

Now, let us also look at the relative stock values. The differences are astonishing. The S Corp farmer will typically achieve a multiple of around two over appraised value and around 3 over earnings, while the poor co-op farmer gets no value premium at all. For him it is book value all the way. The Reg D farmer, on the other hand is sitting on a stock value of a mil-

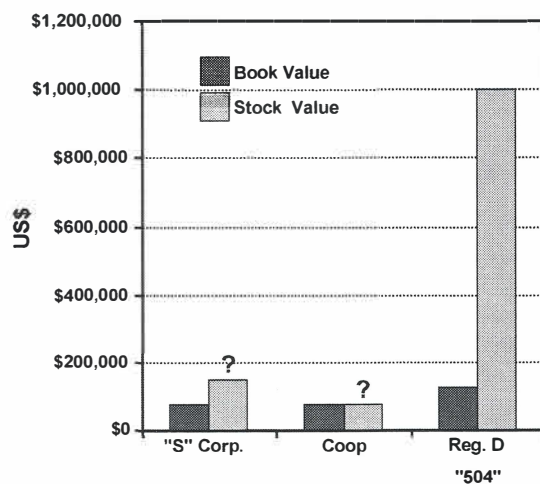


Figure 9. Three Valuation Scenarios for Hypothetical Pasta Company in Year Four

lion dollars. He has taken \$75,000 less in dividends than his S Corp counterpart during these three years, and he has put in the same long hours and earned the same disaffection from his wife and kids—but he has also made a million dollars in the process. Should he choose to do so, he can now cash in on his hard work. The co-op farmer cannot, and the S Corp farmer probably cannot sell his shares. An S. Corp will typically have a shareholders' agreement that ties partners up in knots and prohibits easy sale of stock. The new cooperatives described by Dr. Merritt (previous speaker) do allow some sale of stock, but there being no market for such shares, I would venture to say obtaining anything more than book value would represent a small miracle. If you have got a freely tradable, open company that has not yet gone public, about the best one can hope for is three times earnings. If, for instance, you are "pulling in fifty thousand," and the company is healthy, you might reasonably project your shares to be worth around one hundred and fifty thousand. You may not get that—indeed, you probably will not get that, but it is a good point of departure.

Look again at what you can do through a publicly traded company—how the stock market ascribes value to shares of stock. It is this phenomenon that I believe farmers would do well to ponder. A farmer and his partners can spend three years, or perhaps four years, really busting themselves to make their pasta company work. They are listed on the Over The Counter Exchange (OTC). They are getting good reviews—good market play. Suddenly, each is worth a million dollars. Now, that is taking an optimistic twenty times earnings—maybe the eventual multiple is only fifteen. Regardless, the return is impressive.

Bobby Ham's story is a stunning one. I would venture that his company would significantly outperform the average OTC price/earnings ratio and give him a value even greater than twenty times earnings. On average, today, a boring run-of-the-mill company will get a valu-

ation of at least fifteen times earnings. Perhaps most importantly, the stock market gives the farmer a chance to cash in on all his hard work and suffering. And, better still, he can do so without having to sell his precious land—his family heritage. He may, perhaps, choose to sell only 10% of his stock—that is a hundred thousand dollars that he can put in his pocket. Most people typically have only limited 'windows' in their lives when they can invest large amounts of energy and suffer major deprivation—these windows can last for four, five, or even six years, but not much longer. It is important that they maximize extraction of value from these bursts of energy. Everybody deserves the opportunity to cash in at the apex of that investment of time and effort. Under the present paradigm, however, farmers cannot do so. Tragically, short of selling out—giving up their precious land—farmers almost never cash in. Co-ops certainly never cash in; ultimately all co-ops die, and with them all the value invested in them by their attendant farmers.

All that can change. We live in a fast changing, very different world today. The Internet and the proliferation of inexpensive, high bandwidth communication systems have made things very different. It has evened the playing field and given everyone access—given everyone potential exposure. Bobby Ham's company, were it out there, trading on the OTC market, would be noticed and perused by a surprisingly large, diverse group of people—people from across this country, indeed all over the world. Reacting to software that would automatically flag good performance as indicated in SEC filings and press releases, they would both buy and sell his company's stock. The value of that stock would react accordingly. It is a huge market out there. Institutional investors are all plugging into Over The Counter (OTC). They are watching it very closely. Every investor in America has access to a variety of stock tip sources. If you perform well you will, without question, be noticed. It does not matter that you are a small company buried in

rural Greene County. Many, many small cap stocks are performing at well over twenty (on a P/E basis). Summarizing, then, the key to 'cashing in' is for farmers to share their successes with OTC investors:

- 25 million serious PC-based private investors peruse the OTC market
- All institutional investors are 'plugged into' the OTC market.
- Performing OTC Small Cap Stock demonstrate 20+ P/E Ratios
- Regulation D, Rule 504 Public Offering costs are less than 5% of conventional IPO—and can be easily done without outside assistance.
- Cashing in on the Value-Added business precludes selling land

The good news for farmers is that not only is this magical market there, waiting for them, it is that they have a huge, natural advantage over the next guy—both in gaining access and then playing in that market. If my three years living and working in rural Greene County have taught me one thing, it is that farmers are sitting on an extraordinary amount of wealth. It does not seem like it to the farmer, because he is not making anything on it, but I assure you, the wealth is there. All these farmers lack is a clear understanding of the advantage they hold, and a willingness to exercise that advantage.

It is useful at this point to review those advantages. Farmers are literally sitting on a vast amount of wealth that is simply not performing. As we have noted, only housing is a comparable non-performer. Farmers also hold ultimate control over the agricultural production base, and therefore over the massive number of value-added industries that derive their raw materials from that base. Ultimately it remains the farmers' option to deliver their products to these industries—or, indeed, to add that value themselves. Clearly, if the farmer wishes to consider himself besieged and impotent, that is his option as well. But if he takes the time and effort to examine his options with care, he

will see a virtual smorgasbord of options arrayed before him.

By most conventional criteria, I think all would agree that the average farmer works exceedingly hard. Personally, I am even more impressed with the incredible pain threshold they have—and their ability to recover, time and again, from blows that would debilitate most families and business institutions. This is not a trivial asset. If you are out there competing in the market place and you have a high pain threshold, good recovery and persistence you will prevail. Personally, from what I have seen of farmers, if I knew they were absolutely convinced they would prevail, I would hate to compete against them. Certainly, an ADM, a Cargill or a Smithfield would hate to compete against them.

As we have already noted, consumers are moving away from brand loyalty, machinery has become less expensive and product development and design more quick and flexible. These all play to the farmers' advantage. Small, quick, nimble and flexible—this is the advantage of someone going into these areas today. Everything is changing very, very rapidly. We may think of the big companies as overwhelming, but if we carefully consider their circumstance, we will see that behind their posturing they are sitting with millstones around their necks—big, huge pieces of equipment—factories that are not nimble, and simply do not perform well. These companies are forced to contend with managers who often do not understand what they're dealing with—guys coming out of school with generic MBAs who do not understand anything about the dynamics of agriculture. They are not, and have never been, part of American agriculture, and I can assure you that they are vulnerable to sustained, persistent competition from farmers. Farmers can definitely win this particular competition.

This is an appropriate opportunity to showcase my farmer colleagues in Greene County. They provide a stellar example of what farmers can achieve if they think strategically

and out of the box, accept the need to take risks and commit to competing with all their collective might against the big companies. Fiber, the industry they have tackled, is a huge part of the US economy. Local farmers are already supplying significant amounts of cotton (a global commodity that is seriously distorted by subsidies), and they play, to some extent in the wood market. Wood, however, takes twenty-five years to grow and most farmers are therefore unable to devote significant resources to something that really only pays off once in a lifetime. The kenaf fiber grown by the Greene County farmers can produce four times the tonnage of wood on the same acreage and it delivers a better fiber and a stronger fiber than wood produces—and, as an annual crop, it allows farmers to make a conventional, annual return.

Greene County kenaf farmers will be supplying a small, but quickly growing market for kenaf-based automotive paneling. Ultimately, most of their product will be supplied to mainline applications in the engineered lumber and paper industries. Kenaf's superior strength-for-weight allows it to be engineered as almost any type of dimensional lumber. Creating the perfect 2 by 4—one with superior strength, lower weight and better dimensional stability—remains their ultimate objective. With respect to paper, kenaf also holds significant advantages over wood. It mimics both hardwood and softwood with its core and bast fractions, respectively, and, having a much lower lignin content, can be rendered to pulp with a significantly lower expenditure of both energy and chemicals. While the major paper companies do not now have equipment optimized for these fibers, technologies that can achieve this are now in the prototyping stage. In the not too distant future, an investment of \$10 million at the county level should allow production of price-competitive kenaf-based paper that does not exact an environmental cost from the local community. This new paradigm should set the trend for the paper industry into the future.

Summarizing, then, we note that, in the context of a corporation, farmers have the following notable advantages over their competition:

- Other than housing, farmers are sitting on the largest non-performing capital base in America.
- Farmers control the land production base for a vast number of value added and higher value added industries. It remains their option to use what they produce or to hand it over to other processors and manufacturers.
- Discipline, patience, high pain threshold and a strong work ethic give farmers a very basic market place competitive advantage.
- Consumers are moving away from brand loyalty; machinery has become much less expensive; and product development/design more quick and flexible. These factors open the door for small-scale efficient, just-in-time production of tailored products that are not 'burdened' by the weight of huge infrastructure costs and massive advertising budgets.
- Farmers can now also choose to move into new fields such as non-cotton fiber and aquaculture—seizing early control over the production base for the next generation of paper, engineered lumber technologies and fisheries. This can double, or even triple the market for farm produce.

What do these developments mean for the absolute size of the farmers' market? As things now stand, that market is variously valued at between \$100 and \$120 billion. If farmers get into paper, that market increases to between \$200 and \$240 billion. Add lumber, and it increases to between \$300 and \$330 billion. Finally, farmers can also opt for aquaculture—in particular, growing produce of various kinds in land-based aquatic systems. Inland fisheries are one thing, but aquaculture is also going to grow in other directions as well. I am now

working with a product that can produce 30 times the protein equivalent of soybeans on the same acreage—thirty times! That is a true paradigm shift in the production of protein. The technology is already here. It can be done with relative ease, and I assure you that it will happen. Aquaculture is, for farmers, an exciting new area in which to get involved. As a general rule of thumb, if you can flood a unit of land and grow something on it you're at least 300% better off in terms of productivity—no matter what the product. With something like protein production, aquaculture can deliver 30 times that produced by soybeans.

In conclusion, I would like to propose some specific policy recommendations—both to the US Government and to farmers. Summarized, these are as follows:

To the US Government —

- *Phase Out Farm Subsidies:* While agricultural subsidies, at the margin, maintain some farmers' noses above the water line in crisis circumstances, they also serve, in general, to cement farmers' noses at that level. The primary effect of agricultural subsidies is to maintain the strength of quasi monopolies such as ADM, Cargill, General Mills, Smithfields and the like. Their market power allows them to extract all the value of the subsidies. This is disastrous for farmers. Ultimately, it is these monopolies that farmers must escape from under—and eventually compete against.
- *Help Organize and Capitalize Farmer-Owned Value-added Corporations:* USDA should hand the farm emergency and relief

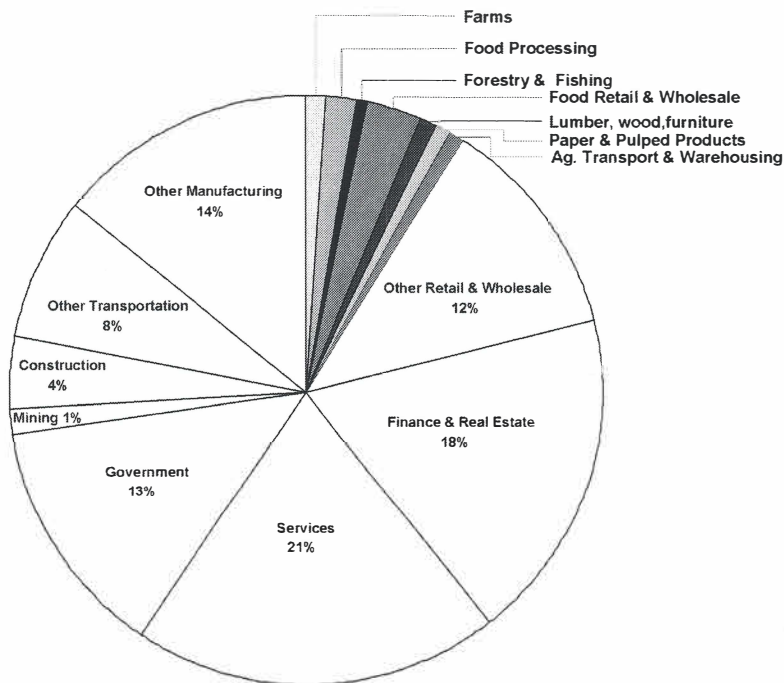


Figure 10. US Agriculture & Timber Sectors

business over to FEMA and gradually convert its budgets to the task of capitalizing (initially) farmer controlled corporations that add value to farm-grown crops. The task, simply put, is to get existing farmer equity performing, like everything else in the agriculture sector, at between 10% and 20% ROE.

And to farmers —

- *Get into Value-added Production/Processing:* You, and your fellow farmers control the agricultural production base—Maximize that huge advantage by taking your agricultural products ‘to the next level.’
- *Seriously Consider Incorporating as a ‘C’ Corporation and going public under Regulation D, Rule 504:* Going public is relatively simple and quite inexpensive. It provides you with two advantages: (1) It will value your enterprise according to the same rules that now apply to the rest of industrial America (i.e., 15 to 20 times earnings); and (2) by allowing you to ‘share your success’ with Americans everywhere, it will also enable you, unlike most farmers, to ‘cash in’ on your hard work, high pain threshold and entrepreneurial spirit.
- *Think seriously about moving into non-cotton fiber production and/or aquaculture and their value-added processing.* These three areas will drive most of the growth in agriculture over the next several decades.

Farm subsidies are like a drug. All farmers depend on them to some extent, particularly at the margin, to mitigate effects of price fluctuations and unfavorable weather events. That said, one cannot just blindly say “get rid of them.” They are, nevertheless, ultimately very damaging to farmers. What farm subsidies achieve in the long run is to cement farmer’s noses to the water line. Almost all the true value inherent in farm subsidies is ‘sucked out’ by the companies that surround farmers. It is comparable to being hooked on a drug like heroin—one that

“you’ve gotta have,” but that you know will eventually kill you. Farm subsidies are, in fact killing the American farmer. The ADMs, Cargills and Smithfields all subsist off the subsidies—pushing, in the process, farmers’ noses to the water line. Somehow, the American farmer must escape this trap.

While this is a facile recommendation to make, it requires careful consideration at the strategic level to implement. USDA, in my opinion, should focus strictly on the business of bringing farmers up to that 10% or higher level with respect to return on equity. There are many ways to achieve such a result. The cooperatives, the new generation cooperatives that other speakers have talked about—they can do it. What I have spoken of can, on a selective basis, do it. USDA simply must start thinking along these lines. If one can identify one specific point of focus, it would be issuing capital guarantees. Financing a new corporation is a tough thing to do when you do not have a history, and you’re dealing with a new product. Banks, in particular, have no mercy. The Greene County kenaf farmers have just gone through this with kenaf. It was a tough, tough thing to achieve, even with substantial participation by non-agricultural investors with very healthy bottom lines. Ultimately, USDA feels perfectly justified in throwing billions in subsidies at ADM, Cargill and the like, while providing absolutely no assistance to this group—a group that is breaking important new ground in American agriculture.

What USDA must do is improve its analytical capabilities and work to increase delivery of loan guarantees to farmers who are engaged in intelligent, well-conceived enterprises. The true cost to USDA of providing loan guarantees is not all that great—perhaps around 5% of the principal amount they are guaranteeing. Instead of squandering money on farm subsidies that support ADM and the like, USDA should focus on promoting businesses that will bring farmers up above 10% return on equity. With such a program in place, a billion dollars

budgeted to the task at hand could support around 20 billion dollars in loan guarantees. That's where USDA should be focused. The emergency functions now performed by USDA might more appropriately be handled by FEMA (Federal Emergency Management Agency).

My recommendation to farmers is that they get into value-added processing of their farm-grown products. They should also give serious consideration to adopting the Reg. D Rule 504 approach to going public. Nothing would please me more than to see farmers out there participating in the stock market with the rest of America. The SEC small business capitalization exemption allows them to do this with relative ease. A number of companies sell software packages that facilitate this process by helping farmers with the various arcane bits of paper work that must be submitted to get the job done. With such assistance, the entire process is rendered quite painless for the average farmer. Repeating an earlier recommendation,

I also suggest that farmers consider moving into fiber and aquaculture. Bringing these two areas into the farmers' domain will serve effectively to at least double—even triple, the total market for farmers. It is noteworthy, looking at Figure 10, that the US farm sector now occupies only 1% of the US economy. Sectors such as food processing and retail, both of which depend entirely on the farms for inputs, each occupy a significantly larger percentage of the US economy than do the farmers themselves. There is no reason why farmers cannot keep this market for themselves. If one also adds forestry, paper, aquaculture, agricultural transport, the farmers' market grows to around 10% of the US economy. This is a number that will get respect from even the most cynical politician and/or investment banker. In closing I would like to thank each of you for giving me the opportunity to speak to you—and, having done so, taking the time to pay careful attention to what I have had to say.

Keynote Address: The Pieces of the Puzzle

Dennis Mullen

President and Chief Executive Officer
Agrilink Foods, Inc.

Note: The following is a summary of Dennis Mullen's presentation edited by Velvet Nelson.

Agrilink is a six hundred-member cooperative with a diverse portfolio of products, including peas, beets, and corn for the Birdseye label; southern greens and peas for the McKenzie label; and pie fillings for the Comstock label. It is an agricultural-based business, linked with the grower so that the business needs the grower as much as the grower needs the business. CEO Dennis Mullen's presentation was intended to: 1) build an understanding of Agrilink's mission and core values and how they guide their work, 2) build an understanding of their strategic direction and how Agrilink intends to achieve it, and 3) provide examples as to how these initiatives may help others in their businesses.

Mullen indicated that those in development have the responsibility of helping the community to think outside the box, what he termed "busting paradigms". An issue facing this region, and one of the key issues for the conference, was that the paradigms were not "busted" when the negative publicity on tobacco became a problem. It was a change in consumer trends, and although consumer trends change all the time, the region suffered because this change was not understood as well as it should have been. A primary challenge he identified for the economy, state, and agricultural region then, was the need to redefine its vision and answer the question: what are we going to be because tobacco has become less and less important to us in our society?

The Agrilink cooperative has been in existence for forty years, and has outperformed most traditional cooperatives. Mullen attributed this success to four factors. First, cooperatives have often been designed, particularly in the food industry, to take in everything from the farm, but this creates an imbalance in supply and demand. Prices are suppressed as new crops continue to come in while the warehouse is still full. Agrilink, however, under a raw product plan, only takes in from their members what they can sell. The second factor is crop valuation as agreed to by members upon entering the cooperative. Agrilink never pays the highest or the lowest price but the average price on a weighted basis. Third, there are four outside directors out of a board of seventeen, and as CEO, Mullen also sits on the board with a vote. Most farmer cooperatives do not use outside directors or allow management to sit on the board with a vote. Fourth, the owners have liquidity. Over the past forty years, the owners have received an average return on their deliveries of 15%, which stays within the cooperative for five years, non-interest bearing. After five years, it is revolved out into a preferred stock instrument traded on NASDAQ, and at that time the owners can sell the stock if they choose.

Agrilink can be thought of as an always-evolving company with the need for flexibility as new expectations replace old ones, and with the idea of improving the owners' well-being and employees' opportunity for viable employ-

ment. Mullen stressed that Agrilink is always striving to communicate for understanding—the “why we do what we do”. They are committed to improving the way information is shared and received, and to communicating in a way that will “pave the path” to a vision. Vision, combined with mission and core values, strategic direction, and strategic thrust, make up the four key issues discussed by Mullen.

1. Agrilink’s **vision** entails two ideals. First, to *embody what it takes to be a Fortune 500 company*, without becoming overly consumed by getting to that particular size. Mullen indicated that Agrilink would like to be a Fortune 500 company, though it would require doubling their sales. More than size, however, he discussed what it takes to be a Fortune 500 company. It includes motivated customers, inspired employees, owners and employees working together in an ethical manner to meet shared goals, respect for meeting stakeholders’ needs with mutual trust, and respect for the company. The second aspect of Agrilink’s vision is their effort to *redefine the meaning of the word commodity*, which Mullen noted is a challenge for everyone.

2. **Mission and core values** are basic for any business. Agrilink’s mission is “*To be widely recognized for leadership and accomplishment as a food processing and marketing cooperative by using all our members’ and employees’ talents.*” When this mission was implemented, Mullen spent three months meeting with groups of employees to discuss it with them, and he estimated that 50% of employees would now be able to describe the guidelines of that mission. Their core values include: *do what is right, excellence in performance, commitment to objectives, and teamwork.*

3. For Agrilink’s **strategic direction**, all significant initiatives and activities are evaluated to be consistent with four objectives: financial viability, focus, member preferences, and consumer trends. *Financial viability* is to be self-sustaining, while the *focus* is on becoming one company and maximizing the utilization

of assets including plants, property, equipment and human resources. This may require “busting paradigms”. *Member preferences* involve a healthy capital structure, a balance in what is bought and sold, and a good price-value relationship in the marketplace, as capitalization is a challenge for any cooperative. Lastly, *consumer trends*, or adapting to changes in the marketplace, are significant. Some examples of Agrilink’s changing consumer involve older consumers driving demand for health and nutrition, while younger consumers are “smarter” about diet and nutrition. Mullen indicated that seventy percent of US consumers believe that organics are better for their health, therefore indicating that consumers are buying foods with a health message. Additionally, within twenty years, forty-five percent of children under nineteen will be of a diverse ethnic background. Consumer habits are changing as well, as we have become a “snacking” culture. Meals need to be assembled rather than cooked, eaten anywhere, and at different times. Also, more food dollars are going to restaurants. The industry has also changed, with fewer grocery stores and more outlets where some groceries can be purchased.

Mullen offered innovation and differentiation as potential answers. Coming quickly from changing technology, innovation can provide products when, where, and how customers want them, create value for customers, and provide services to customers that set the business apart from others. For example, Agrilink has implemented an Agricultural Services Information System (ASIS), which allows the organization to access information, such as: the field a product was grown on; what was grown on that field for three previous years; what was sprayed on that field; who harvested the product; and who transported the product.

Agrilink’s geographic diversification also provides them with differentiation. It is the only vegetable company that is sourced from every major growing region in the country (see Figure 1). In addition, Agrilink has created critical

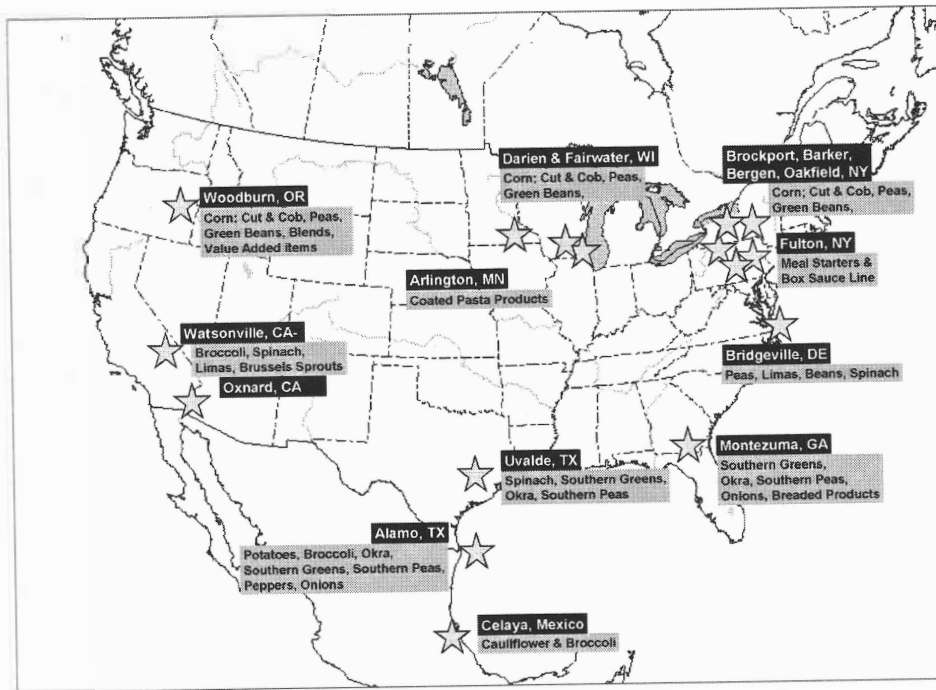


Figure 1. Agrilink Foods Frozen Vegetable Processing Facilities

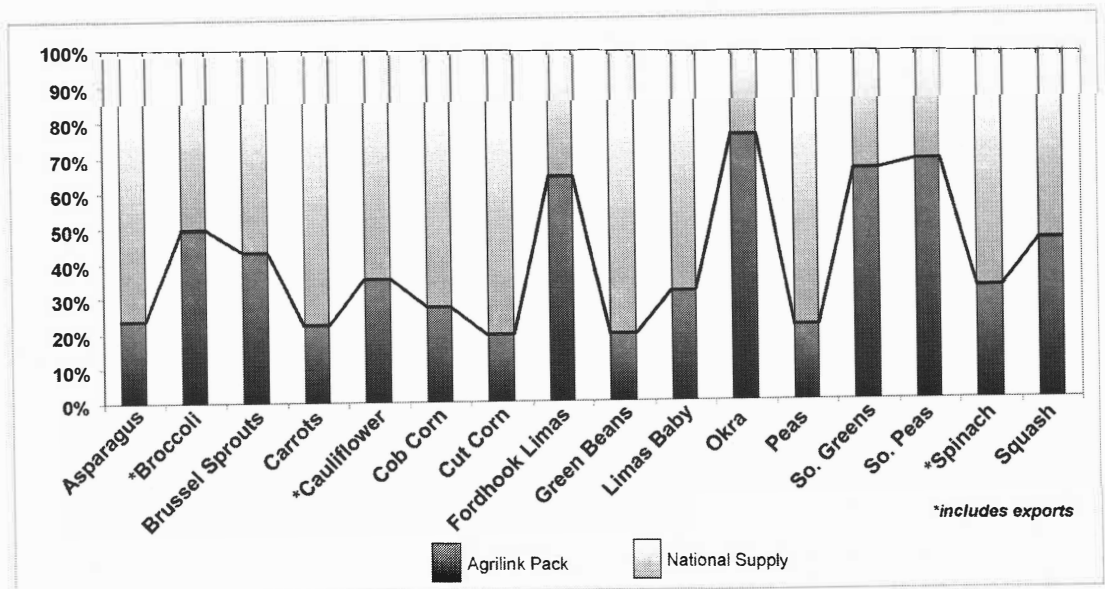


Figure 2. Agrilink and National Frozen Vegetable Supply

mass in the size of the company and in the processing side for efficiency, which offers more ability in pricing. In total pounds produced on a national basis for each major commodity, Agrilink processes as much as seventy percent (see Figure 2).

4. **Strategic thrusts** were also outlined in four parts. First is to be a *low cost operator*. This means that Agrilink will be the lowest cost provider of products and services that meet customers' needs, through a program of relentless improvement, investment in innovation, and the development of supplier partnerships. Second, *total customer service* means that Agrilink will listen carefully and respond effectively to customers' needs, anticipating future requirements, building close relationships with trust, flexibility, and reliability, and extending

the same principles to "internal customers" or team members. Third, a *totally effectively workforce* means one that is well-trained and operating as one, highly-effective team. Everyone in the organization should be focused on the customers, driven to achieve personal, group, and organizational goals, and empowered with an entrepreneurial attitude as they actively participate in the business process. Fourth is the *pursuit of profitable growth*. This final thrust means that Agrilink will seek to build the business by pursuing profit-building opportunities through new distribution, new geographies, and new product development. In conclusion, the mission and core values, the strategic direction, and the strategic thrust are what tie the business to its vision.

SESSION IV:

**STRATEGIES FOR COMMUNITY
DEVELOPMENT IN
TOBACCO-DEPENDENT COMMUNITIES**

Nicotiana glauca

The Rural Challenge: Emerging Resources for Tobacco-Dependent Communities

Billy Ray Hall

President, North Carolina Rural Economic Development Center

First of all, I'd like to say that it is great to be here. Also, I'd like to recognize the folks that put this conference together. I think it's particularly exciting for those of us who are in this line of work to see capable people like the folks here at ECU bringing people together to talk about issues in a way that begins to rally us around actions. In my mind, taking action allows us an opportunity to protect our right to work and live where we want. So, I want to commend the organizers for a great conference.

These are difficult times for rural areas in North Carolina. I grew up in North Carolina, over the last 53 or 54 years, and I have watched as folks have left the farms. I have watched the number of farmers decrease from 225,000 down to 45,000 or 46,000 today. A lot of the folks who left the farms went north to work, but then came back in the 60s and 70s to work in the manufacturing plants. And because of those plants, many of our children were able to stay here in North Carolina. But over the last two decades, there have been plant closings and economic troubles. Counties have had to compete against counties, and we have found ourselves fighting some major economic forces in this state. Educating and re-educating our population has become a major challenge, in both urban and rural areas. There is an example that I like to introduce when I talk about these issues—and it has to do with our high school dropout rate here in North Carolina. To get a

sense of that rate, think of all the school children going home in the buses at the end of the school day today. Of all those kids, there are three busloads of kids that will go home today, but will not be back at school tomorrow. Three busloads of kids—that is our dropout rate, and that is another force that we have to counteract if we are going to improve things in rural North Carolina.

We have also watched the tobacco industry go through huge changes over the last few years, with major impacts on rural areas. And we have watched commodity prices do some amazing things too. We watched a few years ago as the prices for pork changed our living standards almost overnight. So, these are the forces and changes that are having an impact in rural North Carolina. But one of the key things to note about all of this is that we have been working hard in the face of all these changes. We have developed resource capabilities at our universities in order to develop new ideas, and we have developed medical schools, pharmaceutical industries and other industries, so that there will be jobs here at home for our families and our children—jobs that mean that some individuals can even stay on the land, and maybe our farms can continue to support many individuals.

Now, let me take just a minute and tell you about the North Carolina Rural Economic Development Center, or 'Rural Center.' How

many of you know that the Rural Center will provide about \$40 million worth of grants this year, next year, and the following year? That is grant money that will help to keep the water bills and the sewer bills down in your community. For those of you who supported the bond issue, you ought to keep this in mind. That clean water is really critical to our lives and our future, and this bond issue says that we will help your areas clean up the water. Unfortunately, it doesn't clean up all the water, and we still have some major problems out there.

How many of you know that we are also in the leadership training business? Thirty-five folks come through our leadership training program every year. What we try to do is give them as much training as we can, and let them know how hard the job of promoting rural development is going to be, especially in tobacco dependent communities. We also try to encourage them to look at the resources that are available (I'll get to the resources in a minute). I hope some of you also know about the research we do at the Rural Center looking at tobacco dependency, with NC State University and with others. One project we have done with the Agricultural Advancement Consortium looks at issues around the settlement of tobacco law suits— what did the Agreement do to the demand for tobacco in North Carolina? What did it do to the employment picture, and to the tobacco dependency ratio?

The Rural Center has also been involved in rural Internet access—a project to deliver Internet access to rural areas. The challenge from the state legislature was to deliver high-speed broadband access to rural North Carolina by 2003. So, we have about 20 months left to deliver high-speed broadband to every citizen and every business in rural North Carolina. In doing this work, you need to keep in mind that one of the challenges here is that we are trying to deliver this service to some folks who don't necessarily want internet access, and aren't sure of the value of computers for their lives and livelihoods. But we are also working

with a lot of folks who are committed to the cause, and we are thinking about the role that the Internet can play in the future of farming.

The last thing I would say about the Rural Center is that we fought successfully through our Agricultural Advancement Consortium to persuade the government to leave \$6.6 million in flood assistance in place for farmers. This money was budgeted for Hurricane Hugo, and then was in question because of the state budget crisis. The idea was to take back the \$6.6 million. Instead, \$6.1 million went to farmers who had past due bills that were related to the flood, and it was exactly the right thing to do, because it may have saved some of them from going into bankruptcy. Other resources went to providing financial counseling for farmers, which is also important, because when you throw that many different forces and demands at a farmer, just like you or me, they can need someone to just sit down with them and provide friendly advice.

Now, let me shift gears and give you some statistics on the North Carolina economy. But, before we talk about statistics, let me just remind you of one thing. While we are going through some difficult economic times right now, this is not the first time that such a thing has happened in the state. North Carolina has been through tight budget times before, and we have also been through difficult public policy challenges before, and some of those challenges have happened during times when the state was strapped for money. For instance, the state has created medical schools during difficult times, and we faced the challenge of building the community college system. Our goal then was to put a community college facility within range of a 28-minute commute for 96% of the population. We also built a great university system, and we did it during times when the state was strapped for money. Our leaders stepped up and took on the challenge, and somehow, the money came together and we accomplished these things, so I think we should keep that in mind. We can do these

difficult things, even during tight budget times. But let me turn to discuss some statistics about the North Carolina economy.

Up through the beginning of 2001, our economic system was doing OK—we were able to maintain one of the highest employment rates in the country. We were always among the top two or three states in our level of employment, and unemployment never ran much more than 4%. Granted, unemployment was higher in the rural areas, but we were in relatively good shape, and we were making good investments. But then in 2001, we hit a recession. This recession, paired with the effects of globalization, hit us particularly hard. In fact, it hit us at warp speed. Let me define warp speed for you: warp speed means that 63,000 of your neighbors were laid off—maybe some of you were laid off. Forty-thousand of those lay-offs were in manufacturing. Those manufacturing jobs are good jobs; they are the sort of jobs that provide health benefits for you and your family, enabling you to stay on the farm. They are the sort of jobs that pay higher than average wages, and make it possible for you to buy that car or that boat. But once those jobs are lost, those sorts of things are eliminated from the manufacturing base and are gone.

Now, we also need to keep that number in context. Over the last decade, we did have a lot of upheaval in our job market. In a typical year, probably 20,000 to 30,000 people lost their jobs, but we never had a year in which we lost more than 30,000 jobs. That turnover was managed by the Employment Security Commission, working in each county with the unemployed. The community colleges in the counties were able to develop training programs and help to retrain folks. People could find support programs like the Rural Advancement Foundation International, and stay on the farm. And North Carolina had a relatively short average turnover time for finding new employment. In fact, we were ranked number one or number two among the states. The average time on unemployment was estimated at 9.9 weeks. But then

everything changed when we moved into warp speed. For starters, the number of people laid off in one year doubled. From January 1990 to December 2001, we lost more than 155,000 jobs. Nearly 100,000 of those losses were in the textile industry—in 2001 alone, we had an absolute decline of 11,000 textile industry jobs, something we had not seen in that industry since 1971. We have also seen unemployment rates in the double digits, and the state has paid out record amounts in unemployment benefits. In January of 2002, we paid out \$136 million in unemployment insurance. You may not be aware of this, but when there is excess money in the unemployment insurance fund, that money helps to pay for facilities and training programs at the community colleges, but with these large pay-outs, that excess money is all gone. There was \$1.8 billion 18 months ago, but at \$135 million a month—if we keep this up—we would be out of funds for insurance within four months. I can tell you that the state will do some borrowing and will be able to make it until next January, but starting then, employers are going to have to pay more into the insurance fund. We will have to pay rates that are 100% or more higher than what we have been paying. Employers will have to pay rates that are calculated for them, and it will be based on their use of the unemployment insurance, so a manufacturing facility might see a 120% increase. Now, I know this is all bad news, but it is because we are in a recession year and it has been hitting us hard, and rural areas have been hit particularly hard.

We can see this by looking at the lay-offs in textiles. A lot of people want to work in the textile industry, but folks, the textile industry is pushing most of their employees out the door. If we have one or two more rounds of lay-offs in the textile industry, and if the markets elsewhere keep opening up, then we can just kiss our apparel/textile industries good-bye. Now, let me turn your attention to one number in particular: there are 130,000 people in the rural counties who are out of work today. These

are not the people who are fed up and have quit looking for a job; these 130,000 are people who got up this morning and said, "I am willing, able, and ready to go to work." And now think about another statistic—the number of job openings in rural counties. If you were able to fill every available job listed in each of the 85 rural counties, you would only employ 13,300 of those 130,000 jobless people. So, when people tell you that folks in North Carolina don't want to go to work, you can rest assured that they are not telling the truth. The people in North Carolina have always wanted to go to work, whether it was in the tobacco fields or anywhere else. But when there are only 13,300 jobs available for 130,000 people, it's not an easy problem to solve. We are certainly ready to go to work, and if you can find us a job we will fill it.

Let me also talk about the effect that these difficult economic times are having on communities. Because of these lay-offs, whole communities are being devastated. In Mitchell County, textile and furniture plants have closed. All the lost jobs were located in the town of Spruce Pine, where three out of every ten people have lost their jobs (which translates into about 60% of the labor force). As another example, consider Robeson County. Robeson County has lost two major employers, and 2,112 jobs in a year, and this has meant the loss of \$46 million dollars in wages. With that many people out of work, it becomes difficult for a municipality to cover their public service costs, because unemployed people have a hard time paying their property taxes. So, as you can see, the consequences for these communities can be very far-reaching.

Lastly, I'd like to make a point about what happens to some of these folks who lose their jobs. We did a study of 9,000 people who were laid off from manufacturing positions (at plants with 50 or more employees). From that study group of 9,000, we wanted to find out how many found new jobs within two years of being laid off, and at what percentage of their former in-

come. What we found was that, within two years, only 74% of those individuals went back to work. Twenty six percent fell out of the job market; they either retired, moved away, or just gave up looking for work. And of that 74% that did find work, their average income dropped 12% from previous levels at their manufacturing jobs. In addition, according to our research, a full 20% of those 9,000 laid off people would be willing to go back to work for half or less of their former manufacturing wages. They were so desperate to get any job, that they were willing to work for half of their former income, and this is something I worry about. I worry about it because I try to think about these individuals and these families struggling to get by on half their former income—I think about the effect that has on the families and also on the local economies. And I also want to emphasize that, while a certain amount of lay-offs and job turnover is normal and happens in every economy, what we are experiencing now is not normal. Under normal circumstances, we have a system in place that tries to cope with job turnover. We have community colleges set up to retrain people and get them back into the workforce, and we have federal agencies with money available to assist displaced workers. Under normal economic times, those systems can step in and help soften the blow of job loss, and keep the economy going. But what we are experiencing now is an order of magnitude greater than that of normal job loss—the situation has changed. We need to recognize that, and we need to realize that we cannot rely on those standard systems. Taking a business-as-usual approach is not enough to solve this crisis. We need some other strategies.

So, people in rural areas need to know what resources are out there for them to help with the sorts of problems they are facing. And that is my job—to let you know what resources are available to you. Of course, like you, I would love it if we could go back to the sort of economic climate we had in 1995 or 96 or 97, when farmers were making money and they did not have to bother with thinking about

things like this; but that is just not the case these days. Farmers in Eastern North Carolina suffered over \$1 billion dollars in losses from Hurricane Floyd alone. In addition we have had a state budget crisis, and a crisis in commodity prices, and these circumstances are the things that have put us in this room today, looking for solutions. We do have a goal—and that goal is to find ways to enable folks in rural areas to have a decent life, living on the land, raising their children, and making sure those children also have the option to stay in the rural areas if they so choose. That is our goal, and we need to look for ways to reach that goal—that's what we're working for.

Who can help? There are a number of groups and organizations, some public, some private, and some non-profits. Some of them are old friends, and you will be familiar with them, others you might not have thought about. First off, the big group that is helping the farm community right now, and that has a lot of potential to provide help, is the Tobacco Trust Fund. This group will have a billion dollars coming in over the next few years, and that is important money for tobacco communities. Billy Carter, William Upchurch and others are taking a critical look at those resources and are thinking hard about how to help tobacco farming and tobacco dependent communities. They can be a valuable resource for you, and they are sending in a stream of income that will amount to about \$30 to \$40 million per year. Secondly, as many of you know, the Golden Leaf Foundation is an important resource. They have a bit of money to give away each year, but perhaps more importantly, I don't think there is a better advocate for rural North Carolina and for farming and tobacco dependent communities anywhere in this state. Their money is basically dedicated entirely to improving rural North Carolina, and it is one of the few places where you really have such a dedicated source.

Now how about some of our old friends? Well, N.C. State University is certainly an im-

portant resource for farmers. Like a lot of state agencies, they are experiencing a budget crisis, but maybe that will just put pressure on them to come up with more alternatives in specialty crops, and to do better research faster. N.C. State is absolutely your ally in research, and North Carolina A&T University is important too. A lot of times we in rural North Carolina forget that, because our university loyalties may be elsewhere. But we need to remember, when they provide information on catfish or on alternative soybeans, this is good information and we need to make sure we use that research. You can be hardheaded and try to do everything on your own, but you can do much better if you're not.

How about public purpose organizations like the Rural Center? The Rural Center does have resources to help, and they have been in business for a while. There is also the Agricultural Advancement Consortium that I mentioned earlier, chaired by Lois Britt. And the Farm Bureau has daily input through Larry Wooten. Senator Charlie Albertson is here to represent the Consortium. They are out there to come up with ideas to help farming communities, including fighting off the huge financial loss incurred because of flooding. And then there is the university system itself. I have mentioned N.C. State and A&T, but there is also ECU and others. They are not a foreign group, and we need to think of ways to connect with them on our issues. If you are having trouble with a business plan, you ought to be looking for help from these folks. Of course, there is also the N.C. Department of Agriculture.

There are also some non-profits and coalitions out there as well, and you need to be drawing on these associations for advice. The Tobacco Growers Association is a good group of people. And there is the Rural Advancement Foundation International. You should put their name on a piece of paper and stick it on your refrigerator and call them. They will describe the things that they do. Whenever you think about alternative crops, make sure you touch

base with these people. Just the other day, I met the Southern States Cooperative Foundation, and I am sure there must be other organizations like theirs as well. A lot of us are looking for new ways to be competitive in a global economy, and the Southern States Cooperative Foundation may be a group that can help you do that, so make sure you tap into their resources. There is also the US Department of Commerce Export Assistance Center. We export a lot of farm products from this state, and that is a program designed to provide assistance with that. And lastly, let me mention the foundations. R.J. Reynolds has put a lot of money in the bank for the Z. Smith Reynolds Foundation, the Mary Reynolds Babcock Foundation, and the K.B. Reynolds Trust Fund. These foundations are there to help, and you can help them by providing them with the opportunity to do some good with their money.

Now, let me close, because I know I have used more time than I was supposed to. If you are fortunate enough to find these resources, how should you use them? First of all, I think each of us wants those groups to act as partners with us, not simply to give us directions on what we 'should' do. If the foundation or agency tells you they have money available, and here's what you should do with it, I would suggest you give that money back to them. However, if you have a good idea and you need someone's help to make it happen, then that is when I think you should take their resources, deliver what you promised, and say thank you for the money. But that is just a little bit of advice from me.

And in terms of summing up, let me just pull together what I think it is that we as a group want to agree on, now and for our future. We want to reiterate that tobacco-dependent communities are where we live—they are where we make our living, raise our children, and where we want to stay. But to keep those communities viable we need strategies that create jobs. As I mentioned earlier, this is a real issue for rural communities today—there are

130,000 residents in rural North Carolina communities who are out of jobs. But what we want are strategies that create 'smart' jobs—jobs that are aware of globalization trends, and that are inclined to be there for a while. And jobs that acknowledge the forces that affect specialty crops. So, we want our partners in Raleigh and Washington to help us figure out smart answers. We don't want them to simply show up and tell us what to do, we want to work with them, figuring out together what we believe will be the best thing for our community.

The second thing we have to do as a group is to focus on education in the rural areas. We can't just turn away and assume our citizens are properly prepared for jobs in the new economy. For so many years, we have not put a high enough premium on being well trained and well educated. Most of us felt that once we had finished high school or college, that was enough education. But it's not. If you polled the people in this room, you would probably find that many have changed their career three, four, or even five times. What this means is that we have to be prepared to be life-long learners. We have to help our population remember that they need to be the best educated and trained people in the world. And why is that? It is because capital can move very easily, and in a global economy, it moves to where the highly skilled labor is located. If we want to compete on the world's playing field, we need high-speed access and all those other things, but we also need to have well educated children. And remember, we started from a disadvantaged position. Only two-thirds of the people in rural North Carolina have a high school diploma, whereas in other developed countries, 95% have a high school diploma or better.

The third thing I would mention is this—as we move down this economic track at warp speed, let's not forget to pay attention to the people who have been hurt. All across North Carolina right now, there are people who have lost their job, or suffered some other serious

blow to their livelihood or economic situation. These people go home and have not only lost income, they have also lost self-esteem and pride. As a result, they may be suffering family problems, they may be drinking more than they want to, and they probably have transportation, healthcare and/or childcare difficulties. As we go into this warp change, we need to have a degree of sensitivity for what's going on—on every side of the track. And we need to keep in mind that, as we go after this solution, we need to go after it realistically. We need to remember that we can be somewhat biased, we can be somewhat prejudiced, we can be somewhat overly-focused on our own selves—on our notion of what the problem is or what the solutions should be. But I want to encourage us to remember that we also have a great opportunity. We can take

the warp speed economy, and we can take a strong resource base, and we can build a strong new economy and new jobs, but we have to do it by working together. We have to understand that we still have a lot of racism within ourselves, and in most of rural America, we are still sexist (the numbers don't lie—if you see that one group makes 67 cents on the dollar, you have to admit there are still some problems out there). But we have got to get over those things folks, because we cannot afford to be a segregated society.

I am looking forward to hearing the results from the conference, and I am sure that the people at Golden Leaf, our Chair, and the others who are here wish you the very best. I just want to commend East Carolina University, and the folks who put this together. Thank you very much.

Tobacco, Politics and the New Economy

Ferrel Guillory

Director, Program on Southern Politics, Media and Public Life
University of North Carolina at Chapel Hill
Senior Fellow, MDC Inc.
guillory@unc.edu

Political and social changes in North Carolina over the past few decades have had a direct bearing on tobacco-dependent communities. We must understand these changes—the altered landscape of North Carolina—if we are to improve the lives of people living in these communities.

First, it is important to recognize that economic growth and political power are increasingly found in urban areas rather than rural areas. Urbanization is a growing, global phenomenon. In speaking of North Carolina in particular and the South in general, I would substitute ‘metropolitanization’ for urbanization—to signify not dense urban centers as in the Northeast and Midwest, but rather sprawling suburbanized cities. The migration toward cities is evident all over the world, and here in Eastern North Carolina is no exception. Slowly but surely, people drift to cities. People move to cities because of jobs, which tend to cluster in metro areas. People will always move for job opportunities, whether it involves crossing national borders or crossing state lines. Political power follows these people, at least in the case of a democracy.

North Carolina has had two, perhaps three decades of robust growth, with exceptional growth in metropolitan areas. The number of jobs in Raleigh, Durham and Chapel Hill grew by 113% in the 1980s and 1990s. The number

of jobs in the Charlotte metropolitan area grew nearly 75% during the same period. The Triad and the Hickory area each grew by about 40 to 50%. Although often unrecognized by the public, Hickory is the fourth largest metropolitan statistical area in the state.

Politically, fifteen counties contribute 51% of voter-turnout statewide. In the most recent presidential election, fifteen counties cast more votes than the other eighty-five combined. Of those fifteen counties, only one, New Hanover, is east of Interstate 95 and only one, Buncombe, is west of Interstate 77 (Iredell is slightly west of Interstate 77 but the highway feeds the county). As evident in the re-districting process, there is an ever-increasing consolidation of electoral power in a small collection of rapidly growing, Piedmont-area metropolitan counties. Another political phenomenon that has transformed the context for policy making in North Carolina has been the dissolution of the one-party South. For most of the 20th century, the Democratic Party controlled the region. Beginning in the mid-1970s, we had a surge of Republican strength across North Carolina. Although conventional wisdom holds that we have a two-party system, the state actually has a three-party system.

The Democratic Party typically claims 38 to 40% of the population. This figure is based on how people respond to pollsters, who ask

them to identify themselves regardless of how they are registered to vote. Approximately 36 to 38% of people in North Carolina identify themselves as Republicans. Twenty percent of respondents say they are Independents. That is the third 'party'—not an organized unit, but a force in the state politics nonetheless. Although Democrats and Republicans control the Legislature, and the organization of elections, there is no majority party in the state. We have gone from one-party rule to no majority party, which is important when considering the political context of tobacco and development.

The lack of a majority party has led to significant two-party competition and division. We have one Republican senator and one Democratic senator. We have a Democratic governor and most of the Council of State members are Democrats; but we have a Republican majority on the Supreme Court. We have a Democratic majority in the State Senate but an extremely divided State House. Although power is consolidating in the Piedmont, it is not cohesive, as it was during the time of the one-party South. North Carolina is characterized by 'fluid politics,' which now makes it difficult for a governor or any political figure to build a majority coalition. Any new policy initiatives or changes in law, particularly when it involves something as important as tobacco, requires significant political effort in the state.

Although political power in the state is increasingly fluid and concentrated in urban areas, there is a lingering heritage of ruralism. First, rural power has survived, if only because many of us think of ourselves as having come from rural areas. Second, the state has had a succession of governors who have fought for and made investments in rural areas. I am speaking of Governor Martin from Mecklenburg County, who decided to put the Global Transpark in the eastern part of the state. I am also referring to Governor Hunt, who set up the Rural Prosperity Task Force. This task force led to activities such as the Internet Authority and the new Dogwood Investment Company.

Governor Easley, while he was Attorney General, helped organized the tobacco settlement, conceiving what eventually became the Golden LEAF Foundation. A certain amount of ruralness still sells politically.

How do the changes that I have described shape some of the decisions and policy options facing tobacco-dependent communities? At MDC, a nonprofit research firm in Chapel Hill, considerable work has been devoted to the decline in rural communities. MDC made a big impact in the mid-1980s with its "Shadows in the Sunbelt" report, which called attention to rural areas being left behind in the Sunbelt boom. Since then, the public and policy makers have come to realize that economic development is not a one-dimensional issue or challenge. Economic development is not just about developing water, sewer, and highways—although they are important. Development is also not simply about replacing a closed textile mill with another one, or replacing tobacco with another crop, although that may be part of the plan. As MDC points out in its State of the South 2002 report, subtitled "Shadows Revisited," development is about addressing a multitude of issues at once, including worker training, civic culture, civic strength, cultural heritage, and leadership development. Building successful communities requires placing not just one building block, but a series of blocks. Policy makers increasingly understand this and our communities need to understand it as well.

Please allow me to suggest five issues for us to think about. First, I would like to add my voice to those who call for the preservation of the Golden LEAF Foundation. There is a real danger that the Legislature, under budgetary pressure, will try to raid the funds that came out of the tobacco settlement. The Golden LEAF Foundation gives us an opportunity for sustained, long-range economic development, to address all of the building blocks of economic development. In addition to conferences such as this one, the Golden LEAF Foundation has the authority to fund health and poverty alle-

viation initiatives. When is the last time the Legislature passed something specifically for poverty alleviation? The Golden LEAF Foundation has a broad and progressive mandate, and should be preserved.

Second, I think the state should be open to raising the cigarette tax as an alternative source of revenue. Political support could be garnered for such a tax increase, given recent budgetary woes. Other states have raised their cigarette tax, and cigarette companies have already raised the price one or two times a year for the last several years. The tobacco settlement itself requires raising the price of cigarettes. If North Carolina raised the tax a quarter or thirty cents, or even fifty cents per pack, it would have little impact on—do no serious further harm to—the overall tobacco economy.

Third, policy makers and communities need to establish stronger connections between rural counties and urban counties. Rural counties are not all equal. They are not all falling behind and, in fact, some have done quite well. Prosperous rural counties are caught up in the orbit of the major metro areas. Increased connections can come in the form of transportation, Internet connections, business-to-business linkages, and, of course, job opportunities.

Fourth, North Carolina has to invest more money into community colleges. Community colleges are bursting at the seams right now, because we have an economic slowdown, and

out of work people are going back to school to upgrade their skills. Community colleges are essential to meeting the state's need for a workforce well trained for advancing its economic transition.

Finally, universities increasingly need to serve as engines of regional development. I am delighted that East Carolina University is sponsoring this forum, for example. Large universities such as UNC-Chapel Hill and N.C. State tend to be seen in economic terms because of the Research Triangle. Yet, we have to start viewing our regional universities, and our regional universities have to increasingly see themselves, as critical players in economic and regional development. Here, I would like to read from MDC's "State of the South 2000" report: "Universities must lead and foster critical thinking and the development of new ideas. They are the institutions charged with creating and transferring knowledge in the new economy. They are more important than ever. Government, business and philanthropy must work with universities to define areas of research deemed most critical to the South's continued progress, and provide special funding for programs of study and research in those areas." The state needs chancellors, deans and department heads who think of themselves as more than narrow-gauged academics, but also as real catalysts for community betterment in the rural and metropolitan areas of this state.

Unique Approaches to Rural Community Development

Pat Cabe

Director of Community Development, HandMade in America

HandMade in America serves 22 counties in Western North Carolina. Our mission is to help build community and economic development opportunities based on the region's rich heritage. Western North Carolina covers 9,081 sq. miles and includes approximately 850,000 people. Every region has unique development challenges when it comes to building and sustaining an economy, and certainly the mountains are no different. Our topography, for example, is a significant challenge. There are 40 peaks in our mountain range that extend over 6,000 feet. North Carolina's mountains are some of the highest in the Eastern United States and some of the oldest in the world. Indeed, Mount Mitchell is the highest peak in the Eastern United States.

The isolation of the region is changing but it is still part of how we see ourselves. Our road system is improving somewhat. Interstate 26 will eventually connect at the Tennessee border, traverse Madison County and connect at the southern end of Buncombe County, opening up a major corridor through the area. Traditionally, most of our roads have stretched from east to west through the gaps of the mountains. The Blue Ridge Parkway is the only true north-south corridor that connects our region. However, millions of visitors use the Blue Ridge Parkway annually, thus limiting its usefulness for everyday traffic, besides the fact that it is not intended as a regular traffic or commercial traffic thoroughfare. Another barrier to development is the fact that most of our land is held in the public trust, such as through the Forest Service and the National

Park Service. There are several large corporate land holdings in the mountains of Western North Carolina, but there is a shortage of available land for traditional kinds of economic development activities, such as the development of industrial parks and shell buildings to market to larger industry. And, maybe that is a good thing. We obviously need to protect the natural resources, environment and vistas of our unique region. The Great Smoky Mountains National Park is the most visited national park in the country with ten million visitors every year.

Given the unique challenges that face Western North Carolina, HandMade in America was established six years ago to explore alternative avenues for economic and community development and to build upon the assets of our region, rather than simply pointing out its needs and deficiencies. Our very first project was the *Craft Heritage Trails Guidebook*, which resulted from a study we conducted with Appalachian State University and the Craft Organization Directors Association. We found to our great surprise that Western North Carolina has the fourth largest concentration of craftspeople in the United States (New York is first, San Francisco is second, and Santa Fe is third). Western North Carolina is populated with over 5,000 craftspeople, who contribute over \$122 million a year. This is three times the amount of revenue that burly tobacco contributes to the regional economy. The goal of the guidebook was to encourage tourists to exit on and off the Blue Ridge Parkway and other major roads, and to explore the unique, 'back roads'

heritage of small towns. HandMade in America visited communities and interacted with craftspeople. We asked questions such as "Where are your sacred places?" and "Where do you not want people to visit?" Tourism has a double-edged nature, and can overwhelm rural communities. Although tourism has great economic potential in remote communities, we did not want it to overtake these communities and ruin what was there, or the feeling of 'ownership' that residents had for their small towns. The guidebook allows people to tour—at their own pace in an automobile—tucked away crafts studios, beds and breakfasts, and restaurants that serve local fare and homegrown food. Although a systematic study has not been conducted yet, anecdotal evidence suggests that the guidebook has raised incomes for those who participate. Some people have indicated that their incomes have increased from 13 to 28%. Because of the great success of the guidebook, a third edition is scheduled for publication in early 2003.

HandMade learned a great deal about the Western North Carolina region in the wake of the publication of the first Craft Trails Guidebook in 1996. We learned that communities are anxious for new approaches. We created our *Small Towns Revitalization Program* based on the demand from small towns who were not included in the first guidebook, and who wanted to revitalize their downtowns and main streets and attract artisans into empty storefronts. The program is modeled on the North Carolina Main Street program and has received help from the North Carolina Division of Community Assistance in carrying it out. We now serve 12 small towns scattered across the region.

Our most recent project is the *Farms, Gardens and Countryside Guidebook*. HandMade in America modeled it after the Craft Heritage Guidebook. The same principle we applied to craftspeople is being used to help farmers and gardeners across Western North Carolina. The region's farms are small-acreage, 'scratch-ankle' farms carved out of the hillsides. Despite (or perhaps because of) their small size, these farms have a great deal to offer visitors. Using the guide-

book, visitors can wind their way to choose-and-cut Christmas tree farms, herb gardens, and working farms, which can teach young and old alike about where their food actually comes from.

Finally, HandMade in America is involved a post-landfill development project in Yancey County. About four years ago, the Blue Ridge Resource Conservation and Development Council approached us about developing a use for the methane that would be tapped from a closed ten-acre landfill. As a result, we decided to locate two craft studio incubators near the landfill, where potters and glass blowers use the methane to fuel their pottery kilns and glass blowing furnaces. The engineers tell us that the landfill will produce gas for approximately twenty years. It has been a tremendous success. We have six tenants on the site now, and whereas typically a glass blower would spend \$1,200 dollars a month for fuel, we offer fuel for free on this site. The craftspeople simply pay us \$250 a month in rent. The Yancey County site also hosts greenhouses, which are warmed with methane for some native plant propagation. Because of second home construction in the mountains, many of the region's native plants, such as rhododendrons and azaleas, are being over-harvested from the wild. Consequently, we are exploring ways of cultivating these native plants and supplying them to landscapers. In this respect, the landfill project is benefiting conservation efforts as well as economic development. The development in Yancey County is significant since there are a large number of small rural landfills in North Carolina that also could be used in creative ways economically.

HandMade in America has had several partners in these projects. The Rural Center has been a tremendous resource for us. The Golden LEAF Foundation has contributed to several of our projects, particularly the new farms guidebook. The cooperative extension service has also been invaluable, as have two of our major contributors, the North Carolina Community Development Initiative and the Appalachian Regional Commission.

Participatory Development: Supporting Local Grassroots Efforts

Paul Castelloe

Co-Executive Director

Center for Participatory Change

Email: paul@cpcwnc.org

The purpose of my talk is to discuss participatory development, specifically community improvement efforts that are created by and for people living in low-wealth communities. This conference is about remaking communities in the rural areas of Eastern North Carolina. Participatory development is an approach where the energy and direction for remaking communities comes from within the communities themselves. This presentation is organized into three major parts. In the first section, I introduce participatory development as a concept and a practice. Second, I discuss participatory development as carried out through the Center for Participatory Change, which is the nonprofit organization that I co-direct. Third and finally, I outline how the Center has used participatory development approaches to help farmers remake tobacco-dependent communities in Western North Carolina.

I. INTRODUCTION TO PARTICIPATORY DEVELOPMENT

Concepts, Players, and Levels of Participation

It is useful to define participatory development. *Participation* refers to the idea that people shape the decisions and forces that affect their lives, their families, and their communities. *Development* refers to the broad range of activities involved in determining and trying to solve a community's problems or create a community improvement effort. Essentially, de-

velopment is the attempt to make a community a better place to live. Concretely, this could refer to an economic development project, starting a community center, an educational or cultural project, and so forth. *Participatory Development* focuses on maximizing community participation in all stages of an improvement effort. It refers to the active involvement of people in the planning, development, implementation, and evaluation of community development projects, activities, and policies that affect them.

Before discussing how one goes about doing participatory development, it is necessary to define the major players. Specifically, I will focus on three populations involved in participatory development: grassroots leaders, grassroots groups, and outsiders. *Grassroots leaders* are people living in a low-wealth or marginalized community, who are rooted in place through families, friends, homes, and church. In general, these actors do not hold paid positions in government or nonprofit agencies. They often do community improvement work as volunteers. In our work, grassroots leaders form *grassroots groups*, groups of people rooted in a particular low-wealth or marginalized community who have come together to make that community a better place. In contrast, *outsiders* are people who do not reside or have roots in a low-wealth community but who care deeply about improving the quality of life in those communities. Outsiders often work for government and nonprofit agencies.

If you recall, I defined participatory devel-

opment as the attempt to maximize community participation in all stages of a community improvement effort. There are different levels of participation in a community project or activity, and it is helpful to outline these various levels. I call the first level “no participation.” At this level, grassroots leaders or groups are not involved at all in the community improvement project or effort. Outsiders are responsible for all aspects of the effort. The second level of participation, “consultation,” occurs when outsiders create a community improvement project or effort after soliciting information from grassroots leaders and grassroots groups. In this case, outsiders conduct surveys, hold focus groups, stage a listening forum or community meeting—using that information to create a community project or activity. All authority and responsibility rest with the outsiders. Providing information is the only role for grassroots leaders and groups. Outsiders may choose to heed or ignore that information; however, they are not obligated to change their plans based on grassroots input.

The third level of participation, called “shared decision-making,” occurs when outsiders and grassroots leaders work in partnership to create a community improvement project. The two parties interact as much as possible as equals. Each starts with the realization that the other has something to offer and contribute. Grassroots actors and outsiders share authority and responsibility for the community improvement project. The fourth level of participation, “community control,” occurs when grassroots parties have the authority and responsibility for planning and carrying out the community improvement effort. In this instance, outsiders play the role of coach and provider of technical assistance. The direction, energy, and power to shape community improvement come from within the low-wealth community. *The goal of participatory development is to realize this fourth level of participation—community control—in all aspects of planning and implementing a community improvement.*

Stages of Participatory Development

When you have community control in all stages, a development project goes through a series of five stages. I will explain these stages and illustrate each of them by walking through an example from our work at The Center for Participatory Change.

The first stage of a community improvement effort is *initiation*, which involves coming up with an idea for a project that would make a community a more livable place. In participatory development, the idea for a project originates from grassroots leaders—from the low-wealth community, from people living in and rooted in that community. The outsider's role at this point may be to enter the community and talk with people about their needs, resources, and ideas—then bring together people with a common vision for change. To make this concrete, I will tell you about a grassroots group that we work with called the Appalachian Heritage Crafters. The Center for Participatory Change started its work in January 2000 in Cherokee County, North Carolina. The county had just had two major plant closings, which resulted in 1000 jobs lost in a county of around 20,000 people. The Center started by asking people to identify the most pressing issues in the community. The overwhelming answer was the job losses from the plant closings. Consequently, we began speaking with laid-off workers. One of the plants that shut down was a Levi-Strauss plant. Discussions with laid-off women workers led to the idea of starting a crafts group. All the women had traditional Appalachian crafting skills, and saw crafts as a way to earn some extra income. Through these initial conversations emerged the idea of forming a crafts cooperative as a means of improving the community and addressing job loss.

The second stage of a community improvement effort is *project planning and design*, which involves constructing a general outline of what the project will look like, and laying out very concretely assigned roles, a projected schedule, and estimates on the cost of the project. In par-

ticipatory development, planning is done by a group of grassroots leaders or by a grassroots group. An outsider may facilitate the planning, but it is the community that determines the project's direction. Outsiders use a toolbox or "grab bag" of participatory planning methods to facilitate planning processes, making sure that the project plan comes from the community. Allow me to return to the story of the Appalachian Heritage Crafters. In February of 2000, a group of six women began meeting weekly to talk about establishing a crafts cooperative. Those women were the core of what became the Appalachian Heritage Crafters. My colleague at the Center, Thomas Watson, facilitated a series of meetings over a few months where the group answered questions that determined its future—for example, did the women crafters want to sell crafts retail or wholesale, through shows or try to open a store? By April they had answered most of these questions for themselves and were ready to expand their group.

The third stage of a community improvement effort is *project implementation*, in which the project is actually carried out. In participatory development, it is the grassroots group that carries out the planned project. Outsiders typically play the role of supporter and connector—supporting project implementation with knowledge, skills, or labor; and connecting the grassroots groups with other resources that can help them carry out the designed project. With the Appalachian Heritage Crafters, project implementation focused on organizing crafts shows and opening a retail crafts store. Our support consisted of helping everyone stay organized and focused, pitching in when needed, and connecting the group with other resources (for example, with another nonprofit that focuses on helping groups write business plans). The Appalachian Heritage Crafters, which now has around 100 members, has carried out four craft shows, and in May of 2001 they opened a retail store in Murphy. The store has earned members around \$50,000 since it opened.

The fourth stage of a community improve-

ment effort is *organizational development*, the ongoing strengthening and development of the grassroots group. This might mean learning to make decisions as a group, setting a strategic plan, creating a fundraising plan, developing fundraising skills, forming an organizational structure, perhaps forming a board of directors, and perhaps even forming as a nonprofit organization. The goal is to make the organization self-sustaining and independent. In participatory development, outsiders play the role of coach and provider of technical assistance as grassroots groups develop and strengthen their organization. Outsiders lay out all of the various issues that need to be addressed to make a grassroots group sustainable over the long haul. Next, they help the grassroots group address those issues, by both facilitating the process of organizational development and providing technical skills and knowledge when needed (i.e., how to write bylaws, how to write a grant proposal, what is the role of a board of directors). The Center for Participatory Change has done a great deal of organizational development support work with the Appalachian Heritage Crafters. We attend all the craft cooperative's weekly meetings, and the focus of most of our work with them now is organizational development. We have coached them through the process of establishing an organizational structure, forming a board of directors, creating a budget, writing bylaws, forming as a nonprofit organization, writing grant proposals and managing grants.

The fifth stage in a community improvement effort is *evaluation*, which involves evaluating the work that has been done and assessing how that work affected the community. This information is used to continually improve the community improvement effort. In participatory development, the grassroots group carries out evaluation. There is an emerging field within evaluation called participatory evaluation, and outsiders use these methods to help grassroots groups develop the capacities to evaluate their efforts, on their own terms.

Values, Attitudes, and Behaviors in Participatory Development

Participatory development is more than a set of stages. It is also a set of values that shapes interactions of outsiders with grassroots groups. In our work at the Center for Participatory Change, we focus significant attention on our core values. Specifically, our work revolves around the five core values explained in Table 1.

Complementing these core values are five core attitudes and behaviors in participatory development. These attitudes and behaviors provide guidance for outsiders as they work to support grassroots efforts. Table 2 lists and explains these attitudes and behaviors.

II. INTRODUCTION TO THE CENTER FOR PARTICIPATORY CHANGE

My colleague Thomas Watson and I co-founded the Center for Participatory Change in 1999, and we began work in January 2000. We currently have four staff members. Our vision is to work throughout 18 rural counties in the Appalachian mountains of Western North Carolina. All of our work is rural and we currently work with approximately 25 grassroots groups in 10 counties.

Programs

The Center for Participatory Change sponsors four programs to support and strengthen grassroots groups in low-wealth communities. They are:

1. **Grassroots Organizing Program**, which brings together people from low-wealth communities and helps them plan and carry out projects that improve their community;
2. **Capacity Building Program**, which provides leadership development, and supports growth of grassroots groups through training on starting a nonprofit organization, board development, fundraising, etc.;
3. **Networking Program**, which brings together grassroots groups across Western North Carolina to learn from each other, share experiences, and begin to shape a common vision for change; and
4. **Western North Carolina Self Development Fund**, which provides small start-up grants (\$500 to \$5,000) to new grassroots groups or projects.

Current Projects

Currently, the Center for Participatory Change works with grassroots groups that fall into three major project clusters.

1. **Collective Entrepreneurship Project** brings together and supports grassroots groups where the focus is helping members earn extra income for their families.
2. **Communities of Color Organizing Project** focuses on developing the power and civic participation of grassroots groups in communities of color.
3. **Grassroots Support Project** provides general support for grassroots groups and grassroots-driven non-profits across Western North Carolina.

III. PARTICIPATORY DEVELOPMENT WITH FARMERS: APPALACHIAN SMALL FARMS PROJECT

In this section, I will describe our work with farmers making the transition from a tobacco-dependent agricultural economy. In the far western part of North Carolina, you have burley tobacco farmers operating farms much smaller than ones in the eastern region of the state. The Center for Participatory Change is carrying out a project called the Appalachian Small Farms Project, which has been generously supported by the Golden LEAF Foundation and the North Carolina Rural Center's Civic Ventures Fund. The project began in

<u>Value</u>	<u>Explanation</u>
Participation	People shape the decisions and forces that effect their lives, their families, and their communities.
Social Justice	Through participation, people can attain more responsive institutions and systems; fairer policies and procedures; and a more equitable distribution of resources.
Capacity Building	Participation and social justice are achieved by strengthening what groups of people are capable of collectively doing and being.
Community Control	People gain the strength, confidence, and vision to work for positive change by controlling the processes through which they learn and act.
Grassroots Organizations	Representative, accountable, democratic grassroots organizations are the engine of fundamental social change.

Table 1. Core Values of Participatory Development

<u>Attitude and Behavior</u>	<u>Explanation</u>
Believe in Everyday Folks	Participatory development starts with a rock-solid belief that it has to be the people who define and create positive change in their community, and that the people truly can come together to improve their lives and their communities
Draw Out People's Wisdom	Participatory development is built from the knowledge and wisdom that people have gained from their experiences—the main job for outsiders is to draw forth people's wisdom, knowledge, and ideas.
Listen	Listening to grassroots leaders—deeply, fully, and actively—is a key behavior in participatory development; this means asking a question, staying quiet, and working to hear what the person you are talking with is trying to say.
It Comes from the People	Grassroots leaders are seen not as 'service recipients' or 'clients' who receive a pre-determined program, but as agents or actors, people who can work together to make significant and long lasting change.
Build Relationships	Participatory development is built on relationships and trust; chatting, laughing, and joking are the foundation upon which significant social change is built.

Table 2. Core Attitudes and Behaviors in Participatory Development

fall of 2000, in partnership with the Cooperative Extension Service offices in Cherokee County and Graham County. Although staff members at the Center do not know a great deal about farming and agriculture, they do know how to support grassroots efforts. The Extension Service, which provides farming expertise, has cooperated with the Center in outreach, one-on-one conversations, and farm visits to identify issues, opportunities and grassroots leaders in the agricultural sector. This outreach led to larger public meetings, which resulted in the creation of two new grassroots community groups: the Smoky Mountain Native Plants Association and the Cherokee County Small Farmers Association.

Smoky Mountain Native Plants Association (SMNPA) is a group based in Graham County. It was established by farmers, wildcrafters, native plants growers, and herbalists interested in creating economic opportunities through the sustainable cultivation, processing and marketing of native plants. The group—which consists of several current and former tobacco farmers—focuses on herbs, food crops, ornamentals, and wetland restoration plants. Group participants have carried out test plot research on ginseng, ramps, and goldenseal cultivation with Cooperative Extension and started a tailgate farmers' market in the county.

Cherokee County Small Farmers Association (CCFSA) is a group dedicated to creating new income opportunities through agriculture, to preserve the county's agricultural heritage, and to involve more young people in farming. Partnering with 4-H and Heifer Project International, this group has started a youth livestock project. They also established a tailgate farmers' market.

In just a year, the activities of SMNPA and CCSFA have resulted in several significant outcomes, such as: two new farmers markets; increased income for farmers; a revitalized 4-H program; a new interest in preserving and cul-

tivating native plants; dozens of people becoming involved in community decision-making; webs of relationships and friendships (an increase in what academics call social capital); a small grants program for local farmers; and movement toward larger scale economic projects such as cooperative marketing

IV. CONCLUSION

This conference has focused on remaking tobacco-dependent communities in Eastern North Carolina. Remaking communities is what participatory development is all about. If nothing else, taking a participatory development approach will remind us that there is a wealth of wisdom and experience in rural communities. There is much value in gatherings like this, but there is also a great deal of insight at the grassroots level. Rural communities can remake themselves—they have the wisdom, the energy, and the power. They need support from outsiders with technical expertise and know-how, but they can make it happen. It is not easy, supporting rural low-wealth communities. Outsiders often work with stakeholders who have little formal education but a host of life experiences. Rural people have not had numerous opportunities to operate within social, economic, and political systems. Consequently, one may have to be patient while rural people get up to speed. The process can sometimes be messy and slow. However, I believe that the effects of remaking communities will be more long-lasting and more fundamental if the direction and drive for the whole process comes from within rural communities themselves. It has been my experience that local populations will work hardest when the work of remaking communities springs from ideas and activities that they have designed and made real.



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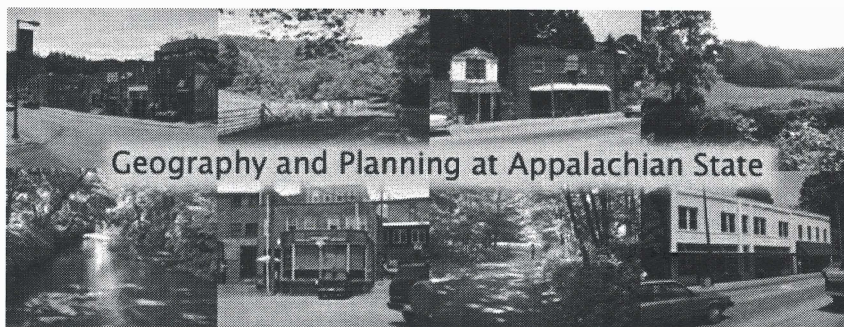
The Rural Development Research Cluster at ECU is a team of inter-disciplinary faculty members specialized in different facets of rural development. Recent research projects and publications have focused on gender and ethnicity in local fishing industries; the economic and cultural geography of tourism; regional growth patterns in tobacco and pork; transportation in the changing South; development strategies in tobacco-dependent communities and the impact of hurricane hazards on rural coastal communities. Geography faculty members also play an integral role in the university's Ph.D. in Coastal Resources Management and the MA in International Studies.

Department Resources & Facilities:

The department maintains fully equipped physical and human geography laboratories for conducting field research and analyzing data and a spatial data analysis laboratory for teaching and research in GIS, remote sensing image processing, computer cartography, and other forms of computer-assisted spatial analysis. The Department of Geography is also the home of ECU's Center for Geographic Information Science.



For more information contact: Dr. Scott Lecce, Graduate Coordinator (lecces@mail.ecu.edu), Dr. Holly Hapke (hapkeb@mail.ecu.edu) or Dr. Rebecca Torres (torresr@mail.ecu.edu), Dept. of Geography, East Carolina University, Greenville, NC 27858; Tel: 252-328-6230.



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Department of Geography & Planning
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DEGREES OFFERED

- B.A. in Geography
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- B.S. in Community and Regional Planning
- M.A. in Geography with liberal arts option (thesis or applied)

RESEARCH FACILITIES

The Department occupies the third and fourth floors of a soon-to-be renovated science facility adjacent to the main library and contains four computer laboratories for work in computer cartography, GIS, and image processing. The laboratories have numerous microcomputers and SUN workstations, which are networked to each other and to the campus mainframe cluster. Appropriate peripherals include digitizers, scanners, printers, and plotters. The Department maintains a full suite of professional GIS, image processing, graphic design and statistical software applications in its laboratories. The Department is a USGS repository, and its map library presently possesses over 100,000 maps and 5,000 volumes of atlases, journals, and periodicals; and is also a repository for census material available on CD-ROM including TIGER files, DLGs, and other digital data. Other facilities include a large cartographic laboratory, research space, space for remote sensing, and telephone linkage to department-maintained weather stations for research in microclimatology.

GRADUATE PROGRAM

The Masters program in geography is designed to provide students with a relatively broad range of academic and professional options, preparing them for Ph.D. work in geography and planning, professional applications in GIS, or opportunities in teaching at all educational levels. Accordingly, concentrations are offered in liberal arts with thesis or in applied geography with internship in regional, urban, and environmental analysis and planning. In addition, the Department participates in a program leading to the Master of Arts degree in Social Science with preparation in geographic education.

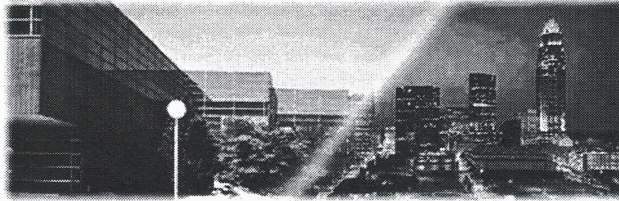
For further information, please contact:

- Department Chair: Jim Young (youngje@appstate.edu)
- Graduate Program Coordinator: Kathy Schroeder (schroederk@appstate.edu)
- Program Inquiries: Kathy Brown (brownkv@appstate.edu)

Department of Geography and Planning
 Appalachian State University
 ASU Box 32066
 Boone NC 28608
 Phone (828) 262-3000
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THE UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

Master of Arts in Geography



The Master of Arts Program in Geography at UNC Charlotte emphasizes the application of skills, methods and theories to problem solving in contemporary society. Students are offered a solid foundation in research methods, problem formulation, quantitative methods, spatial analysis, and GIS skills. Our graduates have used these skills to enjoy successful careers as professional geographers, community planners, site location and marketing analysts, and private consultants. Approximately 10% of the program's 250 graduates have gone on to study in Ph.D. programs.

CHARACTERISTICS:

- About 50 students and 23 faculty are in residence
- Class sizes are small; students and faculty maintain close contact
- Most of our full-time students are currently funded via assistantships and contracts
- PC-based ArcGIS equips an excellent spatial analysis laboratory
- Community-based class projects are featured in many of our classes

PROGRAM CONCENTRATIONS:

Community Planning Track

Students who choose the Community Planning Track are awarded the M.A. in Geography and complete a formally structured multi-disciplinary core curriculum with course work in Geography, Architecture, Economics and Public Administration.

Urban-Regional Analysis

The urban-regional analysis concentration offers a broad background that provides training for public and private sector planning and development, and Geographic Information Systems. Course work may be concentrated in one of the following areas:

- | | |
|----------------------------------|---------------------------|
| Community & Regional Development | Site Feasibility Analysis |
| GIS Analysis | Impact Analysis |
| Public Facility Siting | Urban Development |

Location Analysis

The location analysis concentration prepares students for jobs in location research with retailers, real estate developers, consulting firms, commercial banks, and economic development agencies. Course work is offered in:

- | | |
|---------------------|-----------------------------|
| Retail Location | Market Area Analysis |
| Industrial Location | Real Estate Development |
| Facility Siting | Applied Population Analysis |

Transportation Studies

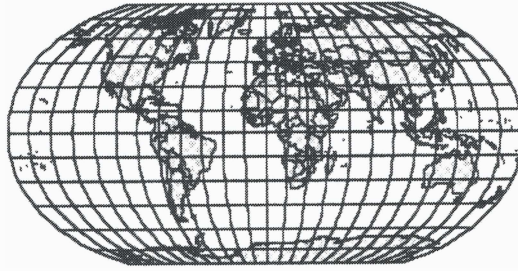
The University's Center for Transportation Policy Studies is affiliated with the department. Careers are available in public and private sector agencies and in consulting firms. Students pursue course work in:

- | | |
|---------------------------------|-------------------------|
| Transportation systems Analysis | Impact Analysis |
| Transportation Policy Analysis | Transportation Planning |

THE INTERNSHIP

As a program which emphasizes applied geography, client-based internships are an important element and normally replace the traditional thesis as the capstone research project of the graduate program. Projects involve students in the execution of a substantive research task for private or public sector clients. The student is the primary investigator in a specific "real world" research project.

For further information, visit our website at <http://www.geoeath.uncc.edu/> or contact Dr. Tyrel G. Moore, Graduate Coordinator, Geography M.A. Program at tgmoore@email.uncc.edu, or via telephone (704-687-4250).



**GEOGRAPHY
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Geography at the University of North Carolina at Wilmington is housed in the Department of Earth Sciences. There are six full-time geography faculty. Research interests and specialties include: cultural-historical geography; material culture studies; environmental planning; and fluvial geomorphology. Equipment available for teaching and research includes modern PC-based cartographic and image-processing lab, and photographic and darkroom facilities. The university library contains a strong geography collection including all major journals, and is a repository for government documents and maps. About 40 majors are currently working towards a B.A. in geography.

Wilmington, North Carolina's premier port city, is located on the Cape Fear River and is only ten miles from the Atlantic shore. It is linked to the research Triangle area directly via Interstate 40. With a metropolitan area of over 130,000 residents, Wilmington is the economic and cultural hub of southEastern North Carolina. Climate is warm and humid during the summer, and exceptionally pleasant during the rest of the year, enhancing the variety of coastal recreational activities of the region.

For further information on our undergraduate program contact:

Dr. Frank Ainsley
Department of Earth Sciences
The University of North Carolina at Wilmington
Wilmington, NC 28403
TEL: (910) 962-3490
FAX: (910) 962-7077

THE UNIVERSITY OF NORTH CAROLINA
GREENSBORO
DEPARTMENT of GEOGRAPHY

**UNDERGRADUATE
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For over half a century, the Geography Department at UNCG has developed its programs and resources to prepare students for careers and advanced research in Geography. Today the program is characterized by a strong integration of the human, physical, and technical components of the discipline. The geography major can choose a general degree or a degree with a concentration in Urban Planning or Earth Science/Environmental Studies.

**MASTERS in APPLIED
GEOGRAPHY:**

This program focuses on the application of geographic theory and methods toward the understanding of problems related to land use, economic development, environmental quality, population dynamics and social well being in different locational contexts: urban, rural, regional, and international. The curriculum leads to the acquisition of the theoretical constructs of geography and the research skills appropriate to geographic analysis, including spatial statistics, cartography, remote sensing and GIS.

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The Department offers an innovative Post-Baccalaureate Certificate in Geographic Information Science. The 18 hour program provides professionals with the knowledge and skills needed to effectively utilize spatial analytic tools, geographic data visualization techniques, spatial programming, mapping, and geographic image processing software. Emphasis is on the application Geographic Information Science in the fields of planning, environmental assessment, remote sensing, cartography, and economic development.

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NEW Ph.D. PROGRAM
in GEOGRAPHY:**

Beginning in the Fall of 2004 the Department of Geography will offer a new graduate program of study leading to the Ph.D. in Geography. Building on the traditional strengths of the department and the anticipated addition of three new faculty lines the program will be an innovative doctoral program designed primarily for persons who are preparing for careers which apply geographic theory, method, information theory, and other skills to solving real-world spatial problems.

FOR UNDERGRADUATE INFORMATION:

Contact: Dr. Michael Lewis
(336) - 334 - 3912
melewis@uncg.edu

FOR GRADUATE INFORMATION:

Contact: Dr. Elisabeth Nelson
(336) - 334 - 3896
esnelso2@uncg.edu



Department of Geography

PROGRAMS AND RESEARCH FACILITIES

Undergraduate tracks include the B.A. in Geography and the B.S. in Applied Geography. The former is a broadly-based geography program, drawing courses from human and physical geography, as well as techniques. The latter has a strong emphasis on spatial analysis, and requires an internship in a state agency or private firm.

At the graduate level the Department specializes in human geography, physical geography and spatial information technologies, and supports a variety of philosophical and methodological approaches within each of these areas. Students are encouraged to develop their research in conjunction with faculty, and to disseminate their findings via professional meetings and journals. Faculty expertise is clustered around the following:

Economic Geography: development policies, practices, and impacts; urban and rural restructuring; and geographic thought (political economy, feminist theory, critical geopolitics).

Cultural Geography: community development; tourist landscapes; cultural ecology; and field methods.

Coastal Plain Geomorphology: coastal geomorphology (aeolian processes and dune formation); drainage basin hydrology; fluvial geomorphology; soil geomorphology; and environmental management (natural hazards research, land and water use planning).

Spatial Information Technologies: geographic information systems (watershed/environmental modeling, topographic effects on digital data); remote sensing and image processing, computer cartography (global databases and map projections), and spatial quantitative methods.

Regional Specializations: Africa-East; Africa-South; Asia-South; Caribbean; Middle East; North Carolina; Western Europe.

Faculty are actively engaged in research in all four clusters, and have received multiple-year grants from, amongst others, the U.S. Department of Agriculture, the National Science Foundation, the New Jersey Sea Grant Program, N.A.S.A. and the U.S. Forest Service.

The department maintains both a fully equipped physical geography laboratory and a Unix-based Spatial Data Analysis Laboratory. The physical geography laboratory is designed for mechanical analyses of soil and sediment, but also includes state-of-the-art GPS, electronic surveying equipment, and instrumentation for monitoring hydrologic and aeolian processes and responses. The spatial laboratory consists of ten Sun workstations, a large format digitizer, and an Esize DesignJet plotter for teaching and research. Primary software includes Arc/Info, ArcView, and Imagine. A PC-based cartography laboratory was recently established. Students also have access to a wide variety of university facilities including the Institute for Coastal and Marine Resources, the Regional Development Institute, International Programs, and the Y.H. Kim Social Sciences Computer Laboratory. The Kim laboratory provides access to PC-based software such as Adobe Illustrator, ArcView, Atlas*GIS, IDRISI, SAS, SPSS, and Surfer.

FOR CATALOG AND FURTHER INFORMATION WRITE TO:

Undergraduate Catalog: Director of Admissions, Office of Undergraduate Admissions, East Carolina University, Greenville, North Carolina 27858-4353. Tel.: (919) 328-6640. World Wide Web: <http://www.ecu.edu/geog>

Graduate Catalog: Graduate School, East Carolina University, Greenville, North Carolina 27858-4353. Tel.: (919) 328-6012. Fax: (919) 328-6054.

Guidelines for Authors

The North Carolina Geographer is an annual, peer-reviewed journal published by the North Carolina Geographical Society. The journal serves as an outlet for research related to the geographical phenomena of local interest.

All manuscripts submitted to the North Carolina Geographer should be in acceptable form and ready for peer-review. Contributions should adhere to the following general guidelines.

- Send one original and two copies of manuscripts. Only original, unpublished material will be accepted
- All manuscripts should be on 8.5" x 11" paper. Type on only one side of the page. Type should be 10 or 12 point font and double spaced. One inch margins should be used on all sides.
- References are to be listed on separate pages, double spaced, and in alphabetical order by authors last name.
- Figures and tables should be submitted on separate pages with each copy of the manuscript.
- High quality, black and white photographs may be included.

Send manuscripts to:

The North Carolina Geographer
Department of Geography
East Carolina University
Greenville, North Carolina 27858-4353
Telephone: (252) 328-6087 *or* (252) 328-6624
Fax: (252) 328-6054
E-mail: popkee@mail.ecu.edu *or* peasep@mail.ecu.edu

