



North Carolina's Changing Agriculture

A. Blake Brown, *Professor and Extension Economist*

North Carolina agriculture has undergone dramatic changes in the last two decades. According to the Agricultural Statistics division of the North Carolina Department of Agriculture and Consumer Services, tobacco made up 27 percent of North Carolina cash farm receipts in 1983, but only 9 percent by 2003. Poultry and hogs made up 34 percent of cash farm receipts in 1983, but had increased to 57 percent in 2003. Greenhouse and nursery products from farms made up only 3 percent of cash receipts in 1983, but had increased to 12 percent in 2003. In 2003 Christmas trees made up 1 percent of cash farm receipts, but were not even listed separately in 1983. While cotton has increased as a share of cash receipts, other traditional farm commodities, such as soybeans, peanuts and grains, have decreased.

These changes have been propelled in part by structural and technological change, particularly in the hog and poultry industries. In the case of tobacco, declining consumption and international competition have decreased demand. The elimination of the federal quota programs for peanuts and tobacco have also driven change.

Urban growth is also changing North Carolina agriculture. North Carolina is among the 10 fastest growing states. This population growth is largely along the coast, along the I-85/I-40 corridor from Raleigh to Charlotte, and in the mountains.

Amidst this dramatic change, the number of North Carolina farms increased from 49,406 in the 1997 Census of Agriculture to 53,930 in the 2002 Census of Agriculture. This increase followed declines in the number of farms in previous Census of Agriculture. Land in farms (number of acres) declined from the 1987 to 1992 census, but was larger in the 1997 census. At 9,079,000 acres, land in farms was slightly smaller in 2002 than in 1997.

What are the factors behind the increase in farm numbers? Increasing economies of scale in commercial agriculture and the decline of tobacco, which supported many small farms, would lead one to believe that farm numbers should be decreasing. The USDA definition of a farm (\$1,000 or more in gross receipts) has not been adjusted for inflation for some time. So this is one factor that could inflate the number of farms. However, this is unlikely to explain all the growth in farm numbers in North Carolina, especially given the pace of urban growth. A major factor is likely an increase in the number of small and part-time farmers. Most of the growth in farm numbers is in Piedmont and mountain counties, not in the agriculturally intensive coastal plain. Again, this points to the likelihood that the growth in farm numbers is due to larger numbers of small and part-time farmers.

One likely factor in the increase in farm numbers is that urban growth may be accompanied by an increased number of people who wish to live in rural areas, perhaps farming part-time either for supplemental income or for enjoyment. Another factor is that many farmers are transitioning from traditional com-

modities to growing and marketing commodities that meet new and increased demands of the growing urban population. It is in this context that substantial opportunities for value-added and alternative agriculture exist for North Carolina's small farms.

What is Value-Added and Alternative Agriculture?

Value-added agriculture is usually defined as a process that adds value to a product at the farm level and helps the farmer capture a larger share of consumer expenditures on agricultural commodities or products derived from agricultural commodities. Producers may capture a larger share of the consumer dollar in two ways. First, they may capture a larger share by further processing or marketing of their product, rather than allowing other entities to handle the processing or marketing.

The second method of adding value is to increase the value of the product in such a manner that increases the final value (not necessarily just at the farm level). Another way of stating this is that the value-added process increases the size of the economic pie so that the producer's slice (and perhaps the slices of others) increases in size. Examples of value created in this manner could be a process or technological advance that increases value at the farm level more than costs or a specialty crop or product that addresses a niche market.

Alternative agriculture may include value-added products but is more general in that it usually includes any non-traditional crop or livestock enterprise. Even large scale enterprises such as Christmas trees or nursery crops are often called alternative enterprises even though their economic value may be larger than many traditional commodities.

Economic Impact of Specialty Enterprises in North Carolina

A very diverse, and often specialized, array of value-added and alternative enterprises is emerging in North Carolina. For example, a farmer in the Pied-

mont or mountains may have added horse boarding to his traditional tobacco and beef cattle farm. Another farm in a growing urban area may add greenhouse production of flowers along with production of other ornamentals to sell to suburban neighbors. Some farms have added corn mazes and other entertainment venues particularly targeted towards families and school age children.

Whitaker Farms in Climax, North Carolina is a prime example of this diversification. Traditionally, a tobacco farm, over the years the Whitaker family has added strawberries, greenhouse and field tomatoes plus an assortment of other vegetables, greenhouse flower production, two retail landscape centers and burley tobacco. They receive premium prices for their tomatoes by delivering sorted, high quality, vine ripened tomatoes directly to restaurants and retail outlets. They still produce flue-cured tobacco as well.

Examples of this diversification are numerous. Celebrity Dairy in Chatham County offers gourmet cheeses and a bed and breakfast on the farm. Baldwin Family Farms, near Greensboro, offers natural grass fed beef, custom packaged, for sale over the internet to a growing number of health conscious consumers. Madison Farms is a group of mountain farmers working together to market their produce and value-added goods through a variety of ways, ranging from gift boxes with jam and jellies to vegetables sold to the local school system. Goat producers in Franklin and surrounding counties have formed a cooperative through which to market their goats. Growers Choice, near Pittsboro, is a cooperative of independent poultry producers growing, processing and marketing naturally grown and pastured poultry. The list of innovative and niche products goes on. "Innovative" is the key word with farmers researching and taking advantage of local niche markets, most of which are growing rapidly.

Few of these enterprises individually have a large economic impact. The North Carolina Specialty Crops Program conducted a survey in 2004 asking extension agents in 32 counties to estimate the value of specialty crops. Value to the farm was estimated at \$888,000 for specialty vegetables targeted to ethnic groups, \$844,000 for organic fruits and vegetables,

\$800,000 for dune plants, \$2.5 million for specialty melons, and \$17.8 million for medicinal herbs. Viticulture is also growing, with over 350 vineyards and over 50 wineries in the state. No estimates exist for the value of most specialty enterprises. A few have now grown in size to rival or exceed traditional commodities. One example is nursery crops which is over \$1 billion in value, far exceeding traditional mainstays such as tobacco. Taken all together the economic impact of specialty crops and livestock is substantial. Also important, large numbers of the state's citizens are impacted in that specialty enterprises sustain many farms, particularly small farms.

Educational Resources

As opportunities and farm numbers involved in value-added and alternative agriculture have increased, more educational resources have been developed by Cooperative Extension Services and other farm organizations. The North Carolina Specialty Crops Program supports research and extension programming for development of alternative enterprises. Many departments in the College of Agriculture and Life Sciences at North Carolina State University have developed, and continue to develop programs to address the informational needs of alternative or value-added enterprises. The Horticulture Department is very active in this area: both the NC Specialty Crops program and Center for Environmental Farming Systems are led by Horticulture faculty. Food Science has recently added an entomologist, and has faculty addressing needs such as how farms processing products on-site can meet regulatory requirements. Other examples include the addition several years ago of an Animal Science faculty member specializing in goat production, and the Crop Science department's very strong turf grass program.

Cooperative extension agents have been particularly innovative in meeting changing needs of clientele interested in tapping into this growing market. Western NC Agricultural Options program is an example. Led by extension agents in North Carolina's mountain counties and funded by the North Carolina Tobacco Trust Fund Commission this program provides training

and small grants to mountain farmers adding new enterprises to their operations.

Many resources are available from NC A&T, which has always had strong programming for small and minority farms. This programming provides substantial resources for alternative and value-added agriculture, particularly focusing on the needs of small farms.

Other organizations, such as RAFI (Rural Advancement Foundation International), the Carolina Farm Stewardship Association, and the Southern Sustainable Agricultural Working Group provide forum, focus, and educational resources for farms. Recently, the College of Agricultural and Life Sciences developed a website to provide a focal point for resources in the alternative and value-added area (www.cals.ncsu.edu/value-added). A comprehensive list of centers, programs, and other resources can be found at this website.

Opportunities and Challenges

North Carolina's rapid urban growth and, in particular, the affluence of many in the growing population will undoubtedly fuel demand for specialty agricultural products. Consumers increasingly demand what they perceive as more healthful foods, which includes organics and/or naturally and locally grown products. Other opportunities relate to demand for specialty foods by growing ethnic populations. The growing suburban and urban populations may desire more "country" experiences, increasing the demand for recreational activities on farms (sometimes termed agri-tourism). Further, the presence of farms with their associated open space and scenery is increasingly seen as a public good.

How can farmers take advantage of these growing markets? First, they must become marketers of a unique product rather than sellers of a commodity. This may entail substantial people skills, marketing research, business acumen, and creativity. Many enterprises will entail direct marketing to the consumer. This is a different set of skills than just possessing and effectively using production technologies. Not all

individuals possess these skills, nor do these activities suit the personal preferences of all farmers. Second, they must be ready for a constant flux of change. As demographics and tastes change, so must the farmer who is marketing directly to the consumer. Markets for niche products may be small, so that farmers within a locale must develop many different products in order to have a sustainable income. In many cases farm families will be pursuing a sustainable lifestyle rather than making large profits.

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**North Carolina Cooperative Extension Service
North Carolina State University
Agricultural and Resource Economics
Box 8109
Raleigh, North Carolina 27695-8109**

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