

a special series report of the southern legislative conference

Tobacco in Transition



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Southern Legislative Conference



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of the
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Southern Office
The Council of State Governments

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This Report was prepared for the
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Introduction

Tobacco is in a period of great change. Declining domestic and international demand for American tobacco has pushed many tobacco growers to the brink of failure. Faced with cuts in their tobacco quota, changes in the methods of marketing their crop, increasing competition from abroad, and increased production costs, tobacco farmers are anxiously seeking solutions to what is an unprecedented economic crisis.

The signs of this crisis are not hard to find. Tobacco farms have been on the decline for the past 20 years. Since 1982, the number of tobacco farms has been reduced by half. At the same time, tobacco acreage has dropped by 30 percent, reflecting a rise in larger tobacco farms. Smaller operations, without the land or capital to expand, are leaving tobacco farming entirely, and even larger operations are struggling to adapt to new technologies and marketing arrangements. As tobacco farmers suffer, so do their communities. Tobacco is grown in 568 counties in 20 states. As revenue from tobacco farming has declined, rural communities have felt the pinch in a drop in secondary sales, labor, and inputs and ancillary operations, such as tobacco warehouses and processing stations.

In the United States, production of most types of tobacco is limited by the federal government through the assignment of production quotas. This quota, which underpins the federal tobacco program, has been cut nearly in half over the past four years for the two most common types of tobacco, burley and flue-cured, resulting in a correlating reduction in the income from tobacco for tobacco farmers and quota owners. Even as quota has been reduced, its value for sale or lease, and the cost of land with quota attached, have skyrocketed, placing barriers to entry for young farmers interested in growing tobacco and increasing the costs of tobacco production for the nearly 50 percent of growers who lease quota or quota-assigned land.

Partly in response to the decline in quota, the American tobacco industry initiated direct purchasing agreements with growers in the 2000 season in order to more directly control the quality and price differential

that is paid on leaf. Contracting in tobacco has effected a massive shift in marketing procedures for growers in a brief period of time. As much as 65 percent or more of burley and 80 percent of flue-cured tobacco was sold through contracts in 2001, bypassing auction warehouses and their related fees and ancillary employment. This has resulted in a tremendous drop in the number of warehouses opening for business. As this continues, the potential for a collapse of auction markets in parts of the tobacco belt and the concentration of business for the remaining auction houses lead to concerns that growers will lose access to an open market for their tobacco and have little recourse but to contract. The shift also threatens the existence of the tobacco program, as it removes vital grading fees which are a key element in the federal price support program.

Internationally, tobacco production and consumption have grown considerably in the past decade. The impact of this has been further erosion of the position of American producers in the global market, as export volume shifts to Brazil, Zimbabwe, Malawi, and China. It also has resulted in a shift in cigarette production to manufacturing facilities more proximate to new markets. Both the growth in leaf production and cigarette manufacturing capacity overseas are in turn the result of investments from the tobacco industry as it seeks to position itself to expand into high-growth markets. Perhaps most tellingly for U.S. tobacco growers, the amount of imported leaf in domestically-manufactured cigarettes has dropped to nearly 50 percent, down from 70 percent 20 years ago.

The tobacco industry, for its part, is faced with the challenge of making payments to states as part of legal settlements associated with state lawsuits to recover the costs of treating smoking-related illnesses. While these settlements represent a revenue opportunity for states, they have resulted in per-pack price increases that have reduced smoking rates nationally, further undercutting domestic tobacco purchases. Furthermore, the tobacco industry, while shielded from further state litigation by the terms of the settlement agreements, is still liable in individual and class action lawsuits, several of which are pending and threaten to further undermine the financial soundness of American cigarette manufacturers. An unintended consequence of this may be the reduction of payments to states through their legal settlements and to growers, who receive payments from the industry through a separate agreement to offset their losses due to reduced purchase intentions.

This *Special Series Report* provides a historical perspective on tobacco leaf production in the United States, offers a summary of existing programs and activities, examines the significance of state and private lawsuits against the tobacco industry, and highlights three significant challenges facing tobacco growers today: quota cuts, competition with foreign growers, and contract production. This *Report* also investigates current proposals for a quota buyout, the impact changes in the tobacco sector has had on tobacco-dependant communities, and options for alternative or supplemental crops for growers.

In the Beginning

Early History

Tobacco belongs to the genus *Nicotiana*, which consists of perhaps 30 varieties, the most familiar being *N. rustica* and *N. tabacum*, which are cultivated widely for use in a variety of tobacco products. Related to nightshades, potatoes and peppers, tobacco is native to the Americas. Tobacco, which the Maya smoked in religious ceremonies as early as the first century, has been used by Native Americans for at least 2,000 years. From its early cultivation in southern Mexico, tobacco spread throughout the Americas and was smoked, chewed, eaten, snuffed, drunk as an infusion and rubbed into the body as a medicinal treatment throughout much of the Americas and Caribbean.

When Christopher Columbus landed on the Caribbean island of San Salvador on his quest for a route to China in October 1492, tobacco was among the gifts he received from the native Arawak Indians. His journal notes that “the natives brought fruit, wooden spears, and certain dried leaves which gave off a distinct fragrance.” The gifts were returned to the ship where the fruit was eaten and the “dried leaves” thrown away.

Exploring the Cuban coast two weeks later, Columbus’ fellow explorer Rodrigo de Jerez encountered a group of men and women smoking and joined in, becoming Europe’s first smoker. De Jerez was so taken with smoking that he brought the habit back to Spain, and was imprisoned by the Spanish Inquisition for doing so in public and frightening his neighbors. By the time of his release a few years later, smoking was popular across Spain and was considered both a medicinal and recreational habit.

European cultivation of tobacco began in 1528 on the island of Santo Domingo and soon spread to Brazil and Cuba. By the middle of the 16th century, tobacco had been introduced in Europe for cultivation, although most tobacco consumed in Europe was of American origin. Spain

and Portugal, through their colonies in Central and South America essentially controlled the market on tobacco during this period. When the first permanent English settlement in North America was chartered in 1584, tobacco was still unknown in England. With the return of the first colonists, however, tobacco became a sensation, and the fledgling colony was poised to begin its first major venture in tobacco cultivation.

By the turn of the 17th century a backlash against tobacco had begun, led in particular by King James I of England, whose *A Counterblaste to Tobacco* was an indictment of smoking that outlined many of the arguments still used today in opposition to smoking. In an effort to eliminate tobacco, King James raised the duty on the leaf 4,000 percent. The move devastated the tobacco market (which was still mostly a Spanish concern at the time), but also cut off a lucrative source of revenue for the government. James reversed his decision and lowered the duty to a more modest sum and turned the importation of tobacco into a royal monopoly.

In 1613, Virginia colonist John Rolfe used smuggled *N. tabacum* seeds to produce the failing Jamestown settlement's first tobacco crop and, importantly, its first commercially-viable product. Rolfe had used the Spanish *tabacum* seed because of the inferiority of the native *rusticans* variety, which he deemed too coarse to be successful. The colony, which had been several times on the brink of ruin and devastation, was buoyed by the tobacco sale, and tobacco soon became a venture with a return for Virginia. From a modest 3,000 pounds of tobacco shipped to London from Virginia in 1616 (compared to 53,000 pounds of Spanish tobacco from the plantations of New Spain), Virginia's output swelled to 25,000 pounds in just four years. The primacy of tobacco in early colonial agriculture cannot be understated. In the same year that colonial production reached the 3,000 pound mark, the deputy governor of Jamestown issued a prohibition on anyone growing tobacco who did not also grow at least two acres of food crops. Early visitor's remarked that tobacco was grown on every available plot of land, including the streets and in public spaces.

While the advent of tobacco as a commercial crop did not spell the end of troubles for the Jamestown settlement, it provided an economically-viable source of revenue, something all previous English settlements in the New World had lacked. Plantation-grown tobacco also brought a different form of commerce to the English colonies. In 1619, 20 baptized Africans were bought by Jamestown settlers from a passing Portuguese ship to work as indentured servants in the tobacco fields. Later Africans arrived without being baptized and were bought and sold as slaves. Ironically, in the same year that African indentured servants arrived, the first shipload of "planters' wives" arrived as well, women who were brought to the colony to marry the bachelor planters. The cost of a woman's passage—120 pounds of tobacco—was to be paid by her suitor.

During this period, tobacco was, quite literally, currency. Tobacco notes were valid for the settlement of debts well into the 18th century, and the colonies lacked any indigenous form of currency until the French and Indian War of the 1750s. Thanks in no small part to cultivation and curing innovations that Rolfe likely learned from the Powhatan Indians and, specifically from Pocahontas, whom he married in 1614, English tobacco began to rival Spanish tobacco for global market share. And, because tobacco as it was cultivated at the time tended to wear out land in less than a decade, the boom in tobacco farming fueled the settlement and clearing of land all around the Chesapeake Bay. Indeed, in much of the eastern tidewater region, tobacco was only viable for two to three years, causing the settlers to push ever westward and outward, expanding early tobacco production into Central Virginia, Maryland and, in time, North Carolina.

From Boom to Status Quo

Tobacco production grew at an astounding pace in the 17th century, both in the plantations of New Spain and in the English settlements in North America. At about this time, smoking restrictions and prohibitions on smoking began to appear in parts of Europe, Asia and the New World, which had the effect of limiting demand. Faced with this, and with the need to ensure the quality, and thus the value, of English leaf, colonial officials instituted the first planting restrictions and, by the 1730s, the Virginia Inspection Acts. The Inspection Acts are significant because they standardized and regulated the sale of tobacco and empowered warehouses to verify the weight, kind and quality of tobacco.

As the American colonies grew, diversified and prospered, tobacco remained their single most important export. For all its promise, however, tobacco was not widely profitable for growers who, by the start of the American Revolution, owed British mercantile houses millions of pounds for credit extended to growers. British taxation on tobacco also was very unpopular with colonial growers and fueled an early rebellion in the colonies, a signal of what was to come. Tobacco growers were deeply in debt to British tobacco merchants when shots rang out in Concord, Massachusetts, signaling the start of the Revolutionary War. When the Revolution became general in English holdings in North America, it was known up and down the Chesapeake as the “Tobacco War.” Indeed, were it not for a pledge of 5 million pounds of tobacco, the United States would not have been able to secure a loan from France to conduct the war, and the American rebellion likely would have faltered.

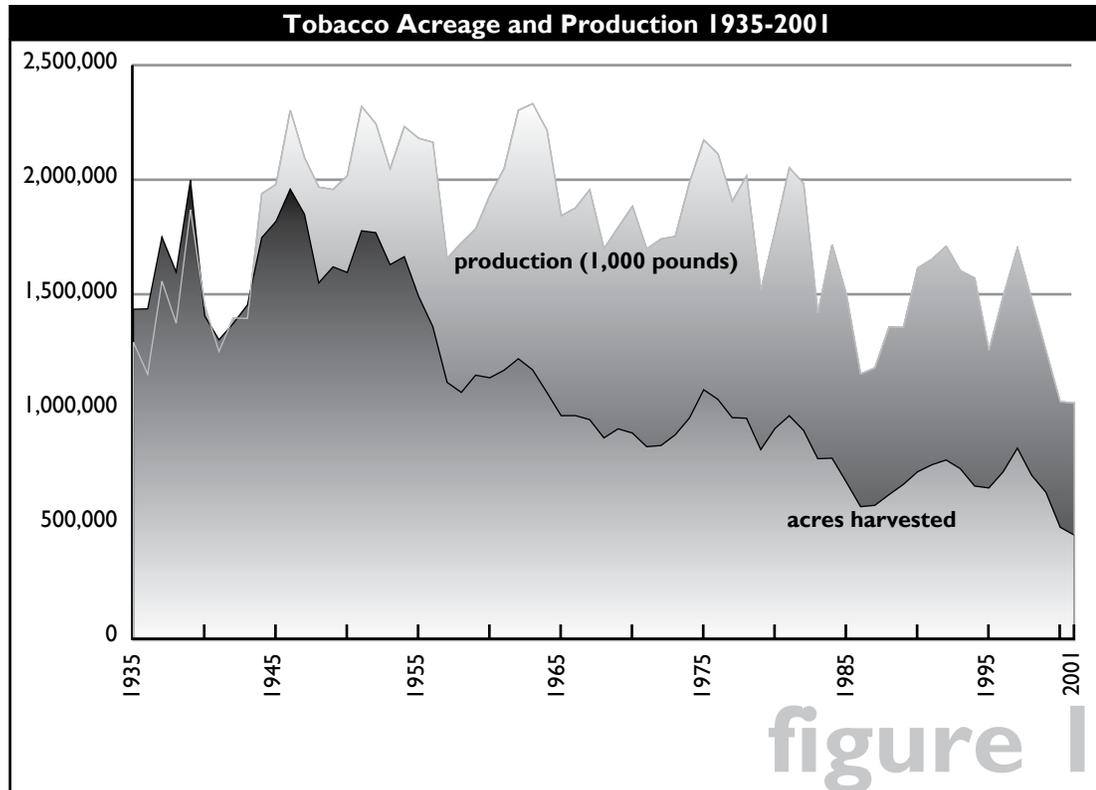
In the years between the Revolution and the Civil War, tobacco maintained its position as a vital crop, particularly for the states of the South. In 1838, a new method of curing tobacco, one which yielded a bright, yellow leaf with a distinctive flavor, was invented in Caswell County, North Carolina. This flue-cured process, discovered by accident, created a sub-culture in tobacco production that would soon dominate the market and, because of the mellower flavor of the tobacco it produced, become a major factor in increasing tobacco consumption, and thus sales and production, in the mid-nineteenth century.

As the War Between the States grew nearer, tobacco production continued to shift west and south, stretching from New England to Florida and as far west as the Mississippi. The Civil War disrupted tobacco marketing and production almost entirely, but introduced the Union Army, largely unfamiliar with tobacco, to the superior crop to be found on Southern farms. Included as rations for soldiers on both sides, Union soldiers returned from Sherman’s march with bright leaf tobacco confiscated from farms as they invaded Southern territory. In the years that followed, new smokers, introduced to the habit during the War, swelled domestic demand for tobacco and tobacco products, encouraging the development of mass-produced cigarettes and the development of some of the most familiar cigarette brands of the past century.

By the end of the 19th century, the types of tobacco commonly produced today were well-established. Then as now, almost all tobacco grown in the United States was either burley or flue-cured. Other kinds of tobacco, including fire-cured, dark air-cured, cigar wrapper, filler, and binder tobacco, are produced by American farmers in smaller volumes. Today, burley tobacco accounts for 43 percent of all tobacco grown in the United States, primarily in Kentucky and Tennessee, but also in Indiana, Missouri, North Carolina, Ohio, Virginia, and West Virginia.. Burley’s flavor and aroma make it a popular component of cigarette blends. Flue-cured tobacco is grown primarily in North Carolina as well as in Virginia, South Carolina, Georgia, Florida, and Alabama. Flue-cured, or bright leaf, as it also is known, has a mild flavor and aroma. Other kinds of tobacco are grown in limited quantities in Wisconsin, Massachusetts, Connecticut and Pennsylvania. There were about 16,000 farms growing flue-cured tobacco

in 1997, with an average acreage of 30 acres, and about 45,000 farms growing burley tobacco in 1997, down from 125,000 farms in 1982, with an average acreage of 6.5 acres in the core burley belt.

Domestic tobacco leaf production approached the 2 billion pound mark in the final years of World War II. (It was a protected crop during the war, and U.S. soldiers were provided cigarettes in their rations.) Production peaked in 1963 at 2.34 billion pounds, and usually remained near or above the 2 billion pound mark until 1983. Tobacco acreage reached its 20th century peak in 1939 at just under 2 million acres and has declined gradually since, dropping under the 1 million acre mark in 1965, and reaching only 457,000 acres in 2001. Figure 1 provides a snapshot of domestic tobacco production and total tobacco acreage from 1935 to 2001.



Source: USDA Economic Research Service, 1996.

Technological advances have allowed production to decline at a slower rate than acreage, allowing growers to produce tobacco on less land. In fact, between 1935 and 1965, the average productivity more than doubled, from 905 pounds per acre in 1935 to 1,898 pounds per acre in 1965. Productivity gains have continued since then, with the 1999 yield per acre calculated at 2,289 pounds. This has been important in the diversification of the tobacco belt, since land not used for tobacco production can be put to other agricultural purposes.

In addition to a decline in production and acreage, there has been a general decline in the number of tobacco farms in the second half of the 20th century. In 1954, when more than 1.5 million acres of tobacco were harvested, there were 512,000 farms actively involved in tobacco production. By 1997, with 647,000 acres of tobacco, there were only about 89,700 active tobacco farms. Table 1 provides this data for selected years.

Tobacco farms and acreage 1954-1997		
Year	Farms (1,000s)	Tobacco Acres (1,000s)
1954	512	1547
1959	417	1108
1964	331	1025
1969	276	877
1974	198	877
1978	189	693
1982	179	923
1987	137	633
1992	124	831
1997	89	647

Source: U.S. Census of Agriculture and USDA
Economic Research Service, 1996.

The Development of the Auction System

In the earliest days of tobacco production, colonial planters brought their harvest to the wharves in tightly packed casks, called hogsheads, for shipment to England. Upon receipt of their crop, planters were given a tobacco note by tobacco merchants, which was used by the planter to cancel his debts and exchange for the purchase of such items as the early economy offered. Merchants would place the hogsheads on a ship bound for England and sell it there to a growing rank of tobacco merchants. The marketing system for tobacco, such as it was, involved a few planters and merchants, was conducted largely on trust, and was soon overwhelmed by the volume of tobacco moving across the ocean to feed the growing tobacco-consuming market.

Early on, enterprising planters recognized that tobacco merchants were far from thorough in inspecting hogsheads, a laxness which only increased with the volume of tobacco leaving the colony. In order to stretch their profits, some planters began “nesting” their hogsheads with low quality tobacco, with top-quality tobacco on the top or ends of the barrel and stems, trash leaf, and, in time, other, non-tobacco matter, in the middle. In less than a decade from the first commercial shipments of tobacco from Virginia, the practice of nesting was so widespread that British customers forced British and colonial authorities to intervene.

Early actions to stop the practice of nesting were largely aimed at government inspection of tobacco brought to market, and the confiscation and destruction of inferior leaf. For the most part, these actions proved to be minimally effective, if at all. As a result, merchants dropped the price per pound they would pay for tobacco, creating an antagonistic relationship between producer and primary market that was not conducive for a business built largely on trust. In order to facilitate the inspection of tobacco, the colonial government authorized the construction of tobacco warehouses at public expense, and later required licensed inspectors at all warehouses. In 1730, the Virginia General Assembly prohibited the shipment of tobacco to England in hogsheads, cases, or casks without first having been inspected at one of the established warehouses. While inspectors were bonded and forbidden to pass along inferior tobacco, corruption was not uncommon, and discreet payments to these government agents

were offered by both planters with suspect tobacco in a hogshead, and merchants interested in driving down the price of a lot of tobacco by having it declared inferior.

Nonetheless, the Virginia Inspection Act of 1730 and a similar act passed in North Carolina in 1754 were early efforts to provide a structure to tobacco marketing. It was not uncommon during this time for merchants and growers who had developed reputations over several years as reliable and trustworthy individuals to arrange private sales on the farm. Such direct purchases were self-inspected, often with disputes settled by reputable neighbors, and diminished the importance of government inspectors and public warehouses. Even with the rise of private sales, the warehouses remained the dominant point of sale for tobacco into the latter years of the 18th century, until the lack of credibility of the inspection system had eroded all confidence in the process.

In addition to an increase in private sales, merchants began to visit the warehouse when the government inspection was being conducted, in order to assess the quality of tobacco for themselves, and to make private arrangements with the owners of the best quality tobacco they found. Planters were attracted to the higher prices their tobacco often fetched at warehouses with the greatest number of merchants. As independent tobacco warehouses and markets began to open in newly-established production areas, the final element of the contemporary marketing system appeared: the auction.

By beginning of the 19th century, growers or those contracted by them were crying bids (as the practice is known) for their tobacco in a scattering of markets. The goal was to create a competitive market among merchants and to encourage price increases on each lot of tobacco. Private auctioneers began appearing at tobacco sales by the 1820s, and they quickly grew in number, entering newly-established tobacco production areas. This, in turn, signaled the end of government inspection for almost a century, since buyers were conducting their own inspections prior to the bidding. Many inspectors simply became auctioneers, a practice frowned upon and restricted by the Virginia General Assembly but difficult to eliminate.

The auction system offered several obvious advantages over previous marketing arrangements. For the planter, auctions generally meant a more competitive outlet for the tobacco, particularly over the privately arranged sales where the grower often was poorly informed about the potential value of the crop. For the merchant, auctions allowed for greater quality control through the inspection of huge quantities of tobacco and, as auctions grew larger, an opportunity to purchase greater amounts of tobacco at fewer locations. A major offshoot of the auction system was the institution of loose leaf tobacco sales, in which tobacco was presented at market in loose or unpacked form, where it would be easy to inspect. A second impetus behind the shift to an auction system came in the years following the Civil War, when the federal government required, for tax purposes, all growers to furnish a statement of how much tobacco they sold. Auction houses offered sales tickets that provided unimpeachable records of sales for farmers worried about aggressive investigation by federal tax inspectors.

Auction warehouses and government inspection stations co-existed for several years before the volume of trade being conducted through these independent operations rendered government-run facilities untenable, and they slowly began to disappear. The shift to independent warehouses also was facilitated by the geographical reach of tobacco, since government inspection stations were few in number and tended to be located in well-established production regions. Independent operations were often quick to move into new production areas and were far more numerous, providing growers the added benefits of proximity and choice.

The solidification of tobacco sales at auctions had a second driver—industry consolidation. In the years between the Civil War and World War I, the number of tobacco manufacturers declined considerably. In 1889, the five largest cigarette manufacturers united under the name American Tobacco Company, drastically reducing the number of competitors for leaf tobacco. In some markets, while there were still a number of tobacco merchants, there were only a handful of final purchasers, which meant very limited competition for leaf sales. In response to concerns that the limited number of tobacco companies could “squeeze” farmers on the price for their crop, the transparent auction and grading system provided a relatively predictable market for American tobacco farmers. In the years following the first World War and into the Great Depression, the auction system served as the principal outlet for tobacco sales in the United States. When the federal government established tobacco as a protected commodity and created the tobacco program, the auction system was central to the management of both price supports and marketing restrictions.

The Tobacco Program

Background

Small changes in the supply of leaf tobacco can have disproportionate effects on wholesale prices. This has a great deal to do with the relative insensitivity of cigarette consumption to price fluctuations. Large increases in cigarette prices can depress smoking rates, but moderate changes have little effect. This also is true of price drops, which have only limited impact on consumption. In the first few decades of the 20th century, cyclical swings in tobacco prices caused disruption in the farm economy in Kentucky, North Carolina, Tennessee, Virginia and, to a lesser extent, other tobacco-producing states. At that time, growers attempted to self-regulate the supply of tobacco through voluntary production controls. These efforts, sometimes accompanied by violence against uncooperative growers, were not particularly effective or successful. Furthermore, as Congress at that time continued a crusade of “trust-busting,” these producer-initiated actions were likely to be viewed as collusion.

During the Great Depression, as part of a broader effort to bolster domestic agriculture, the Agricultural Adjustment Act of 1933 established price support programs for a number of crops, including tobacco. Under the 1933 Act, cash payments were made to growers who restricted production. This was the first federal activity in price supports for tobacco farmers. In 1935, the Act was declared unconstitutional, and substitute legislation was enacted that authorized payments for carrying out soil conservation practices.

The Agricultural Act of 1938 restored production controls through marketing quotas, and provided a penalty for producers who exceed them. Once growers of each kind of tobacco approve the application of production quotas by a two-thirds majority in a grower referendum, growers are eligible to receive price support of up to 75 percent of the base price for their crop. The base price for tobacco was established as the average of the August 1919 to July 1939 marketing cycle. The provisions of the Agricultural Act of 1938 have been amended several times since then, but the Act remains the authorizing device for ensuring a balanced and adequate supply of tobacco and is the heart of the tobacco program.

Marketing quotas have been approved for every crop of burley and flue-cured and dark tobacco, with the exception of the 1939 crop, since 1938. Cigar binder and Ohio wrapper tobacco came under quotas in 1951. Farmers in Maryland discontinued the program in 1965, and farmers in Connecticut and Massachusetts discontinued it for the binder crop there in 1983. The program never has applied to the Pennsylvania filler crop. There are 325,000 tobacco quotas, about 250,000 of which are for burley, and 40,000 are for flue-cured. The remainder is divided among other kinds of tobacco.

How the Program Works

Price Supports and Marketing Restrictions

The tobacco program consists of two elements: marketing quotas to restrict supply and price supports to ensure a minimum value for U.S. tobacco. While the two elements are discrete components, the program has established a delicate balance in which production controls and price floors have provided a relatively stable and predictable structure for American tobacco farmers for decades. In a nutshell, the tobacco program restricts how much tobacco can be grown, by whom, and where; establishes minimum prices for the different types grown; and ensures that all tobacco produced that does not sell on the open market will be sold to cooperative associations. Generally, restricted supply artificially raises prices and makes recourse to price guarantees infrequent and limited. The reality of the program for American tobacco farmers is that tobacco has been the most consistently profitable legal crop per acre for most producers who are able to grow it.

Marketing quotas—Restrictions on tobacco production are self-imposed by growers of each type of tobacco, who must vote to continue production restrictions in referenda every three years. The most recent vote for burley and flue-cured tobacco was 2001, with an average of 97 percent of burley growers and 98 percent of flue-cured growers supporting quota. The next referenda is set for 2004. At least two-thirds of growers must agree to abide by production restrictions established by the federal government for the program to be in effect. In exchange for this, growers have a guaranteed price for their tobacco. According to economic theory, the impact of restricted supply should, in most years, be sufficient to keep prices above the guaranteed price. The support price also informs buyers of what the price “floor” for tobacco is, establishing a starting point for bidding.

The quota for a given year is established by the Agricultural Marketing Service of the United States Department of Agriculture (USDA) for each type of tobacco based on a formula that includes an assessment of purchasing intentions of tobacco manufacturers, which are submitted to the USDA annually; the 3-year average of unmanufactured tobacco exports; and adjustments needed for reserve stocks to reach a specific level, either 15 percent of the effective quota or a minimum of 100 million pounds of flue-cured and 50 million pounds of burley. The U.S. Secretary of Agriculture has the authority to adjust this figure up or down by as much as 3 percent. Once the total quota is established, it is divided among individual growers for each type in proportion to the quota they either own or rent. Since 1965, acreage quota also has been implemented, limiting the amount of land on which tobacco can be planted.

Tobacco quota was historically attached to the land, and the only way for a producer to increase marketings of tobacco within the program was to purchase or lease land that had quota attached to it. Changes made in 1982 and 1990 permitted the transfer of quota for flue-cured and burley tobacco, respectively. Lease and transfer of quota for flue-cured tobacco was abolished in 1987 except for farmers whose crops are declared disasters. Quota may be transferred by selling or renting land which has been assigned a tobacco allotment or selling

the quota to an active grower in the same county. The program is still in effect for burley tobacco. Originally restricted to county-wide transfers (except in Tennessee), cross-county transfers are now permitted in much of the burley-growing region, except Kentucky. The lease rate for quota can be as much as 30 percent to 40 percent of the market price, rendering quota a valuable commodity in itself, but also making quota lease cost a barrier to entry for new tobacco farmers.

Even though the USDA establishes the quota for a given marketing year, the program allows for certain amounts of a farmer's quota to carry over from the previous year. Farmers who do not sell all of their allotted marketings in a season can carry over a percentage of their quota to the next year (essentially, allowing farmers to sell in excess of their allotment in the following year). In the same manner, farmers are allowed to "borrow" quota from the next year's crop and sell up to 103 percent of their allotment, reducing their marketings for the next year by that amount. This carryover tobacco affects the actual amount that can be marketed, and is called the *effective quota*. The quota established by the USDA is known as the *basic quota*. Effective quota for a given marketing year can be determined by adjusting the basic quota by the amount of under- or over-marketings in the previous year.

Beyond carryover, farmers with production in excess of their quota have the option of paying a 175-percent penalty for the crop, an option few are likely to take; acquiring fall leases of quota from farmers whose crops have been declared disasters; and storing the excess production and leasing quota the next growing cycle. Burley farmers are more likely to be able to exercise the full range of these options, since quota leasing and transfer is allowed with fewer restrictions. A flue-cured grower interested in leasing quota to cover excess production would need to find a grower whose crop had been declared a disaster, making this manner of transfer much more difficult.

Cross-County Leasing

The county restriction on quota transfers within the heart of tobacco country has kept tobacco production in what is often hilly terrain ill-suited to many other crops. It has been central to keeping this part of rural America engaged in profitable production agriculture on a scale not often seen in this country any longer. Thus, it is not surprising that cross-county leasing is a significant issue for tobacco farmers.

On the one hand, cross-county leasing offers quota holders the opportunity to lease their allotment to a wider range of potential growers, and makes more quota available for growers to lease. Particularly on the fringes of the burley belt, tobacco production is part of a highly diverse mix of crops from which growers have to choose. Because of regional variations in costs of production, growers may opt not to grow tobacco annually and decide to idle their quota for a time. By leasing their quota, these growers are able to realize revenue from their quota and other growers are able to enter tobacco growing or increase their production. Limitations of transfer to within a county serve as barriers, particularly on the "fringe" areas of production, where tobacco is not a dominant crop, and there may be few willing lessors for quota within a county. In core burley country (Kentucky primarily), willing lessors are more abundant, and the pressure to lease out of county is considerably lower, as evidenced by Kentucky's continued rejection of cross-county leasing even as the rest of the burley belt has embraced it.

Cross-county leasing is not without its detractors, however. Among the concerns over the practice is the potential for a shift in production to new areas. In much of the tobacco-growing regions, counties are small and compact, so transferring quota to an adjacent county shifts little in terms of regional economic activity. But for small, rural communities, the shift can be felt, particularly since tobacco is a crop with highly localized economic impacts. Many inputs and ancillary services for tobacco production are proximate to production. The shift of tobacco quota from one county to another, particularly if the shift removes the crop from high production cost areas, where inputs costs are expended within the county, would be felt even by those not directly involved in tobacco production.

There have long been complaints about quota holders who did not farm their allotments. Because quota was historically tied to a parcel of land, individuals who owned or purchased land with a quota were allowed, but not required, to exercise their prerogative to farm tobacco. Holding a quota out of circulation, however, meant that that quantity of tobacco was not going to be “made up” by anyone else. In essence, unused quota was an unpredictable and unreliable reduction in marketings. The greater complaint, however, was that these non-farmers were keeping other interested parties from growing tobacco by holding onto quota they had no interest in utilizing. In order to remedy this, actions have been taken to expand quota transfer and, beginning in the 1980s, to force the forfeiture of quota assigned to a farm where tobacco was not grown or considered for growing in the three previous years.

Quota was apportioned to allotment holders according to production patterns at the inception of the tobacco program. This has contained the geographic production area to its historic region and developed an agricultural economy like none other in the United States. It also has created a market for quotas as a commodity in and of themselves. Since quota leasing was first authorized, the value of holding an allotment has shifted from an opportunity to produce a crop to an option of producing or leasing the opportunity. Today, about half of all quota holders farm their allotment, with the remainder either leased or farmed on a shares basis.

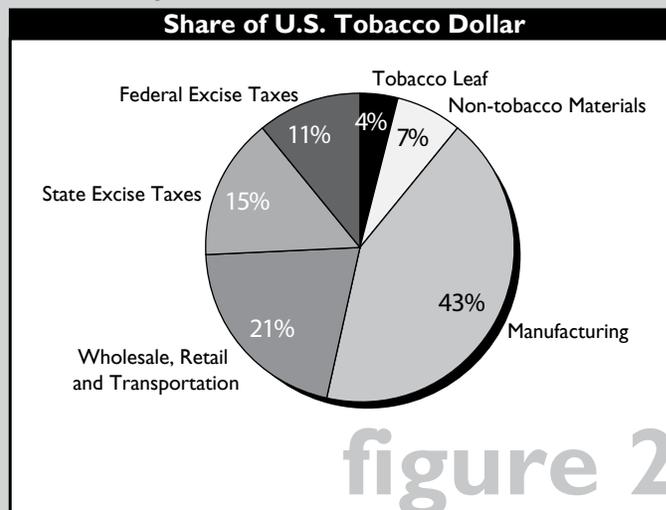
Quota reductions are implemented to restrict supply and, therefore, keep prices above the loan rate. This in turn increases the anticipated value of tobacco. Quota rental rates are closely correlated to the price of tobacco, since the value of the quota is the difference between the economic costs of production and the market price for tobacco. Production costs, with the exception of quota rental and land costs, are relatively inelastic, increasing generally along with inflation. Thus, as tobacco prices increase due to quota cuts, quota lease rates increase. The effect of this is to pass the benefits of production control on primarily to quota holders, with only limited benefit for the non-quota holding grower, since the cost of rented quota generally will increase along with the value of the tobacco grown with that quota. Furthermore, as the value of quota has risen, there has been a tendency among quota owners to choose to sell allotments that they are not using, producing a consolidation of quota in the hands of fewer, larger growers.

Price supports—Marketing restrictions are not always effective at supporting market prices, particularly as the global tobacco market expands and the quality of foreign-grown leaf improves. For this reason, the tobacco program incorporates a system of price supports for those types that are included in marketing restrictions. Each year the Agricultural Marketing Service of the USDA announces support prices which serve as the minimum wholesale price for each particular kind and grade of tobacco. After harvesting and curing their tobacco, growers bring their leaf to a warehouse, where each bale or pile is inspected by a USDA grader and given a grade. This grade establishes the minimum price for that bale or pile. If buyers are unwilling to bid above the support price, the grower may turn the tobacco over to a growers’ cooperative and receive the USDA-established price, less some overhead fees. The cooperatives receive, dry and repack and store the tobacco for later sales. Cooperative-held tobacco is held in what are called stabilization pools, known by that name because they exist to stabilize the price of tobacco at the loan rate (each cooperative serves as a discrete pool of tobacco). Growers who sell tobacco directly to buyers, either through contracts of “barn-door” sales, bypass this process and thus do not have direct recourse to price supports, although they usually can opt to pull their entire lot from the sale and place it on the warehouse floor for sale.

This program is supported through credit from the Commodity Credit Corporation (CCC), which loans the cooperative associations capital to purchase below target price tobacco from farmers. The CCC receives payment from the cooperatives once the tobacco they hold is sold. In the 1980s, concern over perceived taxpayer support of a product that was associated with serious health risks prompted the “No-net Cost Tobacco Program Act of 1982,” which mandates that the tobacco program be carried out at no cost to the Treasury. This law required producers of all kinds of tobacco to contribute to a fund or pay assessments to an account established by tobacco cooperatives to fund any potential shortfalls in the loan program that underpins the price support program. The assessment rate is determined administratively by the USDA. For the 2001 marketing year, the no-net cost assessment was 5 cents per pound for flue-cured tobacco and 2 cents per pound for burley tobacco. Growers and buyers each pay half of the assessment. Imported tobacco became part of the no-net cost program

The Impact of the Federal Program on Consumers

The impact of the tobacco program on consumer costs for tobacco products generally is considered to be relatively modest. Without production controls, increased stocks of leaf tobacco would drive the wholesale cost of tobacco down, which in theory might be passed along to consumers, but the other cost components of tobacco products, including heavy excise taxes and other duties, tend to have more influence on price than raw material costs. While cigarettes and other tobacco products principally are composed of tobacco, its value accounts for only about 4 cents of every consumer dollar spent on tobacco. Because roughly half of U.S. tobacco is exported, and a lesser but significant amount of imported tobacco is included in cigarettes, American leaf accounts for about 2.3 cents of every dollar spent by U.S. consumers on tobacco products. The remaining costs of non-tobacco components, such as paper, filters, and packaging accounts for about 7 percent of the total cost to consumers, with state and federal excise taxes contributing about 26 percent combined (on average); wholesale, retail and transportation costs contributing about 21 percent; and manufacturing contributing about 43 percent of the cost to consumers. This information is represented in Figure 2.



Source: H. Frederick Gale, Jr., et. al, *Tobacco and the Economy: Farms, Jobs, and Communities*. Economic Research Service, United States Department of Agriculture, September 2000.

If the price support loans were absent, and leaf prices were thus allowed to fluctuate more widely even in a production-controlled environment, it is very possible that tobacco products would be more expensive due to the need to account for occasional peaks in wholesale price. The influence of tobacco of foreign origin on domestic cigarette costs is open to question. While tobacco imports tend to be considerably less expensive than domestic leaf, it has not until recently been of sufficient quality to comprise a substantial portion of most standard and premium brand cigarettes.

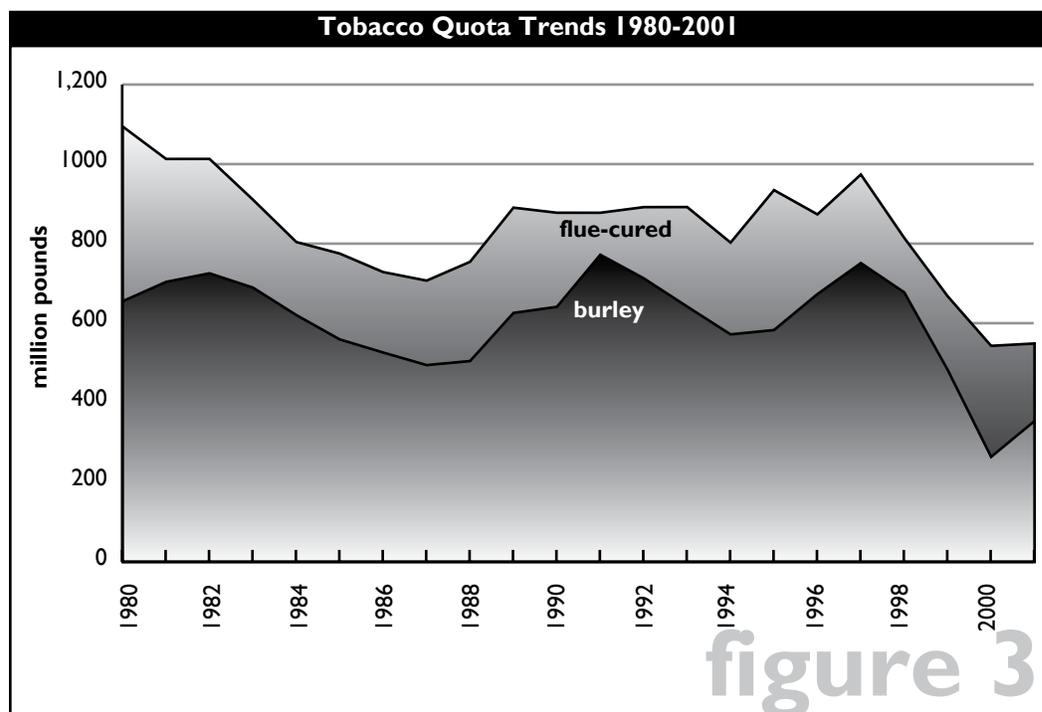
in 1994. Funds are deposited into an escrow account that is used to cover losses in the loan fund that occur when a cooperative sells collateral tobacco at a price insufficient to cover the loan amount and interest. Between 1990 and 1997, a budget deficit reduction assessment of 1 percent of the support price also was collected under the requirements of the Omnibus Budget Reconciliation Act of 1990. This collection has been discontinued.

Because of the “No-net Cost Tobacco Program Act,” tobacco growers and purchasers shoulder almost the entire burden of operating the program, with the USDA providing support for a market news service and commodity and administrative activities that are consistent with the USDA’s mission to serve the interests of important economic crops. The USDA discontinued all research activities with respect to tobacco in 1995, and stopped funding extension activities for tobacco in 1998. All state and county research and extension work on tobacco is conducted and funded by the states.

Because the support price is the value the government assigns to a given lot of tobacco as collateral for a loan, the support price is the effective loan rate for the crop. Price support is based on the previous year’s rate adjusted by changes in the 5-year moving average of prices (which has a two-thirds weight) and changes in a cost-of-production index (which has a one-third weight). The cost-of-production index helps to keep the price floor from dropping too drastically in response to declines in demand. The weighted average of various loan rates must equal the overall support level for each kind of tobacco. The secretary of agriculture has some discretion in changing the support levels.

Decline in Quota

In the past few years, tobacco quota has declined dramatically, largely as a result of declining domestic consumption, but compounded by an increase in the amount of imported tobacco in domestically-manufactured cigarettes. While the quota for the 2001 season offered growers some relief (a rebound for burley and a leveling off for flue-cured), quota remains at historically low levels. Figure 3 illustrates the decline in the basic quota for burley and flue-cured tobacco from 1980 to 2001.



Source: USDA, Economic Research Service, 2000.

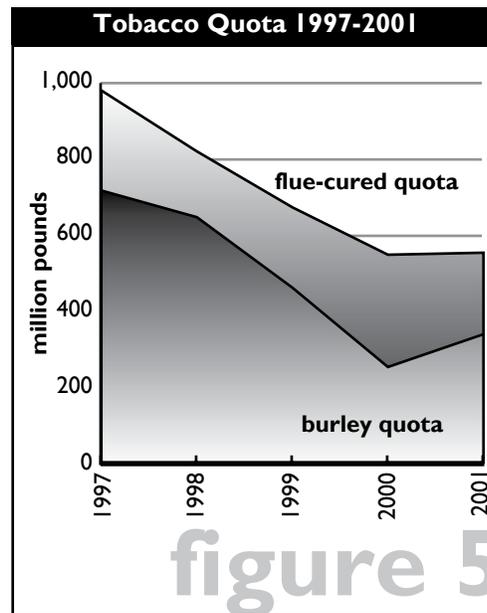
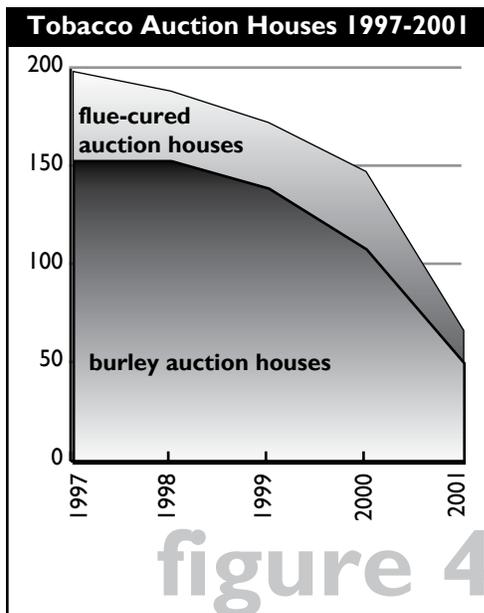
In part due to a drought across much of the region which resulted in a crop of exceptionally poor quality, the 1999 tobacco crop was declared a disaster by Congress. This action allowed tobacco cooperatives to clear their stocks of tobacco without penalty. This aided in generating a slight boost for the 2001 quota, which experienced a slight gain. The impact of this was most dramatically felt in burley tobacco, in which the quota rose one-third, from 247.4 million pounds to 332 million pounds. Flue-cured tobacco saw a much less dramatic increase to 548.9 million pounds, a one percent increase from the 543 million pound quota in 2000.

What is evident from Figure 3 is the massive slide in quotas in the past few years. Since 1997, burley tobacco has experienced a 52 percent decline in quota, with a less extreme 44 percent decline in quota for flue-cured tobacco. The rebound experienced in 2001 cushioned this trend, particularly for burley, although the dramatic loss of income for tobacco farmers over the past four years has caused worries among tobacco growers.

The quota system has been remarkably successful in keeping tobacco production economically viable. Among major crops in the tobacco production zone, burley and flue-cured tobacco provide the greatest return per acre, generally over \$2,000 an acre, and sometimes more than \$3,000 an acre. The next most productive major crops are cotton and peanuts, which average roughly one-tenth the gross production value. Significantly, both cotton and peanuts have operated under production and marketing systems intended to artificially boost prices. Corn and soybeans, both of which are marketed in a less restricted environment, provide significantly lower returns. The quota system has apportioned the high-value tobacco production among a great number of small producers, something that is not found in other, unprotected markets.

As tobacco quota has declined, the auction houses where tobacco is sold have declined as well. Tobacco warehouses are often ill-suited for other activities without considerable renovation. This is particularly true of warehouses located in rural areas which lack the capital resources and alternative uses necessary to convert these large buildings into profitable non-tobacco use. As a result, shuttered tobacco warehouses often are left vacant or are utilized on marginal enterprises. The drop in the number of warehouses has been steady since production began to decline, a trend accelerated by recent cuts in tobacco quota. As an example, in 1973, with annual flue-cured production at almost 1.2 billion pounds, there were 438 flue-cured warehouses operating in five states to handle the sales. Twenty-five years later, production dropped to 814 million pounds and there were 188 auction warehouses in operation.

Tobacco warehouses close for a variety of reasons, some not at all connected to the financial health of tobacco. Representatives of both warehouse associations point to trends similar to those elsewhere in agriculture as reasons for warehouses closing, including the retirement of operators who do not pass the business along to their family members, consolidation of multiple small operations into a single, larger unit, and the increasing costs of credit for capital improvements. This notwithstanding, the nearly 30 percent decline in production over the past quarter century (and an even more significant drop if the most recent years were taken into account) has seen a nearly 60 percent drop in the number of flue-cured warehouses. This trend also holds in burley auction warehouses, which also have declined dramatically over the past two decades. As quota began to drop significantly in 1997, auction house closures quickened. This trend was accelerated further in the 2001 season by the shift to contract production, which transferred tobacco sales from auction warehouses to non-auction contract receiving stations. Figures 4 and 5 illustrate this trend.



Source: USDA; Burley Auction Warehouse Association; Bright Leaf Auction Warehouse Association.

The price support program has made tobacco the most profitable large-scale agricultural product in America. It also has made it considerably more expensive than tobacco grown in other countries. Reducing the support price would have the effect of making tobacco more competitive in the export market and more attractive to domestic manufacturers, which now have more overseas options for high-quality leaf. Such a move also would reduce tobacco farmers' income (and quota rental rates), and likely would drive some farmers out of business. Tobacco farms are small on average, an anomaly in the current agricultural economy. A principal reason for the survival of these small farms is the high value of tobacco as a crop, yielding over \$1,000 per acre after expenses (and in some cases over \$2,000), while other crops and livestock most often yield less than \$100 per acre, and some less than \$50. While quota cuts have reduced the total amount of tobacco a producer can grow, price supports have offset some of the impact of production declines through an elevated price floor for tobacco. Reductions in price supports would cut into this relief and, in turn, force some, mostly smaller, tobacco farmers out of business.

A limitation of the federal program is that while it provides price stability, it involves considerable production (or quota) instability. The price for U.S. tobacco growers has been relatively inelastic over the past few years. The cost of this stability has been a highly volatile supply situation, as witnessed by the quota slide that began in 1997. Without a quota system, prices would have fluctuated as global demand lagged to boost sales of U.S. leaf, albeit at a considerably discounted price.

Under a production-restriction regime, existing oversupply is remedied by cutting production, which provides an opportunity for surplus stocks to drop and should result in a rebound in demand. This system works most effectively when demand is affected by consumption needs. When demand is affected by international supply sources, which usually respond to domestic production restrictions by increased production, the effectiveness of the restrictions of removing excess stocks to allow for increases in production is limited. The quota formula, as redesigned in 1985, was intended to encourage tobacco companies to either boost future purchase intentions or buy from the pool when supply is restricted. Tobacco companies instead began increasing their reliance on imported leaf and overseas production, a move that helps keep the quota formula from effecting a stable equilibrium.

The drop in quota affects another part of the industry as well: tobacco companies, which require a predictable supply of tobacco of specific types and quality to manufacture their products. While declining quota reflects drops in leaf purchases by tobacco companies, domestic supply needs to be sufficient to ensure both an adequate supply overall, as well as to guarantee that the particular grades of tobacco they require are available. In a market in which the quota is too low, tobacco companies note, they may be able to satisfy the first component—adequate supply overall—but would be forced to accept as a portion of that supply an unacceptable portion of tobacco that is not of the appropriate quality to meet their needs. A constricted supply chain could also lead to shortages of tobacco of any quality for cigarette production. It is for these reasons that the industry has piloted direct sales through marketing contracts with producers.

Contracting in Tobacco

In 1999, Philip Morris announced its intention to begin contracting directly with U.S. tobacco farmers. Coming as it did in the midst of an unprecedented slide in tobacco quotas, this decision was viewed by many American tobacco farmers as more bad news. In response to grower concerns, Philip Morris delayed its "partnering" program until the 2000 season, when it contracted with burley tobacco growers for more than 80 million pounds of tobacco. In addition, RJ Reynolds and Star Scientific contracted for low-nitrosamine flue-cured tobacco in 2000 as well, amounting to a little more than 50 million pounds. All of the major tobacco companies purchased tobacco directly from growers through contracts in the 2001 season. Contracting in the 2001 season accounted for nearly 80 percent of all flue-cured tobacco marketed and, as of the first week of January, 65 percent of all burley tobacco marketed. This shift from the traditional auction system to a direct marketing system has major implications for growers, auction warehouses and tobacco communities.

What Is Contracting?

In agriculture, contracts between farmers and processors or other farmers are an increasingly common marketing option, with a considerable amount of production coming under contract every year. Contracts in business usually relate to the supply of goods or services at a pre-arranged or "fixed" price. Contracts in any sector are intended to reduce risks and stabilize quality and price fluctuations for both producers and processors.

Contracts in agriculture vary in their complexity, terms, conditions and scope depending on the commodity involved and even within the commodity where specific characteristics are desired. Traditionally, farmers produce and sell their farm output in an open market consisting of local and regional buyers who serve as the entry point for food into the retail and wholesale distribution network. This system provides the producer with considerable independence, but also substantial risk. The quantity and quality of a farmer's output, which determines the income for the crop, is dependent on a host of factors, including not only the farmer's efforts, decisions and practices, but also on elements beyond a producer's control, such as weather. Under this system, buyers of produce are unsure of the

quantity and quality they will be able to purchase and at what price. In the end, in addition to considerable uncertainty and risk on both sides, traditional market sales also result in produce reaching the market with variation in quality, size, shape, and quantity. Contracting is seen as a means for farmers to reduce price and production risk and for buyers to both reduce supply and quality uncertainties and to signal to growers more directly the quality and quantity that they want.

Agriculture has moved toward contracting steadily since the 1960s, with some contract production (mostly market vegetables for grocery chains) dating back to the 1900s. Today, contracting accounts for nearly one-third of the total value of production on U.S. farms. In terms of the number of farms involved, only 6 percent of all farms used contracts in 1969 to raise 12 percent of the total value of agricultural production. By 1998, 11 percent of all farms used contracts to raise 35 percent of the total value of agricultural production. While contracting has been used by cigar and chewing tobacco manufacturers, cigarette companies only began direct purchases of burley and flue-cured tobacco in 2000, a quantum shift in marketing that has caused a stir unlike any other since the inception of the federal tobacco program in the 1930s.

Types of Contracts

Generally, there are two kinds of agricultural contracts: marketing contracts and production contracts. Marketing contracts establish a pricing mechanism, usually a set price for established quality grades, and delivery procedures for a commodity. The producer makes most, if not all, management decisions and owns the commodity until marketing, thus bearing all the risk. Most contracted production in the United States is under marketing contracts.

Production contracts shift much of the management authority from the grower to the purchaser, usually a processing company. In a production contract, growers are required to abide by production conditions stipulated in their contract and may be supplied with inputs by the buyer (or contractor), provided technical guidance for production or given other forms of support. At marketing, producers are paid according to a pricing mechanism similar to one under a marketing contract, with inputs and contractor-borne costs removed. The buyer assumes some of the risk in a production contract, and usually retains ownership of the contracted crop or animal throughout, generally retaining a larger share of the profits. Growers are restricted from marketing the product outside of the contract.

In agriculture, contracting can offer benefits to both parties. Contracts are essentially risk management tools and, depending on the type and nature of the contract, are able to mitigate a producer's marketing and production risks to varying degrees by identifying the market outlet prior to planting, and by guaranteeing access to improved varieties, technical support, and proprietary inputs. In addition, contracts can offer producers protection from financial risk, since they guarantee a cash flow while possibly reducing overall capital needs, and may also provide access to new sources of capital. Finally, contracting can offer growers access to markets and higher prices for adopting prescribed production practices. For the contracting company, the advantages of contract arrangements are many, including control over production practices, input use, genetics, and handling; management of product supply; retention of control over the use of genetic innovations and other patent-protected technologies.

Contracts also involve trade-offs for producers. In exchange for increased access to capital and markets and reduced risks, contract producers relinquish some independence. Contract producers also may be exposed to higher production costs, lower yields, production attrition due to partial rejection of a crop for quality considerations, and major investments in special buildings and equipment. This final consideration can be particularly problematic if

investments must be financed for periods extending beyond the terms of the contract. There also are risks of not being paid or having lengthy delays before a contract is settled. In addition, contracts often involve complicated procedures for resolving disputes over payment or delivery. Under most traditional marketing systems, producers have clear recourse to the courts should a buyer dispute payment. With contracts involving premiums for quality or discounts or disqualifications for substandard goods, the contractor generally has extensive discretion in how strictly quality controls are applied. While usually not prohibited in contract agreements, resolution of disputes over these matters through the courts is costly and difficult.

Contracts in Tobacco

For many parts of the rest of the tobacco-growing world, contract production is the preferred marketing method. This is especially true in Brazil, Mexico, and Argentina (although not Zimbabwe, home to the world's largest tobacco auction). Worldwide, 81 percent of flue-cured and 54 percent of burley tobacco are grown under some kind of contract. In many other countries, the absence of a history of tobacco cultivation, limited extension resources, and a lack of available credit and inputs for producers have led to the establishment of production contracts for tobacco. Companies often provide seeds, fertilizer, pesticides, and technical support as well as facilitating access to credit. In the absence of alternative risk management tools in much of the rest of the world, contracting provides a manner of income security provided to American growers through the federal price support program.

In the United States, direct, but not contract, sales of tobacco to manufacturers have been common for chewing and cigar tobacco for decades, but rare for burley and flue-cured varieties. Tobacco destined for use in chewing tobacco, snuff, and cigars is a relatively small segment of the U.S. tobacco market. In some instances, distances to markets are prohibitive for farmers, making direct marketing desirable. Nonetheless, the existence of a public market for these tobacco varieties and their inclusion in the federal price support program have made such "barn-door" sales a secure marketing option. Contracts are well established for growers of organic tobacco who sell to specialty cigarette manufacturers. Makers of specialty tobacco products, particularly organic cigarettes, often have specific cultural and production requirements that are beyond the capacity of the auction system to supply. Growers contracting for these products receive price premiums for their tobacco, although their production still must fall within the quota system.

When Philip Morris, the largest buyer of American leaf, made its announcement in 1999 and initiated a pilot project in 2000 to contract with Kentucky and Tennessee burley growers, the nature of the U.S. tobacco market was dramatically altered. The Philip Morris pilot program was designed to operate within the federal tobacco program, with growers allowed to contract only that amount of tobacco for which they had quota. Within these production controls, however, Philip Morris sought to rearrange its buying patterns in one season. Philip Morris' continued reliance on the auction system in the 2000 season, and its stated intention to buy at auction in 2001, limits only slightly the ramifications of its decision to purchase large volumes of tobacco directly from growers. Because of Philip Morris' dominant position in the domestic tobacco market, the intention by the company to contract was quickly matched by others in the industry.

According to Philip Morris representatives, the principal reason for establishing contract relationships was a need for supply security. Specifically, Philip Morris expressed concern that it was having increasing difficulty purchasing sufficient quantities of the specific grades of tobacco it requires to

make its cigarettes through the traditional marketing system. The system for grading and auctioning tobacco also does not meet the differential values of quality grades it desires.* Furthermore, swelling stocks of largely low-grade tobacco in the stabilization pool had long concerned the industry. As stabilization pools increase, they have the effect of reducing the available quota and thus the amount of high quality tobacco that can come to auction. When the USDA announced a 45 percent cut in burley tobacco quota, Philip Morris, the largest purchaser of domestic burley, decided that it could not accept the risks associated with such a limited pool of tobacco (the effective quota in 2000 was 361 million pounds).

The intersection of a quota crunch and the tobacco industry's dissatisfaction with the federal grading system were compounded by other factors. Among these, a basic realignment in the way the companies want to acquire leaf tobacco in order to improve efficiencies was perhaps the most significant. Also a likely factor contributing to the shift to contracting was the 1998 landmark settlement between the five major tobacco companies and 46 states' attorneys general, which placed additional financial pressure on the industry to limit expenses and improve control over supply. Furthermore, the possibility of regulation by the U.S. Food and Drug Administration motivated the industry to establish avenues that allow them to prescribe harm-reduction practices, including improved genetics and cultivation and specialized curing processes to growers. Along these lines, contracting gives the industry better monitoring of production practices that could introduce prohibited or undesirable chemicals into tobacco leaf. Furthermore, the adoption of technological innovations, most specifically new curing techniques, can be accelerated through contract production.

The burley contracts offered by Philip Morris in the 2000 season were essentially marketing contracts with some limited production guidelines. Philip Morris established six receiving stations in Kentucky and two in Tennessee, to which farmers were to deliver their tobacco on a specified day. The tobacco was then weighed, graded, and tested for moisture content by company officials. Growers were paid according to a pre-announced price schedule for the amount in each grade. Company, rather than federal, graders were used in establishing the grades for the tobacco, and no federal grade was assigned. These graders usually were experienced buyers or graders who had been trained in the Philip Morris grading system. No-net cost and burley promotion fees were deducted, but grading and warehouse fees, which pay for federal grading and the stabilization costs, were not. Barring any disputes, farmers were paid the day they delivered their tobacco, a major advantage over the delay in payment associated with the auction system.

Farmers unhappy with the assessment of grades have the option of getting a second opinion from another on-site grader and, if still dissatisfied, of pulling their lot off the floor and delivering it to auction to sell. Purchases are on an all-or-nothing basis, with farmers required to reject the Philip Morris price on all of their contracted tobacco if they disagreed with the offered price on any "basket." This, in part, protects Philip Morris from growers rejecting the offered price on the highest grades of tobacco but accepting the price offered on lower grades. Partial rejection could force the company to purchase a disproportionate volume of high grade tobacco at auction. Growers also are required to contract

*The stabilization pool is composed of all tobacco that is transferred from growers to the commodity cooperative under the price support system. If growers are not offered a bid on a particular lot of tobacco that meets price support levels, they have the option of surrendering the lot to the cooperative (stabilization) board for the price support level. The stabilization board pays growers with loans from the Commodity Credit Corporation, and later resells the lots in order to recoup the loan plus interest.

their entire allotment to Philip Morris. Although growers sign a contract with the company, they are permitted to place their crop on the auction floor if they so chose.

The amount of tobacco sold via contract in the 2000 season was impressive. Philip Morris' pilot project enrolled 10,749 sellers, who raised 87.1 million pounds of burley tobacco, almost 30 percent of the total poundage sold. Early estimates of the volume of contracted leaf were set at around 110 million pounds or more, with some projections indicating as much as half of all tobacco sold would be purchased through contracts. A combination of an exceptional season and high auction prices may have enticed many farmers who had contracted their tobacco to Philip Morris to put their tobacco on the auction floor, instead.

Throughout its discussion of contract purchases of tobacco, Philip Morris noted that it did not anticipate meeting all of its tobacco needs through contracting. Philip Morris did purchase a significant amount of burley through the auction market, and it is reasonable to conclude that it is in the interest of the industry to have direct marketing and auction sales co-exist for at least the near term. In a transition period, and probably for some time afterwards, cigarette manufacturers likely will find it necessary to have a pool of auction tobacco to fill out their leaf requirements.

Because it offers tobacco companies greater control over the quality and quantity of tobacco they purchase, contracting may prove, in the long-term, to be the marketing method the industry prefers for nearly all domestically-purchased tobacco. Companies that purchase tobacco specifically for export would likely be harmed by a total transition to contract production. Because these companies prize selectivity, contracting would potentially saddle them with quantities of lower grade leaf that they may not be able to sell. The current auction market provides them with the opportunity to pick and choose among grades. Under a contracting regime, these companies likely would have to purchase all grades from a producer and then resell the unwanted portion of their purchases to domestic companies, possibly at a loss. Another possibility is that they would contract with a leaf dealer that contracts with farmers for all grades and then act as a clearinghouse for tobacco. This latter option is common in many other tobacco-producing countries.

In the United States, tobacco contracts generally are marketing contracts, with some production requirements. They last anywhere from one to three years, and cover all of a grower's production across all stalk positions and grades. Contract production also is conducted within the current price support program, so all tobacco sold directly is deducted from a producer's marketing card, as it would be when sold at auction. Among the terms a typical contract may include are:

- ▶ Specifications on where and how the tobacco is to be delivered, generally including separation into bales of less than 100 pounds with a moisture content of less than a set amount (24 percent in most contracts);
- ▶ Provisions for the amount of tobacco to be contracted and allowances for substitution of current year crop with carryover tobacco;
- ▶ Definitions of prices for each grade;
- ▶ Requirements that contracted tobacco be stripped and separated into at least three stalk positions, maintaining normal grade distributions by stalk position;
- ▶ Descriptions of allowable seed varieties;

- ▶ Definitions of approved or prohibited cultural and agronomic practices, including the use of only government-approved chemicals applied in accordance with recommended procedures and regulations and restrictions on the use of chemical ripening agents;
- ▶ Restrictions on where contracted tobacco may be grown (generally, it must be grown on the contracted farm and cannot be leased out);
- ▶ Requirements for ownership of and clear title to the land to be used for production;
- ▶ Provisions for access to contracting growers' farms and requirements for record-keeping for review by a contracting company;
- ▶ Distributions of weight allowances for each specified stalk position by percentage;
- ▶ Provisions for dispute resolution;
- ▶ Prohibitions on the disclosure of contract terms;
- ▶ Procedures and schedules for grading and testing the tobacco;
- ▶ Expectations for a minimum number of harvests per season;
- ▶ Requirements to abide by applicable state and federal laws, e.g., Fair Labor Standards Act, Migrant and Seasonal Agricultural Workers Protection Act;
- ▶ Listings of any fees or payments to be made to or by either party; and
- ▶ Correlation between contract grades and USDA grades.

Because contracting in flue-cured tobacco involves the conversion of curing barns to new technologies, contracts for this kind of tobacco include requirements to sell only low-nitrosamine tobacco, and may outline which methods of curing this will entail.

Also, as noted, contracting offered farmers higher prices for their tobacco than the auction market in 2000 and 2001. In order to induce farmers to sell through contracts, the financial benefits and reduced risks of contracting have to outweigh the price potential on the open market. Indeed, the competition to lure farmers in to the auction market and the competition between flue-cured contracting companies to secure farmers has the effect of driving up the price of tobacco sold both at auction and through contracts.

An indication of just how swiftly contracting has established itself in tobacco, it is only necessary to look at the 1999 season, when contract sales literally did not register for the two major types of tobacco. In the 2000 season, more than 250 farmers, primarily in Virginia and North Carolina, contracted with Star Scientific in 2000. RJ Reynolds contracted with an unspecified number of farmers for almost all of their flue-cured needs in 2000. In all, 49.8 million pounds of flue-cured tobacco were marketed through non-auction sales, mostly direct contracts, in the 2000 season compared to 574.7 million pounds sold at auction. By 2001, the volume of tobacco sold through contracts was enormous. In flue-cured, contract sales totaled 440.5 million pounds, or nearly 85 percent of the total 554.6 million pounds sold. The impact in the burley market, while of lesser magnitude, was still considerable, with contract sales accounting for roughly 65 percent of total sales as of the Christmas sales break.

Controversy over Contracts

The most commonly cited concern over contract agriculture is the relative power of the parties involved. In the presence of an open market, farmers who do not like the terms of a contract can take their output and sell to buyers

through a market arrangement. In the absence of open markets, critics maintain that integrators and other contract buyers have disproportionate influence in determining contract terms, prices and conditions, and can penalize growers who object to contract terms. These complaints most are often lodged against production contracts, in which a grower's independence often is very limited.

Contract production in tobacco has emerged at a time when there is close attention being paid to the trend toward vertical integration in much of agriculture. Tobacco, a sector that is already heavily concentrated, has for years had a supply control and price support program that has given producers an edge in price negotiations, even in the presence of limited competition. Tobacco production also benefits from a limited geographic range. Because tobacco production is currently conducted in a geographically compact area, all competing tobacco companies are able to operate in almost every market, providing competition and alternative outlets for producers.

How this situation will change under widespread tobacco contracting is hard to predict. In response to concerns over contracting, a number of state legislatures have introduced legislation to provide some protections to producers engaged in contract agriculture. Although largely driven by production contracts, model legislation developed by the Iowa attorney general's office includes a number of proposals being sought by tobacco growers' groups. Among them are:

- ▶ Requirements that contracts be written in plain English and clearly disclose risks;
- ▶ Provisions for a cooling-off period and a right to review contracts with outside counsel;
- ▶ Prohibitions against confidentiality of terms;
- ▶ Protections from early terminations of contracts; and
- ▶ Protections for growers who participate in producer associations or other groups.

Other contracting-related proposals include requiring mediation clauses in contracts and joint and severable liability for contracts of subsidiaries, tying parent companies to a subsidiary's contracts. Such "producer protection acts" have the endorsement of attorneys general from 16 states as well as support from members of Congress. To date, the only tobacco state that has adopted any contracting legislation of this nature is Georgia, which passed HB1245 during the 2000 session. In part, the legislation provides growers the right to have contracts reviewed by outside counsel prior to execution, requires tobacco contracts to be written in plain English, and allows for a three-day "cooling-off" period.

Possible Impacts of Contracting in Tobacco

End of the Federal Program

There are a number of unanswered questions about the impacts of contracting in tobacco. Possibly the most important is the fate of the federal tobacco program. As more tobacco shifts to contracting, the future of the federal tobacco program is brought into question. Flue-cured and burley quota holders voted to continue tobacco quotas for the 2001 through 2003 seasons, which would seem to protect the program for at least two more years. However, there are several variables that threaten the price support and production controls that have served American growers since the 1930s. Threats to the tobacco program are not new, but the momentum to eliminate government intervention in markets, the recent volatility of quotas, and the status of global tobacco trade make the program more tenuous than ever before. Most observers agree that the elimination of the program would have the effect of increasing tobacco

production in the United States, dropping the price for manufacturers and exporters (although not necessarily for consumers), consolidating tobacco farms and reducing the number of tobacco farmers dramatically.

Additionally, there is the possibility that grading fees may not cover the costs of the system (since fees are established prior to the opening of the season), causing the demise of the grading system. Since the program is dependent on the shared costs of the grading system, as the number of producers paying for the grading system decrease, the per-grower costs rise. At some point, warehouse and grading fees could rise above a tolerable threshold, and growers would be at too great a price disadvantage to continue to pay them. Within a season in which there were insufficient grading fees collected to cover the cost of the system due to an unanticipated shift to contracting, there is a very real possibility that the system could essentially stop operating due to a lack of funds.

Should this come to pass, production controls would remain in place, but no price support could be offered because there would not be a federal grade attached to the tobacco. Any leaf placed in stabilization lacking a grade could have no price guarantee, and the stabilization pool could amount to little more than a consignment service. Furthermore, growers with contracts who are guaranteed a market and a price may perceive the federal program as limiting their income by restricting their production. Thus, in future referenda, the program potentially could be at risk. In reality, since the tobacco firms have to meet or exceed the loan rate (support price) for tobacco, the program sets the floor for the program. Absent this floor, tobacco prices could slip in the face of buyer pressure and competition from foreign leaf.

One of the additional complications that could arise with widespread contract production is a drop in the amount of publicly-reported market information. Public sales disclosure was a keystone piece of the regulation of tobacco markets in the 1930s. Under the current program, the USDA releases daily market news reports of sales volumes and prices, as well as information on loan stocks and transfers into stabilization pools. Farmers can use this information in making decisions on marketing their crop and bids they receive for their tobacco at auction. In the absence of this information, farmers will have no measure for judging whether the price they are offered for their tobacco is reasonable, and contract growers have no signals as to whether their contract prices are superior to those on the market. In the absence of an auction system in which all farmers sell directly, the lack of market reporting places growers at a disadvantage in assessing the comparative value of their produce and makes it difficult for regulators to determine if marketing firms are abusing their market strength.

While the tobacco industry has committed its support to the tobacco program for as long as tobacco growers continue to endorse it in grower referendums, contracting in the end could undermine the program's effectiveness for growers. The federal program is not without its perils, however. Chief among these is its tendency to make domestic tobacco more expensive, and thus less competitive, than foreign tobacco. Furthermore, with the federal program as it stands, the benefits of increases in prices paid for tobacco under either marketing structure accrue to quota holders. Often, quota holders are not the individuals producing the tobacco, either leasing out part of all of their allotment or farming with partners on a share basis. Generally, when tobacco prices rise, so does the value of tobacco quota. Thus, leasing growers, who must make the labor investment to produce a quality crop, might not witness a satisfactory return if quota rental costs consume the bulk of the added value of the crop. Furthermore, the net effect of American prices supported so far above the global market price, in addition to increasing lease prices for growers—essentially a transfer of the

benefit of contracting from grower to quota holder—is a further erosion of the price competitiveness of U.S. leaf in the export market.

Changes for Auctions and Warehouses

This raises the question of the critical mass of tobacco that must go through the auction system in order to keep it functioning. As noted, nearly 80 percent of flue-cured tobacco sold in the 2001 season was sold through contracts, and nearly 65 percent of burley tobacco was sold by contract. The number of warehouses has been declining along with quota over the past few years, and the diversion of tobacco from the auction market to direct sales will accelerated this trend in the 2001 season.

The attrition of auction warehouses in both flue-cured and burley tobacco is considerable. For both flue-cured and burley tobacco, nearly two-thirds of the auction houses in operation in 1999 no longer are in business. In 1999, 172 flue-cured auction warehouses opened. By 2000, the number of auction warehouses in operation was down to 147. In the 2001 season the number was 66. For burley tobacco the decline was from 140 in 1999 to 109 in 2000 to 51 in 2001. A number of these warehouses served as contract receiving stations, but the total number of receiving stations is far less than the number of lost warehouses, particularly meaningful in a season when quota was either flat (flue-cured) or slightly up (burley) from the previous year. The total number of flue-cured receiving stations in the 2001 season was 45; for burley, there were 32. No auction houses opened in Florida in 2001, down from four that opened in 2000.

In response to the shift to contracting, the flue-cured cooperative established two pilot tobacco marketing centers in 2001 and will expand this to 14 auction market centers for the 2002 season. These centers, located to give farmers access throughout the production area, are operated by the stabilization board in a manner similar to contract receiving stations. No warehouse charges, auction fees or commissions are deducted from the farmer's sales proceeds.

If the federal tobacco program is to survive, an open market system must exist in order to provide an outlet for non-contract tobacco. As contracting expands, the nature of the auction system may change radically. Most contracts provide growers the option of rejecting the company grade and selling their tobacco at auction without restriction. To date, no partial rejections have been allowed, thus a farmer's entire production across all grades would enter the auction system. Tobacco companies most likely will try to reject as little tobacco as possible in order to capture maximum contracted volume and thus reduce the amount they must buy on the auction market. Thus, rejected tobacco likely will be either of exceptionally high quality, since a grower might conclude it would fetch a higher price at market or, more likely, of low quality. The complication then rises that the auction market may become flooded with low-grade tobacco. This, in turn, would lead to a number of problems. First, if auction houses become the point of sales for low-quality tobacco, it is likely that fewer buyers will use this outlet. Second, if auction sales are predominantly low-grade tobacco, prices paid at auction will drop, and more tobacco will likely enter the stabilization pools. The issue of Philip Morris' ability to buy tobacco from stabilization pools that met their needs arose in its initial announcement of direct contracting. If even more low-grade tobacco enters the pool, existing stocks will rise with little hope for recoupment or disbursement. Swelling stabilization stocks also would cause further quota cuts.

Since fewer receiving stations are needed in a contracting system than warehouses in an auction system, there will be a net loss in tobacco marketing facilities. Some well-located warehouses will become receiving stations for tobacco contractors, but other warehouses simply will close. This is a part of the efficiency gain of the contracting system, but for rural communities, it can

represent a significant loss. When a warehouse closes, the community suffers the loss of both permanent and seasonal employment, residual business sales, and gains a large, permanent building with few potential alternative uses without expensive conversion costs. Furthermore, as warehouses close, there will be an anticipated geographic concentration of auction houses in high volume markets in the upcoming seasons, adding to the transportation costs for producers and further eroding the value of tobacco sold at auction.

Who Gets to Play?

Both for growers and buyers, contracts usually are most efficient for larger producers. In its pilot year, Philip Morris signed contracts with growers of all sizes, with agreements ranging in size from fewer than 100 pounds to more than 100,000 pounds. Nearly half the agreements the company signed were with farmers who grow fewer than 5,000 pounds. Philip Morris' contract distribution reflects the distribution of burley growers fairly well. In other commodities, however, contracting tends to be more common among larger producers.

Few tobacco operations are truly huge, so the short-term potential for production concentration is limited, particularly within the framework of the quota system. In the long-run, with or without a program, larger farmers likely will be better situated to take advantage of the benefits of contracting. Furthermore, farmers with large amounts of tobacco to market may find the price and market security of contracts more attractive than farmers with smaller quota, and thus will be disproportionately represented in contracting.

If contracting becomes the exclusive avenue for high-value sales, demand for contracts may exceed the number extended by tobacco companies. In this situation, willing growers would be frozen out of the contract market, and thus potentially out of the market altogether should the auction system vanish or prove inaccessible. In a situation in which the demand for contracts exceeds the number that are offered, other sectors of agriculture have had negative experiences with growers having their contracts revoked or not renewed to penalize growers who have been critical of the integrator. In the current tobacco environment this seems unlikely, but it is a concern voiced by growers throughout the tobacco region.

An additional possibility is the geographic spread of tobacco production in the absence of a tobacco program. While unlikely in the short run due to the concentration of existing experienced growers, receiving stations, and manufacturing facilities in the tobacco belt, there are few agronomic limitations to growing tobacco elsewhere. Should the federal program be discontinued, the advantage of growing tobacco on larger parcels of land or on a different harvest cycle may offer incentives for the introduction of new tobacco acreage outside the historical range of cultivation. It is particularly likely that in a vertically-integrated production system tobacco companies may choose to cultivate, either through contracts, subsidiaries or directly, large acreages near export centers for growth markets, particularly in the western United States.

Another geographic concern related to contracting is the possibility that contracting will concentrate around receiving stations, leaving contract producers in distant areas unable to compete with proximate growers, or potentially unable to secure contracts at all. In Missouri, where growers faced this challenge in the 2000 season, a local warehouse served as a collection point for transshipment of tobacco to the nearest receiving station. The added costs and risks associated with this were borne by the producers. In the future, warehouses not affiliated with contracting companies could serve as cooperative collection points for growers, but companies would have to agree to accept leaf from growers who are not on site. Such arrangements also pose significant challenges for dispute resolution processes and grade acceptance, since the involved grower would not be present to pursue second grading opinions and dispute follow-up procedures.

A thorny issue for many growers is the extent to which contracting companies will dictate management decisions, cultivation practices or technological innovations. Contracts for flue-cured tobacco already stipulate the installation of heat exchangers in barns to produce a low-nitrosamine tobacco. As research continues, farmers are worried that new cultivation, harvesting or curing techniques could require them to make large capital investments that would essentially lock them into company contracts. If future contracts were to require additional investment, growers would look to contracting companies for financial assistance for their implementation, as RJ Reynolds and Star Scientific provided with their low-nitrosamine contracts.

A Sign of What's to Come?

Tobacco production in much of the rest of the world is conducted through contracts. Unlike contract production in the United States, however, these agreements tend to be production contracts, with considerable control exercised by the buyer. This is necessary in these markets for several reasons, including limited technical extension support and access to capital. In the United States, production contracts still are not a considerable factor in tobacco, and the tobacco industry has emphasized its commitment to grower independence. Since the principal reason for instituting contract arrangements is to control the quality and quantity of leaf that a company buys, there are some obvious advantages in inserting production measures into contracts. Production measures currently are components only for tobacco grown organically and for genetically-modified tobacco. Requirements to separate leaf by stalk position and restrictions on chemicals and varietal selection in current contracts are very different from mandates to use company-supplied seed and chemicals, on a timetable provided, and to allow for on-site inspection. Delivering and monitoring such a system involves a massive investment, both of capital and personnel. Such a shift also would face cultural and social resistance from the grower community.

A major concern of growers is the possibility of vertical integration in the tobacco industry. Tobacco, while concentrated at the manufacturing level, actually is remarkably differentiated in structure. In the United States, growers, auction houses, wholesalers and retail outlets are usually independent operators in an open and competitive market. There are concerns that the current wave of contracting eventually will lead to production contracts and vertical integration as tobacco companies strive to introduce more sophisticated, and possibly proprietary, harm-reduction measures, transgenic and other improved varieties, and special harvesting and curing procedures. Production contracts, which shift ownership of the tobacco in the ground at least partially to the purchaser, would be a significant step to ownership of every phase of the tobacco life-cycle, from seed to cigarette.

What Does It All Mean?

The 2001 tobacco season was a watershed year for the crop, where for the first time in contemporary history auction sales were not the dominant avenue for tobacco sales. It still is uncertain that a dual auction/contracting marketing system can survive. After years of quota cuts, growers and warehouses alike face a tenuous situation. The tobacco companies have become increasingly worried about their ability to secure the quality and quantity of tobacco they require for their products in a shrinking domestic tobacco market. Contracting provides both growers and the tobacco industry an opportunity to share risks and increase efficiency. Price and marketing risks in tobacco are, however, already mitigated by the presence of the federal price support program, which is itself threatened by the surge in contracting.

Given the advantages of having two healthy systems for at least a transition period, it would seem vital to provide growers, quota holders, tobacco warehouses and the tobacco industry with an adequate platform to conduct

business. In order for this to happen, it seems necessary that there be some supplemental support for the federal grading system in order to protect its financial security, possibly by having all grading conducted by federal graders. The Georgia General Assembly made federal grading a requirement of all tobacco sold under contract during its 2000 session. This solution has led to concerns that tobacco companies may move out of state to conduct their purchases, and has caused displeasure on the part of growers and tobacco companies over having to pay the costs of inspection. Furthermore, a transparent and public market is in the best interest of all parties. If this is assured, contracting need not lead to a net decline in marketing news or disclosure. Also, in order to minimize disputes, plain English contracts with the right to review by outside counsel and provisions for removal of the contract for review, and the right to cancel within a “cooling off” period, as have already been implemented in Georgia, are advisable.

In the presence of adequate protections, American tobacco farmers likely will weather this transition and emerge financially sound and productive. The future of domestic tobacco production is dependent on more than the manner in which the leaf is marketed. Drops in domestic consumption, shifts in global cigarette production, and an increasingly competitive global market may have a greater impact on the long-term viability of tobacco production as it exists today in the United States. Small farmers producing a few thousand pounds a year may find their ability to market their crop profitably undercut by factors entirely outside the debate on contracting. In some respects, contracting, with appropriate protections for both parties, may provide the most secure, predictable route to a stable tobacco market for American growers. The unanswered questions about the impact contracting will have and the uncertainty over the future is little salve for the worries of growers who have been beset with problems outside their control in the past decade, however. Understanding the anxiety in tobacco country and providing support to farmers and quota holders in this time of transition should be of utmost priority.

Direct sales to tobacco manufacturers is not without historical precedent, and is common practice for growers of many other kinds of tobacco, including dark-fired tobacco. But the shift to contract production for the core of America’s tobacco production—burley and flue-cured—represents a sea change of historic proportions in the tobacco industry.

The Future of the Program

Burley and flue-cured farmers overwhelmingly supported the federal tobacco program in the 2001 cycle of referendums. Nonetheless, there are a number of pressures at work that may cause the program to be greatly reduced, become irrelevant, or fold, including the shift to contract production, declining quota and the declining global and domestic demand for U.S. tobacco leaf. The most recent referendum of growers speaks to the importance of the tobacco program to American producers. The tobacco industry has stated its intention to support the program for as long as growers do, but a shift to offshore production and the introduction of contract production has undermined the relevance of the program.

Should the federal program come to an end, the price for American tobacco leaf would drop, increasing the demand for the product, which would lead to increased production and sales. Growers who are able to increase their plantings could take advantage of the absence of marketing restrictions and expand production to the largest extent possible, offsetting the losses related to price declines through increased volume. These opportunities for growth are not evenly distributed, however, and smaller farms, lacking the acreage or the capital for expansion, would face difficulty in competing. Larger and better capitalized farms, which already have the advantage of lower production costs, would further benefit through the lifting of market restrictions.

While the trend toward consolidation of farming operations has been a hallmark of post-World War II agriculture, tobacco farms have stood as the rare exception, thanks in no small part to the quota system of the tobacco program. Throughout much of the tobacco belt, tobacco farms are very small, particularly in Indiana, Kentucky, Maryland, Ohio, Tennessee, Virginia, and West Virginia. A handful of tobacco states have a disproportionate number of large growers, including Florida and South Carolina. These states could see growth in their tobacco markets at the loss of others in the flue-cured belt. In other states, larger or better capitalized operations would likely expand in size in order to lower production costs in response to the lifting of marketing restrictions.

Furthermore, as has been experienced in other commodities, consolidation in production capacity often results in a shift from family-controlled to integrated farming operations.

Such a change would result in significant dislocations in rural economies across the tobacco belt. Almost without exception, family farms raise all the tobacco grown in the United States. As tobacco farms consolidate or leave production, the economies surrounding these farms will suffer. Because tobacco has provided reliable income for farmers on relatively small parcels of land for so long, tobacco has, unlike any other crop, served as the foundation for rural economies throughout the tobacco growing region. Finding alternatives for production agriculture on these farms will be a major task, and it should be anticipated that at least some farms will not prove viable business entities without the federal tobacco program.

Furthermore, absent the geographic restrictions of the federal program, tobacco production could migrate anywhere in the United States. In the short term, according to North Carolina State University economist Blake Brown, a shift to low-cost production would result in declines for flue-cured production in the Piedmont area of North Carolina and Virginia and gains in southern Georgia and Florida; burley production would decline in Appalachia and expand in central Kentucky and Tennessee. Tobacco has, however, proven to be a highly adaptable plant, with farmers in a variety of climates showing success in producing quality crops around the world. Although U.S. tobacco has a nexus of infrastructure in the Southern part of the country, moving production and processing to new regions, including Texas and California, and expanding operations in Florida, is a very real possibility. The climate of these regions raises the possibility of two crop seasons, with the potential for very large acreage to be cultivated by a single entity.

What would happen if the federal tobacco program were to end is unclear. It is most likely that Kentucky would suffer the greatest loss, given the state's economic dependency on tobacco, with over half of all U.S. tobacco farms located in the state. Other states would suffer transformations of their tobacco economies, with concentration shifting production and regional tobacco centers experiencing growth or declines according to their production costs and ability to adapt. But should new regions enter into production with large-scale operations, all current tobacco-growing states stand to see major losses to their agricultural and rural economies. With or without production shifts to new areas, some rural communities will suffer devastating losses, most particularly those with high production costs and small farm sizes.

Discussions about the end of the federal program have been called premature by growers groups and the tobacco industry, but there have been calls from across the region for changes in the program. Although publicly quiet on the issue, the tobacco industry's statements and actions with respect to contracting indicate an interest in greater differentiation among tobacco grades; improvements to the grading and marketing system; changes in how tobacco is prepared for market; lower price support levels; and a shifting of quota into the hands of active growers. Tobacco producers would like to see adjustments to the quota formula to more accurately reflect export demand reductions in the required reserve stocks; requirements that tobacco companies purchase obligations be calculated from basic, and not effective, quota; and requirements for all tobacco, regardless of point of sale, to be federally graded.

The short-term outlook for tobacco production in the United States is far from rosy. Pressure from foreign leaf, export competition, shifts in consumption and declines in the use of domestic leaf all point to continued reductions in U.S. production. If the federal program endures, dropping demand will trigger further

quota cuts. If the price support level is lowered, purchase intentions should rise, buoying quota even as producer prices decline. Since such a move would lower quota value, and thus lease and transfer costs, the actual impact of price drops might be buffered for many growers. Such a move also would likely encourage further consolidation of quota. The end result of the manifold pressures on the tobacco sector will, in all likelihood, be to reduce production in the near-term and price in the long-term, with the consequences of forcing some producers out of the crop altogether.

Quota Buyout

Few issues are discussed more often by growers than the possibility of a quota buyout. Outside tobacco communities, however, the issue is little understood. The basic concept behind a quota buyout is to provide quota holders and farmers with one-time or installment payment in exchange for their tobacco allotment. In this manner, the quota system can be eliminated, while providing compensation to those who would stand to lose from the change. What most quota buyout proposals are not attempting to do is to eliminate tobacco production, usually, but to align U.S. growers to the conditions of the global marketplace by returning market signals to the U.S. production system. Maryland is a notable exception. A buyout of growers, now in its second year, is explicitly targeted at eliminating the state of tobacco farming, its oldest industry.

The concept of a tobacco buyout as a means of effecting a transformation of the U.S. tobacco market is not new. Most recently, Congress considered several proposals to phase out the program in 1998, in the wake of the Master Settlement Agreement. A bill introduced by Senator Richard Lugar of Indiana proposed to purchase tobacco quota from quota owners, lessors and tenants and phase out the program by the 1999 season. An alternative bill introduced by Senator Wendell Ford of Kentucky and co-sponsored by senators from most of the major tobacco-producing states had an opposite response to the changed landscape for tobacco in the aftermath of the Master Settlement Agreement (MSA): a retention of the quota system along with additional compensation for losses incurred by quota holders due to the settlement. While neither bill met with success, the underpinning concept of compensating tobacco farmers for lost revenue due to market changes and the transformation of the tobacco program gained considerable momentum from these discussions.

Recent reductions in quota have raised the costs of leasing or purchasing quota, and has reduced the supply available for growers looking to maintain or expand their production base. Demand also has increased as special payments from the “Phase II” settlement between growers and quota holders, and the federal disaster payments have been tied to quota. Thus, quota holders, a significant number of whom are not actively engaged in growing tobacco, have reaped benefits while active growers have seen their costs of production rise. It

is not likely that this situation will change in the short term, given the remaining restrictions on quota and the possibility of further payments tied to quota. In order to get quota into the hands of active growers, and therefore relieve the upward price pressure on quota leases and sales, existing quota owners would need to be compensated for their loss. Tobacco quota attached to a parcel of land affects the value of that land, and removing the quota from the land would amount to a reduction in value. Similarly, many tobacco quotas have been inherited by their current, non-producing owners and stand as valuable assets. While a buyout was unpopular with quota holders even four years ago, current trends have created an environment more conducive to a buyout, as quota holders witness the total value of their quota nibbled away by reductions. For policymakers, the concept of paying a quota holder or user a one-time fee to transfer the quota (or to eliminate it) has gained momentum as well, as the tobacco farmers' circumstances have become better understood by the general public. A recent proposal from the President's Commission on Improving Economic Opportunity in Communities Dependent on Tobacco Production While Protecting Public Health along these lines merits mention here.

When the President's Commission issued its final report in May 2001, among its most significant recommendations was the Tobacco Equity Reduction Program (TERP), which functions essentially as a buyout. Unlike previous plans, the TERP maintains production controls and price supports, but eliminates quota allotments by essentially converting to a permit system. Permits would have no value as they would be assigned annually to actual growers for production purposes only. Quota owners and growers would be based on the average basic quota level of 1997-1999 to owners and growers of record in crop year 2000. Compensation would be set at three levels – \$8 dollars per pound for quota holders, \$4 per pound for growers on every pound on which they agree to discontinue production, and \$2 per pound for growers on every pound on which they continue production. Payments would be made over five years through a non-revocable contract between the federal government and the quota owners and growers, without any payment limitation.

The TERP would retain the production controls and price supports of the existing tobacco program, with only active growers eligible to apply for permits. These permits would be issued to growers based on their previous year's effective quota, or the amount for which the grower was responsible, in the cases of shared quota. While overmarketing (up to 103 percent, as with the quota system) would be allowed, permit pounds could not be carried over to the next season if the grower fails to market the full permitted allotment. Unless it is determined that the undermarketing was beyond the control of the grower, failing to market 75 percent of the permitted amount of tobacco will result in the forfeiture of the permit to a county pool of permits, which is used for redistribution within the county. Any permit pounds not redistributed in the county would revert to a state pool for pro-rata distribution to all active growers within the state. It should be noted that the quota buyout from the President's Commission featured an unpopular funding mechanism: a 17-cent per pack excise tax on cigarettes for 10 years. Members of the Commission have acknowledged the difficulty involved in passing such a tax increase and have expressed willingness to seek out alternatives to fund the plan.

Eliminating quota while retaining production controls would greatly reduce the costs of production for those growers who do not own quota. While this would make tobacco more profitable for growers, it would do little to make U.S. tobacco more attractive to overseas buyers or to slow the transition to less costly foreign leaf. Over time the level of price support for American growers could decline slightly, but a number of the core limitations of the current system with regard to the global tobacco market remains. American growers remain insulated

from market signals other than those that restrict production. As domestic purchases decline further, something that is almost a long-term certainty given the state of the tobacco market, permits will be reduced, initially through voluntary attrition (those which are forfeited to the pool may simply be pulled out of circulation), but eventually through reduction or proration.

Other quota buyout proposals aim to provide compensation to growers in a transition to an open market for tobacco. One of the main purposes of compensation in this manner is to provide a “soft landing” for growers who almost certainly will see price declines at auction (or in contracts) once production controls and price supports are lifted. Among the questions that arise in discussions of a buyout are the value of a tobacco quota, how payments are to be apportioned, and how to pay for a buyout.

How Much is Quota Worth?

Quota currently has a market value, given that it is sold freely by farmers across the tobacco belt. The price established in current transfers is based on assumptions that do not necessarily apply to a buyout of quota. Among these is the duration of the tobacco program. Until just recently, tobacco growers would not have questioned the durability of the quota they were purchasing. The tobacco program is permanent legislation, and tobacco quotas usually have been affirmed by more than 90 percent of growers in much of the tobacco belt since the program was begun. Thus, tobacco quota was purchased on the assumption that it could be resold, if desired, or utilized in perpetuity. Given the current state of affairs, observers have begun to question the length of time that the program will continue to function.

Quota sales are not particularly heavy in the heart of the tobacco belt, and have declined considerably in the past few years as quota consolidates. Furthermore, uncertainty over the program and quota reductions has made long-term investments in quota riskier. Also, quota prices vary from region to region, responding to a variety of pressures, including cost of production, availability, and number of producers, among others. Finally, existing sales trends take place in an environment where only a small portion of the total available quota is on the market, which indicates that the current prices paid for quota are below what most quota owners are willing to accept.

In 1998, legislation proposed by both Senator Richard Lugar and Senator Wendell Ford proposed a buyout price of \$8 a pound, which was seen as acceptable by most quota owners, and was also used in the proposal from the President’s Commission on Tobacco in 2001. In Maryland, Governor Parris Glendening committed \$78 million (or 5 percent) of the state’s MSA funds to buy out the states tobacco producers at a rate of \$10 per pound for their certified production from 1996 to 1998, paid out over 10 years. Kentucky Governor Paul Patton recently proposed buying out the state’s burley and flue-cured quota owners at \$20 a pound over a 20-year period.

Complicating the establishment of a price for a quota buyout is the issue of whether the buyout is to be mandatory or voluntary. A mandatory buyout, in which all quota is essentially rendered valueless, requires a price that is acceptable to most quota owners, but reflects the changed environment in which tobacco will be grown. A voluntary buyout, in which the quota system remains intact, is intended to effect a transfer of quota from non-farming owners to active farmers. This requires a value on the quota high enough to encourage quota holders to sell and give up future anticipated income from their quota. This price would necessarily be above the anticipated rate of return that the quota would have over the life of the program. While some observers point to the program’s permanence and suggest that quota has an unlimited “shelf life,” a more common

view is that the program, in its current form, is due for significant changes, particularly with respect to quotas, in the near-to-mid term. Because of this, the productive life of tobacco quota may be five, 10, or 20 years. Such a contingency discounts the long-term value for quota. Thus, while the final price for quota in a voluntary buyout is likely to be higher than with a mandatory buyout (because quota would have value as a commodity following a voluntary buyout, but not in a mandatory one), the difference is not likely to be considerable. This aligns with the \$8 per pound rate proposed in a mandatory buyout proposed by Senators Lugar and Ford in 1998 as well as the President's Commission in 2001, as well as the successful voluntary buyout program in Maryland, which offers slightly more (\$10 per pound) to growers who stop production.

Who Should Get How Much?

These figures reflect the cost of quota if no more income is anticipated from the quota itself. It does not account for the loss of income from tobacco that a grower may realize from the end of the quota program, as such, nor does it effectively compensate the non-quota-owning grower who either opts out or is forced to leave tobacco production because of the elimination of tobacco quota. Most tobacco growers who lease quota or farm tobacco on a share basis with quota owners will have made long-term business decisions and investments based on the continuation of the tobacco quota program. An equitable compensation schedule for growers who lease or farm on a share basis quota would provide some relief with a mandatory buyout, where quota would no longer be available. Even in the circumstance that production controls would be maintained, as in the President's Commission report, growers opting to end production are giving up, in essence, future revenue, even as they have financial obligations that they incurred in part because of the conditions of the tobacco program. This is the rationale behind the three-tiered payment structure of the President's Commission report. Previous quota buyout proposals addressed only those who own quota, placing non-quota-holders, a group comprising roughly half of all growers, at peril without compensation.

Regardless of the end recipient, there also is the need to resolve a timeline for the buyout. Most proposals suggest relatively short payout periods, from one to five years, although in Maryland payments are spread out over a 10 year period, and the Kentucky buyout proposal lasts even longer. There is an imperative, particularly for small farmers with limited quota, that the funds be delivered as quickly as possible in order to provide a bridge to new production or to adjust to the new tobacco market. For larger growers, with lower costs of production and, usually, greater access to capital, a longer payment program is acceptable and, in some instances, desirable. One important consideration in establishing a timetable for a buyout is budgetary. A short program requires a large and immediate infusion of cash. Longer payouts allow for the costs to be distributed over multiple years. An item of concern to many with longer payout schedules is guarantee of payment. If the buyout is state-funded and the appropriations must be reauthorized annually, biennially, or over some other period, and particularly if the funds are not part of the general fund, there is the risk of the program experiencing a shortfall. This leads to a final issue.

How to Pay for a Buyout?

The total cost of a quota buyout is not small. Depending on the payment model and structure, estimates range from a modest \$2.63 billion for a partial buyout to a substantial \$15.8 billion or as high as \$17 billion for a total buyout. A partial buyout, with a lower price tag, may seem more appealing on the surface, but observers note that without other changes to the tobacco program, such an action would likely only offer temporary relief from inflated lease prices

and non-active quota holders. A mandatory buyout, with its higher costs and greater risks, is more politically difficult and would require a strong coalition of dissimilar parties—growers, tobacco companies, public health advocates, and rural communities—to gain support.

There are a handful of mechanisms which could be utilized to fund a buyout. Federal funds out of general revenues is an unlikely source of funding, since there is a strong reluctance to expend taxpayer funds on tobacco-related items. Federal cigarette taxes generated nearly \$6 billion in 2000. An apportionment of some of this revenue would provide adequate funds for a partial buyout immediately or a total buyout on an intermediate time line, but this would require offsetting the loss of these funds to the general fund, which would be unpopular politically. An increase in the federal excise tax from 34-cents a pack to 39-cents a pack is scheduled for 2002, which will bring in additional revenue. Given current budget projections, however, freeing up this new money for a buyout will be an uphill battle as well.

The President's Commission recommends paying for a buyout (and state health initiatives) through a new 17-cents-a-pack excise tax. This has raised objections from the industry that it will drastically reduce sales and risk the industry's viability in the United States. Furthermore, the Phase II settlement between growers and the tobacco industry stipulates that any new excise taxes will be offset by reductions in payments to growers on a dollar-per-dollar rate. A more modest excise tax may be more palatable to the industry, with the proceeds being securitized. (The expected proceeds over a period would be sold off as a bond to provide a discounted portion of that amount up front.) Experience in securitizing tobacco settlement funds has been uneven, however, with some brokerages indicating that finding willing buyers may be difficult given the uncertainty of future returns due to declining domestic smoking rates.

Other options which have been explored include funding from the tobacco industry itself, possibly through a small increase in tobacco prices being dedicated to the buyout. The principal advantage to this approach is that it would not affect the Phase II funds for growers. Tobacco companies have increased their per-pack prices by more than \$1.10 since 1998, in part to offset the costs associated with the MSA and other tobacco-liability litigation. A further increase in prices would be unwelcome by the industry unless it came with other changes in the program that may not be palatable to growers. Dr. William Snell of North Carolina State University has suggested that tobacco companies could finance a buyout from cost savings due to lower tobacco leaf prices that should result from a quota buyout. If, as part of the plan, prices were allowed to drop by a considerable amount, the savings to tobacco companies could be attractive to them. Weaknesses in this approach include the necessity to involve all tobacco buyers, some of whom may not wish to participate, and the reality of declining domestic demand and offshore production that makes any projections about future domestic cigarette sales problematic.

Maryland accomplished a statewide buyout through the dedication of part of the state's MSA funds. Other states could follow this approach, and the pooling of state MSA funds could create the requisite financing for a buyout, but this is unlikely to happen. Many states have had difficulty appropriating these funds for targeted, tobacco-related functions as it is (e.g., assistance to tobacco farmers, cessation programs, health-related initiatives). As state revenue forecasts grow dimmer, states will be more likely to use their MSA payments to fund general revenue items that would otherwise be cut over tobacco-specific activities.

Other Buyout Issues

Regardless of the funding mechanism, there remain a number of unknowns with regard to a quota buyout. Among these are the impact such an action

might have on rural communities, particularly if a buyout results in a rapid drop in tobacco revenues in the heart of the tobacco growing region. Also, a quota buyout almost certainly would accelerate the concentration of tobacco production in larger farms, manifesting a change in the farm and economic structure in much of the rural South. A quota buyout also would depress land prices in parts of the South, as formerly high-value land with quota attached would become less attractive on the open market. In counties where tobacco is a dominant feature of the economy, this would have a disproportionate effect. Also, a quota buyout in which the production controls are eased or eliminated may have the unintended consequence of increasing domestic production and, indirectly, the softening of the price picture for American producers. Finally, there are income and property tax implications for states and counties where tobacco quota might be a source of income and a component of land assessment.

It is important to note that a buyout is by no means a sure thing. Farmers, through referenda, have supported production controls until 2004 for most types of tobacco. Serious questions remain about the success of any alternative marketing scheme to provide adequate access protection and respect the historical range of tobacco production. Even with a buyout, the global competitiveness of U.S. tobacco is not necessarily improved, and the declining fortunes of American leaf in both domestic and foreign markets may not be affected. A buyout can accomplish a realignment of grower costs and a shift of allotted production to active growers. On the other hand, should contracting dominate tobacco sales to such an extent that the grading system is eliminated, the tobacco program may be transformed regardless of the presence of production controls.

Tobacco's Changing Fortunes

The tobacco industry in the United States has been under pressure from several sources in the past few years, including financial stress from state and private lawsuits, declining sales due to decreased domestic consumption and increases to pay settlement costs and restrictions. This has, in turn, been partly responsible for an acceleration in the downward trend in domestic purchase of tobacco leaf, which was reflected in the quota cuts in the late 1990s. The change in attitudes toward tobacco and the tobacco industry has been the result a number of forces, including independent medical research, questionable practices and disclosure with respect to industry research, and shifting social and health perspectives. Even as tensions between farmers and the industry have increased in the past few years, tobacco growers are generally aware that their financial futures are tied intimately with those of the industry.

While tobacco has had its critics from its earliest introduction to Europe, most early anti-smoking advocates generally opposed tobacco use as “uncouth, unsavory, and unpleasant,” with only occasional voices noting correlations between certain ailments and smoking. The moral and social dimensions of tobacco use remained the primary thrust of anti-smoking efforts into the 20th century. Even though statistical links between smoking and lung cancer began to appear in European medical journals in the 1930s, the connection remained an issue of some debate until 1950, when three separate medical studies reached the conclusion that smoking was a causative factor for lung cancer. Even as this change was underway, the Journal of the American Medical Association, as late as 1948, argued that smoking’s benefits as a stress-reliever outweighed the potential harm smoking might have to public health. The tobacco industry sought to dispel concern over tobacco smoking even as it conducted its own research. This fact complicated matters for the industry during the 1990s when the research results were finally disclosed indicating that the industry knew tobacco was potentially harmful and addictive even as it publicly denied this.

By the end of the 1950s, the U.S. Public Health Service confirmed that cigarette smoking had a causative relationship to certain ailments. In 1964, the

U.S. Surgeon General released a report linking smoking and lung cancer, and the following year Congress passed legislation requiring the Surgeon General's warning on every cigarette pack, which began appearing January 1, 1966. Also in the 1950s, the industry began facing litigation from smokers who had become ill, mostly on the premise of product liability. For over 30 years, juries either held the industry harmless or refused to apply damages, something that changed in 1988 when a New Jersey judge concluded that there was evidence of a conspiracy by three tobacco companies, including the intent to hide critical tobacco research from the public.

The evidence disclosed in this case, including tobacco industry research on smoking and cancer and the addictive nature of nicotine, became the centerpiece of numerous lawsuits against the industry. The increased scrutiny following the disclosure of tobacco industry research led to the revelation of more internal documents from the tobacco industry which revealed a history of research into, and an understanding of, the addictive and potentially harmful nature of tobacco.

Compounding the industry's financial risks were a number of private lawsuits against the industry that moved forward during the 1990s. Juries in several of these have sided with the plaintiffs, one for a spectacular \$145 billion dollars. While some of these cases or penalties may be overturned or reduced, the tobacco industry is now facing the prospect of having to make payments to individuals with smoking-related illnesses. The financial implications this holds for the industry cannot be underestimated. While the industry has only had to make one payment thus far, the very precedent of a court-ordered settlement for a smoking-related illness has opened the floodgates for numerous individual smokers' claims against the industry. In addition to two multi-billion dollar class-action lawsuits in Florida, there have been at least four other successful individual-smoker lawsuits which are on appeal or expecting to be appealed, with awards ranging from \$21.7 million to \$3 billion. With further litigation likely for the industry, the profitability and financial viability of the industry in the United States are realistic concerns, with tremendous repercussive effects for tobacco growers.

State Suits Against the Tobacco Industry and the Master Settlement Agreement

The so-called "secret papers" disclosed in the early 1990s revealing tobacco industry research were the centerpiece of a series of lawsuits filed against the industry. Mississippi Attorney General Mike Moore filed the first state suit in June of 1994 to recoup the state's health care costs associated with smoking-related illnesses. Less than a year later, Florida filed suit against the industry, followed by a number of other states. Early in 1996, the Liggett Group broke with the industry and agreed to settle Medicaid lawsuits with five states for \$10 million. In June 1997, a proposed national settlement between the industry and states was reached, which included ambitious tobacco control measures and \$368 billion in payments to states, but required federal legislation. The only legislation to see action in Congress as a result was S. 1415, also known as the McCain Bill after its sponsor, Arizona Republican Senator John McCain. The McCain Bill called for federal regulation of tobacco products, restrictions on marketing and advertising, activities to reduce youth smoking and up-front payments into a federal fund to pay state settlements with a total award of \$516 billion. After the tobacco industry balked at the increased costs and restrictions of the McCain Bill (compared to June agreement), they launched a vigorous public relations and media campaign that essentially sank the legislation.

In 1997 and 1998, four states—Florida, Minnesota, Mississippi and Texas—settled their lawsuits individually with the tobacco industry for over \$36 billion. In November 1998, following the failure of the McCain Bill, the attorneys

general of 46 states and the top four U.S. tobacco companies (Philip Morris, Incorporated; RJ Reynolds Tobacco Company; Brown & Williamson Tobacco Corporation; and Lorillard Tobacco Company) negotiated an agreement, called the Master Settlement Agreement, bringing state litigation against the industry to an end. The agreement also shields these tobacco companies from future state lawsuits on a wide range of issues, essentially providing blanket relief from state litigation. At the time of the agreement, 37 states had pending lawsuits against the industry. The MSA does not, however, protect the companies from private and class-action lawsuits.

The MSA established the terms for monetary relief to states in the form of annual payments; outlined restrictions on the companies' marketing, advertising and lobbying practices; created a national foundation to support and study youth smoking and substance abuse cessation and the prevention of smoking-related illnesses; and provided for enforcement and restitution of state legal fees separate from the settlement. In order for the MSA to become final, 80 percent of the states representing 80 percent of the total settlement had to receive consent decrees from their respective state courts dismissing all claims and informing the court of the terms of the agreement. States also had to enact legislation that would protect the companies that were party to the agreement against market share loss to their non-participating competitors or accept reductions of their payments from the settlement. The MSA became effective in November 1999, when approval by a state court in Virginia made it the 45th state to achieve state finality. The first payments to states were sent two weeks later. No federal legislation was required to implement the agreement, although federal efforts to recoup the money (based upon the premise that at least half of the damages that served as the basis for state lawsuits were federal expenditures) remained a cloud on the horizon until Congress specifically prohibited any such action in May 1999. Missouri became the last state to achieve state-specific finality, in late April 2001.

The financial aspect of the MSA received the greatest attention following the negotiations, and indeed the final settlement—\$206 billion over 25 years—is considerable. The states agreed to a payment formula based upon the estimated tobacco-related health expenditures and the number of smokers in each state. The payments are not fixed, however, and can be adjusted for a number of reasons, including a reduction allowance for cuts in payments proportionate to drops in consumption, and offsets for payments to states that previously settled with the industry. Payments also are adjusted for inflation. Between 1999 and 2001, adjustments resulted in a net reduction of about \$1.6 billion.

Payments to states take three forms: initial payments (\$12.7 billion total) made over five years; annual payments (\$183.1 billion), which increases annually from 2000 to 2018 and then remains constant, less adjustments, in perpetuity; and “strategic contribution fund” payments, which begin in 2008 and stop in 2017 and are allocated according to a state's contribution to litigation or resolution of state tobacco lawsuits. The MSA also includes \$1.45 billion over 5 years to fund public anti-smoking education activities and \$250 million over the next 10 years to fund the American Legacy Foundation, a private, non-profit organization created through the MSA to support research on effective tobacco-control programs and fund anti-smoking advertising campaigns. Other payments included in the MSA are for administrative costs of the MSA, paid to the National Association of Attorneys General, and separate payments to cover the states' legal costs related to the litigation. Table 3 illustrates the total proposed MSA payments to states in the SLC region through 2025 and the percentage share of the total settlement.

Estimated MSA Payments for SLC States and Percent Allocations		
State	Total Estimated MSA Payments (\$1,000)	Percent Allocation
Alabama	3,166,302	1.616
Arkansas	1,622,336	.828
Florida	0	0
Georgia	4,808,740	2.454
Kentucky	3,450,438	1.761
Louisiana	4,415,657	2.255
Maryland	4,428,657	2.260
Mississippi	0	0
Missouri	4,456,368	2.274
North Carolina	4,569,381	2.332
Oklahoma	2,029,985	1.036
South Carolina	2,304,693	1.176
Tennessee	4,782,168	2.441
Texas	0	0
Virginia	4,006,037	2.045
West Virginia	1,736,741	.886
SLC Total	45,777,503	23.364
US Total	195,918,675	100

Source: National Association of Attorneys General, Master Settlement Agreement, Exhibit A.

Note: Florida, Mississippi and Texas all reached separate settlements and do not receive MSA funds.

As noted, the MSA allows for reductions for a number of reasons. Immediately following the conclusion of the agreement, and prior to any payments to states, the industry raised cigarette prices roughly 45-cents per pack in order to offset the costs of the agreement. This had an anticipated dampening effect on cigarette consumption, briefly accelerating the already steady decline in smoking in the United States. The result of this was a decline in the overall payments made to states against what was anticipated. The \$1.6 billion reduction in payments amounts to a nearly 11 percent adjustment. The adjustments vary by state, with Pennsylvania having the greatest reduction (26.6 percent), and Arkansas experiencing the lowest reduction (6.7 percent). In the SLC region, North Carolina and Kentucky saw the greatest loss in MSA funds at nearly 11 percent. Table 4 illustrates the actual payments to states through 2001 and the percent difference in estimated and actual payments through April 2001.

Original Estimated and Actual MSA Payments to SLC States Received by April 2001			
State	Original estimated payments through 2001 (\$1,000)	Actual payments received through 2001 (\$1,000)	Percent difference
Alabama	254,304	228,618	-10.1
Arkansas	130,300	121,546	-6.7
Georgia	386,219	353,121	-8.6
Kentucky	277,126	247,028	-10.9
Louisiana	354,889	324,476	-8.6
Maryland	355,692	325,210	-8.6
Missouri*	357,918	--	--
North Carolina	366,994	327,137	-10.9
Oklahoma	163,041	149,068	-8.6
South Carolina	185,104	169,241	-8.6
Tennessee	384,084	354,356	-7.7
Virginia	321,749	294,180	-8.6
West Virginia	139,489	127,534	-8.6
SLC Total (average %)	3,676,909	3,021,515	-8.8
US Total (average %)	15,095,621	13,477,162	-10.7

Source: U.S. Government Accounting Office, 2001.

Note: Missouri achieved state-specific finality in late April 2001 and is not included in the totals.

State MSA payments are delivered “without strings” and can be used at the state’s discretion. As state claims were predicated on a need to recoup expenditures for smoking-related health care costs, many states prioritized health care spending and tobacco control activities. State policymakers also noted that the costs of providing health care had resulted in other needs receiving insufficient funds, and that MSA funds were a welcome addition to state revenues that could be used to improve the funding profiles in these areas, including education, infrastructure, and social services. In the SLC region, the MSA had other implications, including a predicted drop in demand for U.S. tobacco and further reductions in tobacco income for farmers. Several tobacco-growing states recognized that tobacco farmers would suffer a loss at the hands of the states’ victory in the settlement and moved to provide assistance to them, through funds for growers and economic development. Table 5 provides an overview of how states in the SLC region have allocated their MSA payments by category.

Percent Allocations of MSA Payments by Category, State Fiscal Years 2000 and 2001							
State	Tobacco control	Assistance for tobacco growers and economic development	Health	Education and social services	Infrastructure	General Purposes/Reserves	Unallocated
Alabama	.2	7.1	37.6	46.4	0	8.7	0
Arkansas	5.7	0	35.8	0	5.7	0	52.9
Georgia	4.6	23.1	31.8	0	0	0	40.5
Kentucky	2	50	8.7	39.3	0	0	0
Louisiana	.5	0	65.7	27.5	3.1	3.3	-1
Maryland	5.5	3.5	53.3	16.3	0	24.8	-3.4
Missouri*	0	0	0	0	0	0	100
North Carolina	0	75	25	0	0	0	0
Oklahoma	1.3	0	64.6	2.7	0	31.3	0
Tennessee	0	0	0	0	0	0	100
Virginia	10	50.1	0	0	0	39.9	0
West Virginia	4.4	0	95.6	0	0	0	0

Source: U.S. Government Accounting Office, 2001.

* Missouri had not received any MSA payments as of Spring 2001.

For those states providing assistance for tobacco growers and economic development, only Kentucky, Maryland, North Carolina and Virginia provided funds directly to growers (15 percent, 4 percent, 25 percent and 35 percent of MSA funds, respectively). Other states channeled money to economic development which need not be directly related to tobacco. Given the economic needs of a number of tobacco producing counties, it is likely that even though they were not targeted directly, some MSA funds will reach these communities through general economic development programs. Of the tobacco-producing SLC states, only Missouri, Tennessee and West Virginia have not dedicated some MSA funds to economic development.

In addition to payments to states, the MSA stipulated that numerous changes in tobacco company business practices be made in order to reduce smoking and limit the industry with respect to tobacco policy. Among the provisions were: prohibitions against marketing cigarettes to youth, including the use of cartoon characters in advertising; restrictions on brand-name sponsorship of events with significant youth audiences; and a ban on outdoor advertising and in magazines with a significant youth audience. The agreement also restricted industry lobbying to a limited range of issues and opened industry records to the public.

As a component of the MSA, tobacco companies were asked to meet with representatives of tobacco growing states and tobacco-producer communities to address their concerns over the potential economic impacts of the agreement. As a result of these discussions, the four tobacco companies involved in the MSA and 14 states that produce tobacco for cigarettes reached the National Tobacco Grower Settlement Trust Fund Agreement, more often referred to as the Phase II settlement, in August 1999. Under the agreement, the four tobacco companies pay into a trust fund to compensate tobacco farmers and quota holders for financial losses as a result of consumption declines related to the MSA. Companies will pay into the fund a total of \$5.15 billion over 12 years in proportion to their share of the domestic market, with adjustments for inflation,

volume of sales and offsets for increased excise taxes. Chase Manhattan Bank is the designated trustee. The 14 states involved are Alabama, Florida, Georgia, Indiana, Kentucky, Maryland, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia and West Virginia. Funds are distributed directly to growers and quota owners based on a percentage of either 1998 quota or, where no quota existed, production of cigarette tobacco. Table 6 provides a percentage breakdown of state shares and total anticipated payments for the Phase II settlement.

Allocation Percentages and Amounts for Phase II Payments		
State	Percent	Total Anticipated Payments (\$1,000)
Alabama	.05	2,575
Florida	1.13	58,195
Georgia	5.85	301,275
Indiana	1.16	59,740
Kentucky	29.66	1,527,490
Maryland	.62	31,930
Missouri	.42	21,630
North Carolina	37.95	1,954,425
Ohio	1.36	70,040
Pennsylvania	.43	22,145
South Carolina	6.94	357,410
Tennessee	7.57	389,855
Virginia	6.58	338,870
West Virginia	.28	14,420
Total	100	5,151,000

Source: National Tobacco Grower Settlement Trust Agreement.

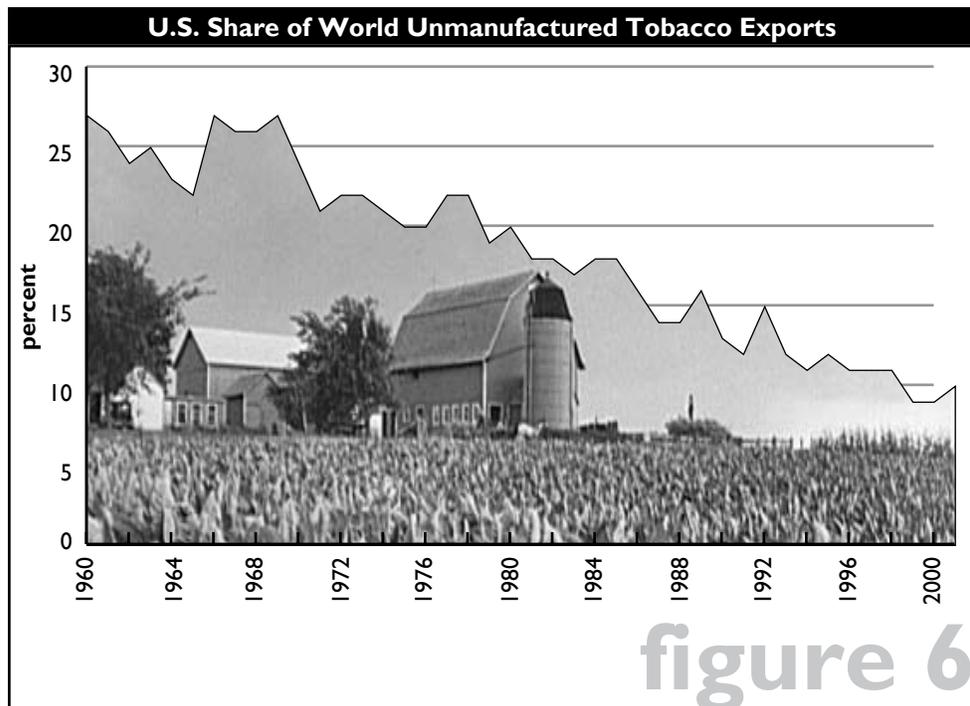
Each state has to create a certification board which is charged with identifying eligible producers and quota holders and developing the plan for distributing payments. These certification boards have as their members the governor, state commissioner of agriculture, and state attorney general. In high-production states (Georgia, Kentucky, North Carolina, South Carolina, Tennessee and Virginia), the certification board also includes one member from each chamber of the legislature and at least three, but no more than six, state citizens who are tobacco grower or quota owners, one citizen with a distinguished record in public service and two members of the state congressional delegation. State plans, which are revised annually, must decide how to apportion the lump sum payments from the trust fund among growers, quota holders, and other involved parties.

The Global Tobacco Trade

American tobacco is widely regarded as the finest in the world, and most manufacturers of premium cigarettes rely on some American leaf to add flavor, mellowness, and taste to their blends. American tobaccos also are the most expensive of their kind in the world, due in part to the federal tobacco program. Up until the late 1990s, the United States was the largest exporter of tobacco, a distinction now held by Brazil. The United States remains the world's leading exporter of cigarettes and the largest importer of tobacco. The world tobacco market has a handful of powerhouse exporters, including the United States, Brazil, Zimbabwe, and Malawi, with production increasing in a number of other countries as well. In all, according to the USDA, at least 78 countries grow flue-cured tobacco and 57 countries grow burley tobacco. As recently as the early 1980s, American farmers produced more burley tobacco than the rest of the world combined and about one-third of all flue-cured tobacco grown. Today, foreign burley production outstrips that of the United States by two-and-one-half times, and by 10 times in flue-cured tobacco production.

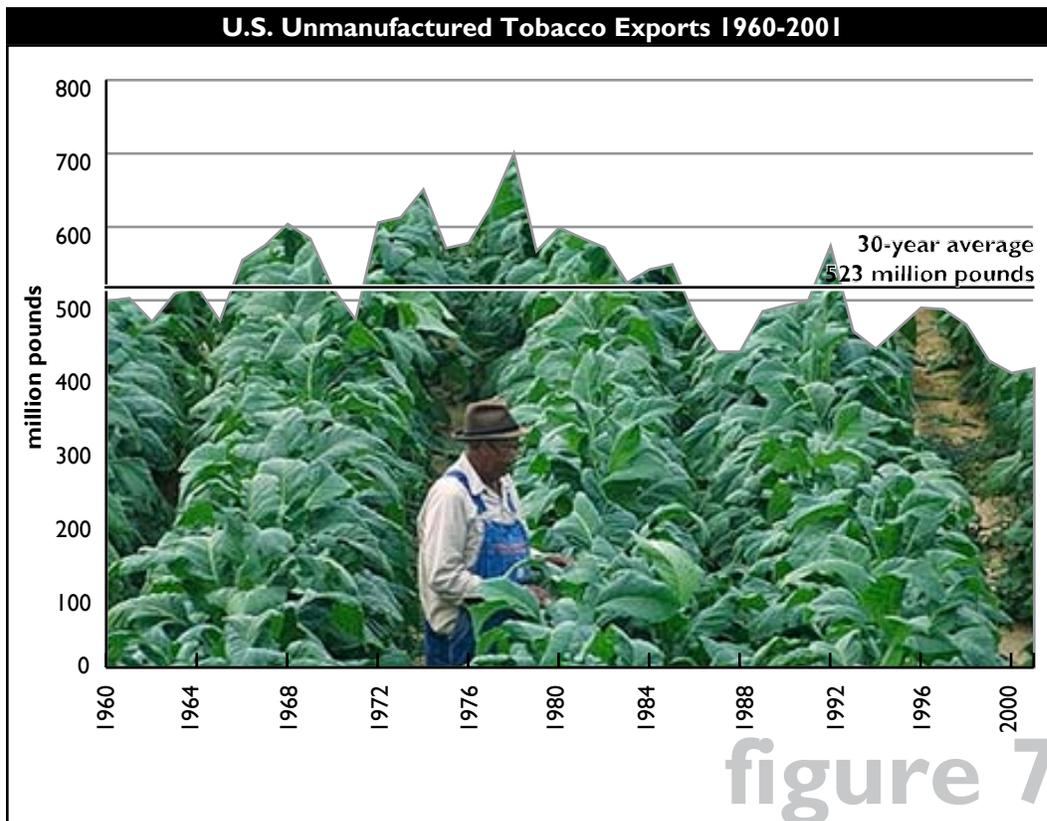
U.S. production value once was protected by the unmatched quality of American leaf. Nowhere else was the burley or flue-cured tobacco consistently of such high quality. In the past 15 years, however, foreign producers have improved their agronomic and processing techniques, improved the varieties and genetics used and, in general, increased the quality of their output. Much of the credit for these improvements can be traced to investments by major international tobacco leaf and cigarette companies, which provide technical assistance, financial services, and marketing support for growers in a number of countries with developing or expanding tobacco leaf sectors, including Brazil, China, Argentina, Zimbabwe, and Malawi.

The United States remains the dominant player in the global tobacco market, being the largest importer of tobacco leaf and the largest exporter of cigarettes. The United States had been the largest exporter of unmanufactured tobacco for decades, but this situation has changed considerably in recent years, with Brazil surpassing U.S. exports in the 1990s and Zimbabwe anticipated to match U.S. exports in the 2001 season. The U.S. share of world tobacco leaf exports have steadily declined since the 1960s, when the United States was responsible for more than one-quarter of all tobacco exported, to the current level of slightly less than one-tenth. This trend is illustrated by Figure 6.



Source: USDA Foreign Agriculture Service.

This decline in exports has had a major impact on growers. Historically, when domestic consumption declined, exports of tobacco leaf and manufactured cigarettes could be expected to offset losses to a degree, softening the blow. This is no longer the case, however. American growers are now facing declining domestic cigarette consumption, an intensely competitive international market for tobacco leaf, and a shrinking market for exported American cigarettes. The percentage drop in exports is particularly instructive when viewed against the total volume of U.S. exports over the same period, which has fluctuated greatly, but has remained below the long-term average since 1991. Figure 7 illustrates the decline in terms of total volume.



Source: USDA Foreign Agriculture Service.

While the change in exports is far less dramatic in terms of total volume, exports have increased in their importance to American producers as domestic purchases decline. With domestic consumption dropping, and with manufacturing of cigarettes being conducted increasingly elsewhere, the best hope for sales growth lies in overseas markets.

The long-standing nature of the shift away from American tobacco is best understood in the context of total global trade in tobacco. During the past 40 years, a number of countries have turned to tobacco as a source of hard currency and export earnings. Total tobacco trade grew during this period, from 1.8 billion pounds in 1960 to 4.3 billion pounds in 2000. Competition among the top tobacco exporters is fierce, with local growers affected by growing and market conditions around the world. In all, the top eight tobacco exporting nations account for over 60 percent of all the tobacco traded globally, with the top three nations responsible for more than one-third of the total tobacco trade. In the past decade, the United States has slipped from the top exporter of tobacco leaf to number two, and soon will become number three, behind Brazil and Zimbabwe. The fastest growth in exports among any of the current top exporters is in China, which has nearly tripled its export output in 10 years. Table 7 illustrates the tobacco exports for the top eight nations between 1990 and 2001.

World Tobacco Exports Selected Countries 1990-2001 (million pounds)												
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001 (est)
World Total	3,736	4,036	3,929	3,929	3,933	3,933	4,493	4,547	4,347	4,653	4,361	3,521
Brazil	414	419	531	537	603	505	623	703	667	756	778	778
United States	493	499	574	458	434	462	490	488	467	418	401	408
Zimbabwe	270	300	333	415	438	384	432	352	372	476	401	408
Turkey	208	303	169	201	268	301	375	354	284	255	222	200
Malawi	185	207	209	215	220	192	211	246	298	237	223	223
Greece	285	267	262	262	243	293	287	227	217	221	222	222
Italy	304	306	266	275	243	262	306	218	216	207	222	209
China	71	160	136	163	159	151	133	172	203	250	250	254

Source: USDA Foreign Agriculture Service.

As can be observed in Table 7, the decline in total American exports and the realignment of top tobacco exporters have occurred in a tobacco market that has expanded and contracted over the past decade. Even with this fluctuation, the market for tobacco in 2001 is anticipated to be only slightly worse than it was in 1990. Much of the drop in U.S. exports actually occurred in years when the total volume of internationally-traded tobacco was quite high—over or near 4.5 billion pounds. Thus it has been a shift in the nature of trade (e.g., increased foreign production, the clearing of foreign markets), and not a drop in total trade, that has most affected U.S. tobacco producers.

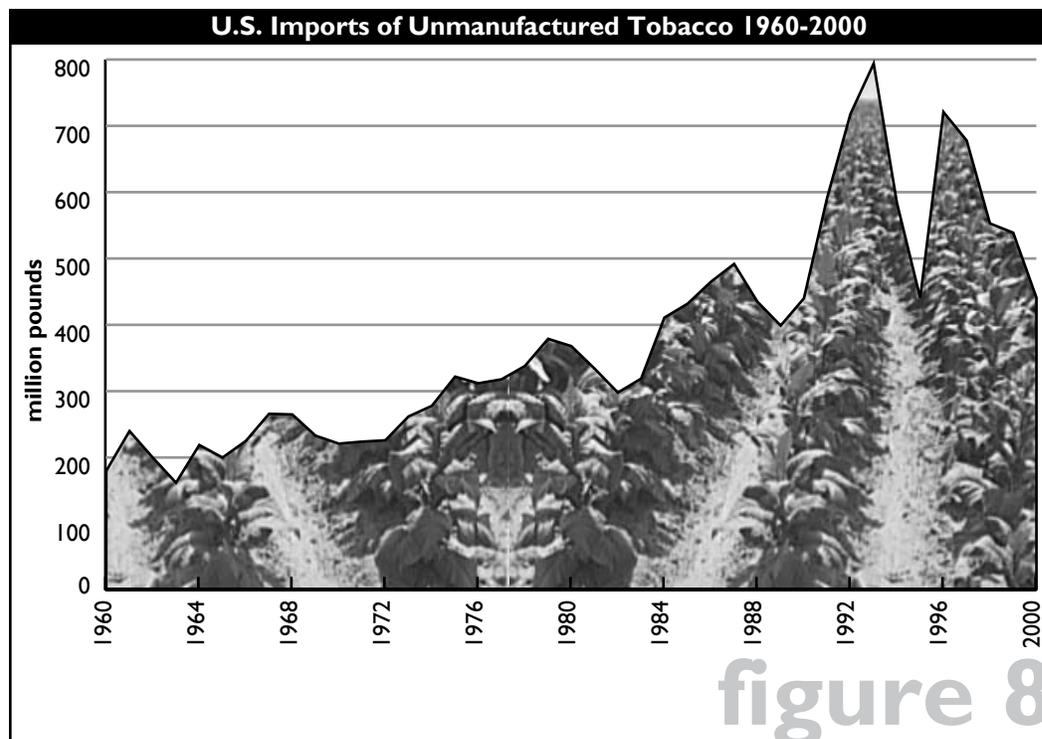
An important factor in American tobacco's difficulties in export markets is the drop in tobacco quota, which, because it limits supply, keeps the cost of American tobacco artificially high. U.S. producers receive high premiums for their product, in some cases as much as two to three times the price paid for Brazilian or Zimbabwean tobacco. For example, the average prices in 2000 for Malawian tobacco was \$.52 per pound; \$.53 per pound for Brazilian tobacco; and \$.98 per pound for Zimbabwean tobacco. U.S. producers received an average of \$1.79 per pound for flue-cured tobacco and \$1.98 for burley tobacco in 2000.

Cuts in tobacco quota are effected because of drops in purchase intentions from tobacco companies and reviews of existing stocks. Declining domestic tobacco consumption plays a major role in determining how much tobacco U.S. cigarette manufacturers purchase for their blends, but the comparatively high costs of U.S. tobacco also is a factor. Cutting quota, while preserving the prices growers receive at auction, has the effect of making American tobacco scarce and costly in the international market.

Production costs in other countries are considerably lower than in the United States. Producers are further limited in the chemicals permitted for the control of pests and disease, which provide overseas competitors with decided advantages. As an example, chemical applications of such banned products as DDT are common in much of the rest of the tobacco-growing world. Furthermore, improved genetics and increasing attention to the varieties marketed in developing tobacco production areas, combined with increased grower competence and attention to cultivation, have resulted in improved quality from overseas markets, eroding the competitiveness of American leaf in the eyes of foreign buyers. As the U.S. cigarette market has shrunk and costs have risen, American manufacturers and tobacco dealers have invested in a number of foreign countries, including Argentina, Brazil, Mexico, China, India,

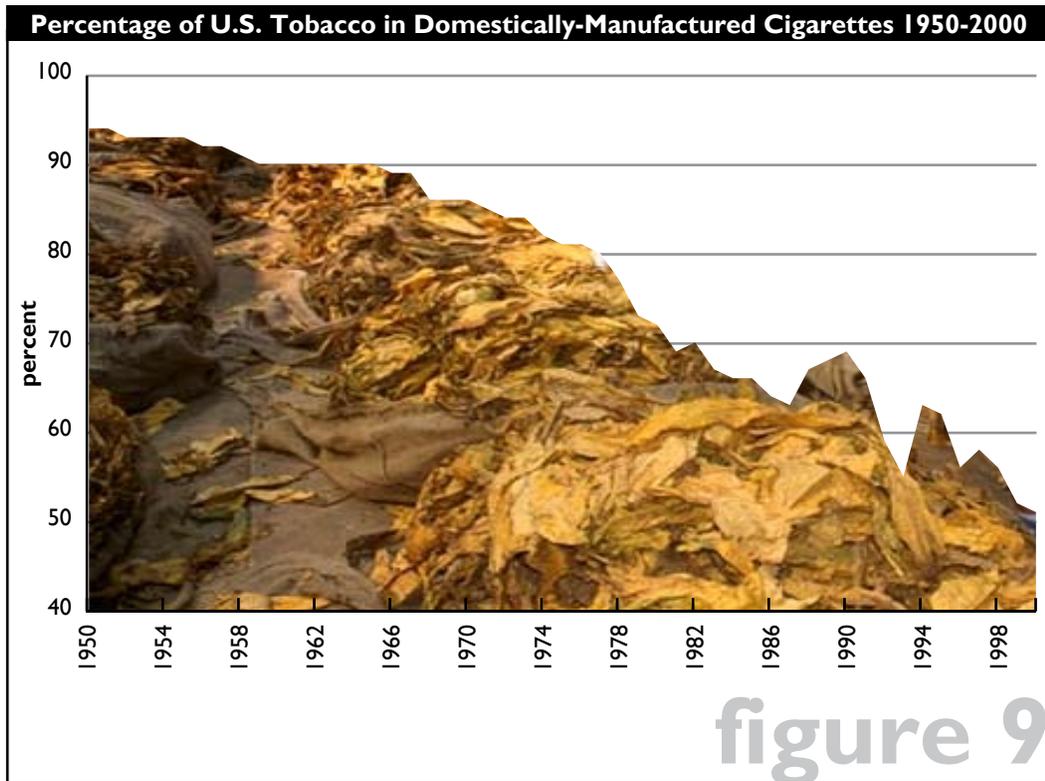
Russia, Tanzania, and Vietnam, where consumption is predicted to grow. These investments have included financing, seed technology, and extension assistance, all of which address areas in which U.S. producers have historically had the upper hand.

For U.S. producers, compounding the problems related to the growth in exports from overseas production facilities has been the growth in tobacco leaf imports by the U.S. cigarette manufacturers. Over the past 40 years, U.S. imports of foreign leaf have grown, from 178 million pounds in 1960 to a record high of 793 million pounds in 1993, before dropping (along with domestic cigarette production) to approximately 440 million pounds in 2000. Figure 8 illustrates this trend. As this figure points out, the greatest growth in imports has taken place in the 1990s, with only modest growth experienced before 1982.



Source: USDA Economic Research Service.

Domestically-manufactured cigarettes include a certain amount of imported oriental leaf as part of their blends. A typical cigarette blend may have 45 percent to 50 percent flue-cured tobacco, 35 percent to 40 percent burley tobacco, 1 percent Maryland leaf, and perhaps 15 percent oriental tobacco. Foreign tobacco is a necessary component in most cigarettes. Almost all blends, including some quantity of oriental leaf, which is grown primarily in Greece, Turkey and Macedonia, and is included in blended cigarettes for its aromatic qualities. While all oriental tobacco is imported, flue-cured and burley can be produced either domestically or overseas. In the past, almost all of the flue-cured and burley tobacco found in American-made cigarettes was domestically-produced. Over time, however, and particularly in the past decade, the amount of imported tobacco in domestically-manufactured cigarettes has grown. From the 1950s through the 1970s, American-made cigarettes included at least 75 percent domestically-produced tobacco, and over 90 percent for the entire first decade of this period. Since 1980, when the domestic share dropped below 70 percent for the first time, American cigarette manufacturers have accelerated this trend. By 2000, the amount of imported tobacco included in domestically-produced cigarettes approached the 50 percent mark. Figure 9 illustrates this trend for the past 40 years.



Source: USDA Economic Research Service.

A rise in imported leaf would be offset by a drop in domestic leaf in U.S.-manufactured cigarettes. U.S. tobacco is protected under a tariff rate quota (TRQ), which sets a zero tariff for the first 333 million pounds for the 2001 season, and then imposes a 350-percent *ad valorem* import duty on any tobacco above that limit. There is, however, a drawback allowance if the imported leaf is later re-exported as leaf or manufactured product. In place since 1995, the duties under the TRQ seldom are applied due to the tremendous volume of cigarettes exported by the United States. Furthermore, the quota is set very high, so much so that the amount of imported tobacco in domestically-manufactured cigarettes could double, with correlative drops in American tobacco, and import restrictions would still not be triggered.

The rise in imported leaf in American cigarettes is due partly to cost, but also reflects other factors. Among these are the improving quality of foreign tobacco and increasing emphasis on trade in tobacco by a number of countries, including Brazil, where tobacco only has been grown since the 1970s. The increased availability of tobacco on the global market has created a much more competitive market for U.S. producers. In the 1950s and 1960s, the United States produced about 40 percent of all flue-cured and 77 percent of all burley tobacco, and 55 percent and 51 percent, respectively, of the total global trade volume. By 1998, the U.S. share of production had dropped to 9 percent for flue-cured and 27 percent for burley, and the U.S. share of trade was down to 14 percent and 18 percent, respectively. At the same time, global tobacco production has swelled. In the late 1950s, world tobacco production, including the United States, was almost 8.9 billion pounds. In 1997, world production had increased 87 percent to over 16.6 billion pounds.

The China Factor: The Promise and Peril of Chinese Trade Liberalization

China today is the world's largest producer of tobacco in the world, and the world's largest producer and consumer of cigarettes. Currently, China produces more than one-third of all tobacco grown globally, over 5.1 billion pounds, most of it for domestic consumption. The Chinese have cut back on tobacco production in recent years by discouraging plantings, in response in part to swelling surplus stocks. Even after trimming the acres planted by nearly one-third, Chinese production has remained high, in part due to high support prices and falling prices for other commodities. China produced an estimated 4.85 billion pounds of tobacco in 2001, up from the 4.7 pounds produced in 2000, but below 1997's whopping 7.96 billion pounds. Only recently has production become a factor in the international market. China has turned to the export market to help balance its tobacco stocks in the past few years, pushing its exports of unmanufactured leaf up from 171 million pounds in 1997 to an estimated 253 million pounds in 2001, an increase of nearly 50 percent in four years. In 1990, China exported only 70 million pounds. Furthermore, Chinese cigarette exports have been on the rise in the past few years, helping to bring down stocks of surplus leaf tobacco.

Domestic production is able to absorb such a huge quantity of tobacco because the Chinese cigarette consumption is high. As Xu Mingzhong, deputy director of the Ninbo Cigarette Factory told *Tobacco Reporter* magazine, "We've got 1.2 billion people, and they really enjoy their smoke." Indeed, China's 350 million smokers consumed an estimated 1.7 trillion cigarettes in 1998. Realistic estimates, factoring in unreported production and smuggled cigarettes, place cigarette disappearance (as consumption is called) at 2 trillion or more. This amounts to nearly three times the 720 billion cigarettes produced by the United States, 217 billion of which are exported (21 percent of the world's total trade in tobacco products). Smoking rates in China far exceed the rates in the United States and Europe, making China the world's premier growth market for cigarettes.

In recent years, several international cigarette manufacturers have been establishing footholds in China in anticipation of the liberalization of China's monopolistic tobacco industry. Until a trade agreement was signed last year, legally-imported cigarettes were subject to a prohibitive tariff. It is still unclear how much U.S. and other foreign brands will penetrate the Chinese market, although there is a booming market already in place for smuggled American cigarettes in many of China's larger cities. The Chinese market may prove to be an outlet for American leaf and tobacco, but the current prices of both products might serve to seriously restrict how much of a boost the opening of the vast Chinese market to American products will have. This hope is tempered, further, by the reality that U.S. cigarette exports, as a percentage of world trade, declined significantly in the 1990s, from more than 26 percent at the beginning of the decade, to less than 20 percent at its close.

Industry ties to China have grown intense over the past few years. British American Tobacco (BAT), the world's second largest tobacco manufacturer, announced plans for a joint venture with Yunnan Tobacco Corporation in May 2001 to build a cigarette factory. This is not the first incursion into the Asian market by major tobacco company. RJ Reynolds has had a licensing arrangement with Chinese manufacturers for over three years, and the top three tobacco dealers all have had facilities in China for some time. The BAT announcement was, however, the first joint venture aimed at developing cigarettes for the domestic and international market. As China liberalizes its trade to conform to international trade agreements, U.S. manufacturers and producers alike hope to gain access to China's market.

It is difficult to predict how the opening of the Chinese market will affect U.S. producers. As noted earlier, the export market no longer is dominated by American tobacco. It is unlikely that Chinese consumers are going to demand the more expensive American leaf in their standard blends. Furthermore, China is still trying to sell off a considerable amount of its surplus tobacco production, creating a downward pressure on Chinese tobacco and adding competition to imports. As China draws down its surplus, the price pressure should lessen, but inexpensive tobacco production will continue to be a hallmark of the nation. Cigarette imports, however, at least in the short term, could see a major boost. The Chinese cigarette industry enjoys strong trade protections, and the removal of tariffs and duties on cigarettes could make U.S. brand exports more cost-competitive and attractive to Chinese smokers. It is likely that U.S.-manufactured cigarettes will gain at least some segment of that market, at least initially, although as Chinese leaf and cigarette production is modernized through foreign investment, imports will likely slow.

Increased international investment in China by tobacco companies, along with the continuing investments in infrastructure, could create in a very short period of time an unparalleled tobacco powerhouse. The Chinese tobacco sector has been protected for decades, however, and remains inefficient and dependent on government support. The transition period for tobacco growers in China could be difficult, as state support is withdrawn and foreign suppliers begin to enter the market. Because of this, there is considerable internal resistance to truly opening China's market until reforms can be made. U.S. manufacturers hoping to export to China anticipate slow progress initially.

American cigarette brands are among the most valuable in the world, with global identification unmatched by almost any product. For American cigarette manufacturers, brand recognition has allowed them to expand sales internationally even as domestic consumption drops. As the industry looks to its future, the most lucrative markets for tobacco products are outside the United States, particularly in Asia and Latin America. In order to better capitalize on these growing markets, and to realize lower costs of production, American-brand cigarettes for foreign markets are increasingly being manufactured outside of the United States. While the tobacco industry strives to maintain a uniform product regardless of where it is produced, this does not mean that a cigarette contains the same mix of tobaccos everywhere. Indeed, it is increasingly likely that cigarettes manufactured “offshore,” while packaged in similar wrappers to their American cousins, will include significantly less American tobacco. Thus, the shift in production for foreign markets has an impact on domestic purchasing intentions, which affects both domestic production quota, and, by threatening the status of quota, the long-term transition to contract production.

The shift of production from the United States to plants overseas for the manufacture of American-blend cigarettes has been a major blow to U.S. growers. The manufacturing of cigarettes for export has dropped precipitously in the past five years—by more than 40 percent since 1996—in part due to economic problems in the major markets of Asia and Russia. But the single most important factor in this is the development of new production facilities overseas, where production and labor costs are lower, regulations less stringent, and transport costs to emerging markets lower.

Compounding this, improvements in manufacturing technology and shifts to lower-tar cigarettes have facilitated a shift away from high-quality American leaf to lower-quality foreign leaf without substantial compromises in taste or flavor. Furthermore, much of the appeal of American-blend cigarettes in emerging markets has less to do with the quality of the cigarette than with the cachet of the brand name.

Global Cigarette Production and Consumption

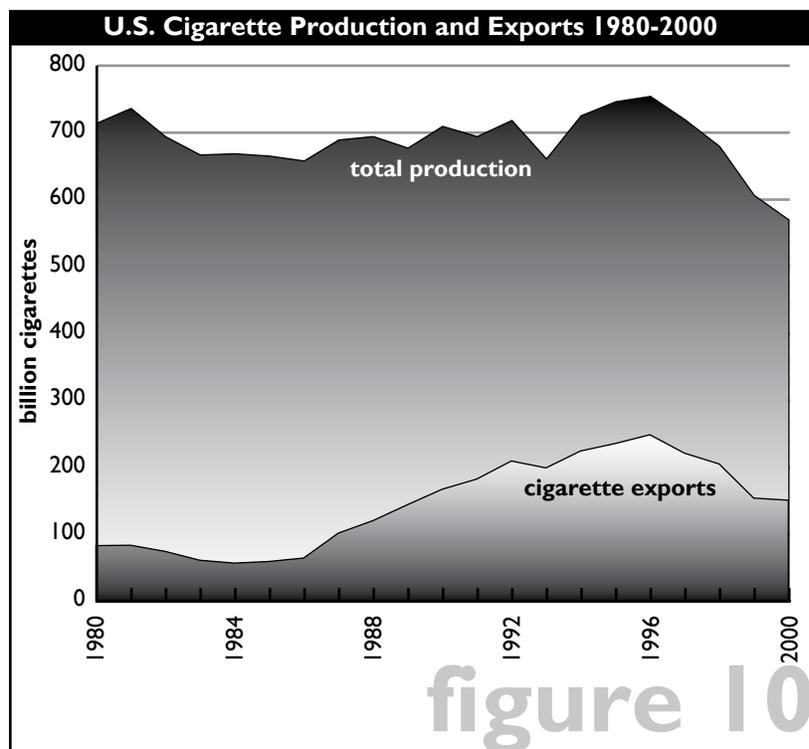
As noted, the United States’ position as the top exporter of cigarettes is vital to domestic tobacco growers, since cigarette exports offer the greatest potential for market expansion in the face of declining domestic consumption. Cigarette exports have been on the decline since reaching a peak in 1996 of 250 billion cigarettes. Tobacco exports accounted for approximately 37 percent of domestic tobacco leaf production in 1999. Domestic cigarette consumption peaked in 1981 at roughly 640 billion pieces. Since that time, U.S. consumption has declined to an estimated 430 billion pieces in 2000. Cigarette consumption dropped gradually between 1981 and 1998, but then dropped 6.5 percent between 1998 and 1999. Future declines are not anticipated to be as rapid, but the trend is not likely to reverse.

The 1998-1999 decline reflects a sharp increase in cigarette prices, imposed by cigarette companies to recoup anticipated losses from litigation brought by the states against the manufacturers. The general decline in consumption also reflects the success of anti-smoking campaigns which gained momentum in the 1980s and 1990s. The recent “truth” campaign and other state-sponsored cessation programs, many of them paid for by cigarette industry contributions to tobacco control programs, also have reported some success in reducing smoking among some populations, particularly youth. These programs are similar to campaigns conducted in other nations, particularly in Europe, which are reducing smoking rates in some of the United States’ most reliable export markets. Health concerns over smoking are unevenly emphasized in the developing world. Because of this, much of the growth in cigarettes in the coming years will come from markets in

the developing world, where per capita income is expected to increase gradually, and smoking is hindered little by social pressures or health concerns.

Beginning in the mid-1980s, the U.S. tobacco industry embarked on a major effort to expand sales in overseas markets, particularly in the developing world and in the emerging economies of Asia and the former Soviet Union. In order to fulfill demand fueled by aggressive marketing campaigns, U.S. manufacturers increased exports of U.S. cigarettes and began developing manufacturing facilities through the construction, purchase or lease of factories or through licensing and joint ventures in countries around the world. Because the industry's marketing efforts met greater success than local production could satisfy, U.S. exports of manufactured cigarettes grew fairly steadily for much of the 1980s and 1990s, helped in no small part by the booming economy of Southeast Asia, a major growth market for American-blend cigarettes. During this period, U.S. imports of tobacco leaf also grew even as U.S. cigarette production reached record levels.

Toward the middle of the 1990s, overseas production capacity began to come on line, and U.S. exports of cigarettes began to decline rather sharply. After hitting a high-water mark in 1996, with 261 billion cigarettes, exports of U.S.-manufactured cigarettes had declined by more than one third, to 150 billion pieces, by 2000. Figure 10 illustrates the changes in U.S. exports of cigarettes and the total volume of total U.S. cigarette output between 1980 and 2000.



Source: USDA Tobacco Situation and Outlook, April 2001; USDA ERS.

As Figure 10 shows, the connection between exports and total production is clear, particularly in the period when U.S. manufacturers began developing new markets overseas (1985-1995). While U.S. cigarette consumption declined over the past decade, global consumption grew. The shrinkage in U.S. production, therefore, reflects losses in the export market as well as drops in domestic smoking. The shrinking export market for U.S. cigarettes has a disproportionate, depressing impact on U.S. production, and, in turn, on purchases of domestic tobacco. Combine this with the increase in foreign tobacco in domestically-manufactured cigarettes and the result is a slide in quota that growers have experienced over the past four years.

The percentage of cigarettes produced in the United States for export currently is 25 percent, up from the 9 percent of domestic production destined for export in 1985, but down from the record high of 35 percent set in 1996, also the record production year for cigarettes. Since 1996, production has declined by 25 percent, while exports have tapered off nearly 40 percent. Domestic consumption over this same four-year period declined only 11 percent, with the difference between the smaller drop in consumption and the larger drop in production being made up with increased imports of cigarettes, which rose 75 percent, from 2.5 billion pieces in 1996 to an estimated 11.3 billion in 2000.

Historically, the domestic market absorbed the lion's share of all cigarettes produced in the United States, largely due to domestic consumption's growth matching the growth in the global cigarette trade. Until anti-smoking campaigns began to show major results in the 1980s, the percentage of cigarettes destined for overseas markets was usually less than 10 percent, with domestic consumption dipping below 90 percent of total production for the first time in 1985. Domestic consumption of U.S.-manufactured cigarettes has slipped to 75 percent today, which is a slight rebound from the record low of 65 percent in 1996, when cigarette exports were higher due to demand from industry efforts to develop overseas markets.

While the United States remains the top exporter of cigarettes in the world, America's dominance in the export markets is waning. Following a major bump in export share resulting from the move to expand overseas markets, the U.S. share of the global export cigarette market has continued a decline which began in the 1980s. At the start of that decade, the United States was responsible for one in four cigarettes on the export market. This figure dipped to fewer than one in five by 1985. After returning to 1980 levels briefly in the early 1990s, the U.S. share of the cigarette export market has dropped off to one in five in 2000, with estimates for exports in 2001 to be further off that mark. In terms of total volume of sales, U.S. exports have grown from 81 billion cigarettes in 1980 to over 231 billion in 1995 before dropping to an estimated 145 billion today. As an indicator of how competitive the export market has become, when the United States hit its recent peak of export share (26 percent) in 1990, the total volume of cigarettes sold amounted to 164 billion pieces. This same volume of sales today is equivalent to only 17 percent of the market.

There is little evidence that the declining trend for U.S. cigarette exports will be reversed in the near or long term. American production facilities for all of the major cigarette manufacturers have undergone reductions in staff or have been closed entirely in recent years. As noted, U.S. cigarette manufacturers are shifting production of American-brand cigarettes off-shore, reducing demand for the American-manufactured product. One company, RJ Reynolds, has exited the export market almost entirely through the sale of its foreign operations and the overseas rights to its brands to Japan Tobacco in 1999. RJ Reynolds is obligated to provide its brands to Japan Tobacco for sales overseas until 2002, but Japan Tobacco is under no obligation to purchase these brands from RJ Reynolds and can produce them in its own factories or through licenses with third parties.

Alternatives to Tobacco Production

Given the tremendous uncertainty regarding the future of tobacco production in the United States, there has been increased interest in identifying economic alternatives for tobacco growers. The focus of this work is on crops and activities which can provide supplemental income for farmers as tobacco revenues fall, even with the goal of allowing some growers to exit tobacco farming entirely. Most growers remain skeptical of alternatives, since no crop can yield the value that tobacco can. While tobacco has high production costs which reduce the final return to growers to a more modest level, in most years tobacco growers still realize higher revenues after expenses than growers of most other commodities. These returns are essential to the survival of tobacco growers, who often farm small parcels of land that would be uncompetitive for conventional row crops or other traditional production. Many state land grant universities and private organizations have rushed to provide guidance to farmers looking for a means to remain viable outside of tobacco production. Kentucky specifically earmarked tobacco settlement funds for agriculture, with a specific focus on research and marketing. Both of these elements are vital in the development of alternatives for tobacco farmers.

Tobacco has an advantage over many other crops in that it has a wide tolerance for soils and climate, and has proven to be remarkably hardy in areas where other crops perform poorly. Because of this, tobacco farms often can be ill-suited for other crops for reasons other than their size. Furthermore, tobacco production necessitates equipment and buildings which are fairly specific to the crop, meaning any new agricultural activities will require some new investments and the retiring of existing investments, some with considerable equity remaining. Financing for a transition is seen as critical by many observers if farmers are to find success with alternative crops. Tobacco growers have access to some capital through the Phase II funds of the tobacco settlement, although many growers note that they are faced with debt related to tobacco production that will consume much of these funds.

Much attention has been given to other high-value crops. These agricultural alternatives can only maintain their value so long as production is limited and demand is reliable. As tobacco farmers understand from experience, once

production expands, the value of a crop becomes far less dependable. This reinforces the need for multiple alternatives for tobacco growers. There are a number of production options which may provide growers with sufficient income at reasonable costs to maintain their operations, but the quest for a single crop to replace tobacco across the entire tobacco belt will encounter insurmountable obstacles. Diversification has long been a part of tobacco growers' whole farm plans. Only 18 percent of flue-cured and 42 percent of burley growers rely on tobacco production entirely. Most tobacco farms already are diversified operations, with tobacco only a part of a farm's total production picture. Nonetheless, tobacco is most often the primary cash enterprise on many tobacco farms, and it may subsidize other farm activities when the market for these products is poor. Because of this, simply expanding other farm enterprises will not offset lost tobacco income. Thus, there is a search for high-value alternatives to supplement, and in some cases replace, tobacco.

Many of the agricultural alternatives that have been discussed involve more than a shift in the crop grown, but in the manner of marketing. For tobacco farmers, this is a major transition. Marketing competition in tobacco is chiefly over quality within a range, and, due to the existence of stabilization pools, there is little sales competition between growers. Market variances within tobacco are broad, as well, with the market accepting tobacco over a huge range of quality and characteristics. High-value market crops often involve considerable competition between growers over quality, availability, variety, size, shape, uniformity and a host of other factors, and a very limited range for marketability. The dependency of value on such an array of variables is a major shift for producers, a fact that will be exacerbated by the need to create new marketing relationships. Because many high-value crops require specialized handling, effecting a transition from tobacco to these crops may take several years.

It should be emphasized that few, if any, farmers or researchers believe that there is one single alternative to replace tobacco. For the most part, farmers are seeking alternatives to offset lost tobacco income due to cuts in quota, to provide a more stable and predictable level of farm income, and to diversify their operations in order to mitigate the risks involved with dependency on a single crop. Given the rapid decline in tobacco's fortunes, the search for options has intensified for many farmers committed to staying in agriculture, but unsure whether tobacco will continue to be the primary crop.

Weighing the Options

Farmers are faced with a host of options with regard to diversifying their operations. Before proceeding down any one path, however, thorough evaluation is recommended. William Givan and J. Michael Moore of the Georgia Cooperative Extension Service suggest an eight-point review to assess feasibility:

- ▶ Can the farmer produce this commodity? Are the climate, soil, insects or disease pressures and other factors tolerable to this crop?
- ▶ What are total and per-unit production costs? To determine this, farmers should find someone that has produced this item and estimate all costs, including land, labor and any depreciation.
- ▶ Is additional capital investment, such as a greenhouse, breeder livestock or an orchard, required? If so, a producer should assess the length of time before a return can be expected.
- ▶ What market is available and what is the expected sale price per unit? Where is the market located? How large is the market?
- ▶ Is production help (extension services) available if needed?

- ▶ What resources are available and are any limited? Land, labor, capital and management are a farm's major resources. Stretching any of these beyond their limits creates problems.
- ▶ Are there any off-farm restrictions on water use or waste disposal? Is urban sprawl a factor?
- ▶ Finally, can someone else produce this commodity at a lower cost? Included in this may be very distant producers whose product is less expensive even after shipping costs.

The focus of the search for alternatives has been in two principal areas: high-value crops and value-added activities that can increase yield per acre. Traditional row crops and livestock operations tend to have lower returns per acre than will be acceptable for the tobacco farmer with limited acreage. What follows is a partial examination of alternatives which have been investigated by a range of organizations.

Aquaculture—Already a major industry in the South, aquaculture appeals to tobacco growers because of the availability of expertise, the relatively limited amount of land required for operations, and the potential to earn high returns. Major roadblocks for most farmers are the often significant start-up costs, the need to establish new marketing relationships, and the scarcity of hatcheries in the tobacco-growing region to provide fry for stocking ponds, a limitation which raises the costs of operation for a number of reasons, including the high mortality among imported fry.

Vegetables—high-value market vegetables often are the first crop mentioned by farmers as noted alternatives to tobacco. Peppers, eggplant, tomatoes and sweet corn merely are a sampling of the hundreds of market vegetables with which tobacco growers are experimenting. Many fresh-for-market vegetables (as opposed to vegetables destined for frozen or processed markets) offer excellent returns for high quality produce, but pose major risks because of the vagaries of consumer tastes. Furthermore, market vegetable production is labor-intensive, a barrier for some growers and an added cost for others. Finally, the size of the vegetable market is somewhat limited. Because market vegetables are highly seasonal, perishable, and diminish quickly in salable quality following harvest, the presence of too many producers of the same vegetable will drive the returns down for all but the very best producers, essentially undermining the crop's potential as an alternative.

Organic farming—Organic certification for vegetable or tobacco production offers growers a means to reduce many of their input costs and retain high value through a premium crop. Organic production requires a degree of rethinking of the farming cycle for most growers, with different management and production practices, and a response to common agricultural problems that is very different from the conventional approaches. Organic certification also requires a three-year "resting" period for soils before they can be certified organic, which means three years of production without the benefit of higher values and often with some initial productivity drops due to the readjustment of the fields to the new regimen. Many growers are pursuing this option, however, because organic production yields exceptionally high value and is a fast-growing sector of the food market.

Tobacco—Tobacco is a highly adaptable plant with a number of applications outside traditional consumption through smoking, snuff, or chewing tobacco. Research is being conducted to assess tobacco's potential for energy production, either through the use of the leaves to produce ethanol or bio-methane or through the use of the whole plant as biomass.

A higher value option includes the use of genetically-engineered tobacco to produce pharmaceuticals. Researchers have had high success rates in modifying the genetic code of tobacco. Tobacco plants already have been engineered to produce numerous rare human proteins used in pharmaceuticals. Field tests on transgenic tobacco already have been conducted and will continue. The commercialization of this technology is on the horizon. While the market for such transgenic tobacco will be small, the returns will be high, and growers already experienced with the plant should have an advantage over others in securing contracts or license agreements to raise these crops.

Greenhouse and nursery crops—Already popular in some parts of the tobacco belt, farmers shifting to greenhouse and nursery operations are in a position to capture a segment of the growing market for bedding plants and ornamentals. As with a number of alternatives, greenhouse and nursery operations have high startup and operating costs, commensurate with high returns on their finished stock. Among the advantages for tobacco farmers is the small “footprint” these operations can have and the trend in market growth is very positive, particularly near fast-growing metropolitan areas. Competition within the industry is fierce, however, and access to retailers and precise management practices are crucial for success.

Grape and wine production—In many parts of the tobacco belt, climate and soil conditions are well-suited for the production of grapes and wine. While the market for table grapes in the United States has been saturated for years, the production of wine grapes gives farmers the opportunity to add value to a crop and yield returns on relatively small parcels of land. There are high start-up costs and major management issues for new vineyards. Furthermore, while some regional wines have achieved sufficient quality to garner a wider market, consumer attitudes about Kentucky, Georgia or North Carolina wines will require effort to overcome. Also, wineries, because of the nature of the industry, have long lag periods between establishment and productivity, a complication which will delay any return for the major cash investments beyond what may be reasonable for most agricultural operators.

Specialty livestock—Livestock already is a component of many tobacco farms in the region. Due to changes in the livestock industry, smaller producers find themselves increasingly marginalized as slaughter operations seek to purchase more uniform cattle in lots from large-scale producers. At the same time, however, the market in the United States for specialty livestock, including meat goats, branded beef, free-range poultry and the like is expanding. These animals often bring generous premiums over conventional varieties at market, with only limited additional management costs. A significant cost with respect to branded beef is the purchase of calves or semen, but for some tobacco growers already in possession of prize cattle, this is an opportunity to expand their livestock-related activities. The availability of processing facilities and marketing streams is a further obstacle for these options, although many states have pursued support for farm cooperatives to provide alternatives to distant meat-packing operations as the consolidation in the industry continues. Another high-value livestock option is specialty dairy operations, which add value through cheese production, or produce dairy cows for the export market.

Ginseng—A long-lived perennial herb found in the wild throughout Appalachia, Ginseng root is highly sought after in the herbal and alternative medicine markets, where wild roots can sell for over \$400 per pound. Ginseng is farmed extensively throughout the United States and Canada, but farm-raised ginseng markets for far less money, often only \$10 per pound. Unfortunately, the high prices for wild ginseng has also depleted the natural population to such an extent that it has become threatened with extinction

in much of its range. By naturalizing ginseng in managed woodlands, landowners can establish self-seeding ginseng populations that can be perpetually, if sustainably, harvested and marketed as the higher value wild variety. This method has several limitations and risks, including the need to establish a site in a suitable area, the risk of loss to disease, rodents, or theft, and the potential for a drop in the market value. Nonetheless, under the right conditions, wild simulated ginseng can provide substantial returns per acre.

Industrial hemp and other fiber crops—Fiber production, particularly industrial hemp, has received considerable attention from the media as well as farm advocates. During World War II, farmers in Kentucky and elsewhere were encouraged to grow hemp, which was needed for rope and was unavailable from Asia, the primary source at the time. Hemp’s close relationship to marijuana, however, makes it a prohibited crop in the United States, even though it lacks the contraband’s narcotic potency. The U.S. attorney general, the Drug Enforcement Agency (DEA) and most law enforcement associations oppose the legalization of hemp production, claiming that fields of industrial hemp could shield narcotic varieties, or that law enforcement would be unable to distinguish between the two varieties. Opposition is further mounted against legalizing the crop as a first step toward legalizing marijuana, something also opposed by most industrial hemp backers.

Against this backdrop, some very limited field tests have been allowed to go forward by the DEA, but no commercial production has been allowed. Interestingly, most analysts observe that the real economic potential for fiber production, including hemp as well as flax and kenaf, is relatively limited. While fiber from these sources can be used for a variety of purposes including textiles, the facilities to process them are few, adding considerably to the costs of marketing the crop. Cotton remains the predominant natural cellulose fiber in textiles, with other fibers accounting for very small portions. Within the paper industry, the use of hemp and kenaf in the recycled and specialty paper market faces processing and supply obstacles, as well as competition from a host of inexpensive alternatives.

Other crops—The foregoing list provides a slim sampling of options for supplemental crops for tobacco growers. Among the other options being investigated by researchers as alternatives to tobacco production are: cut flowers; Christmas trees; hydroponically-grown vegetables; culinary herbs; medicinal plants; small fruits; pumpkins; truffles; and turfgrass. Researchers also are assessing new production practices, including mixing livestock and forestry operations, new mulching materials, mixed cropping and intercropping, and others to boost the per-acre yield and return for small farmers.

Non-crop options—For a handful of farmers, the best cash crop after tobacco may be tourists and seasonal visitors. Agricultural tourism, such as farm tours and exhibits, harvest festivals, spring planting celebrations, and summer produce-related fairs, have become a booming source of income in rural communities located close to metropolitan areas. While not a replacement for farm activities, the income from visitors can provide extra farm income as other receipts slide, as well as provide new markets for farm produce. Related to this is the concept of “pick-your-own” farms, in which customers are invited to harvest their own produce for a fee, and community-supported agriculture, where nearby residents purchase “shares” of a season’s produce in advance and receive a weekly allotment of vegetables from the farm. Such arrangements require considerable effort to establish a market and pose special challenges, including water and facilities for visitors, liability insurance, and increased managerial time during harvest.

There are many farmers who will attempt to replace lost tobacco revenue with new enterprises, either on the farm or off, or through off-farm employment. Off-farm income is already a major portion of household income for many farmers. In heavily tobacco-dependent communities, opportunities for outside employment are scarce, with unemployment rates in counties with the greatest reliance on tobacco regularly higher, and new employment growth perennially lagging, as compared to counties with more diversified agricultural and non-agricultural economies. Economic development programs targeted at tobacco-dependent communities will be of great importance in developing meaningful employment opportunities for those producers needing outside income, and for those in these communities whose livelihood is disrupted by the transformation of the tobacco industry. As tobacco farmers seek to replace tobacco income with off-farm income, many will face a new job market with little formal training outside of tobacco production. Community colleges and state workforce training programs exist to serve these needs, but possibly will need to be enhanced and retooled as demand increases and changes.

For those opting to develop new on-farm enterprises, whether related to farming or not, there likely will be a need for credit, training, and marketing and management assistance. In many cases, tobacco farmers live in areas where these services are overtaxed or non-existent. Extending assistance to this group of farmers to ease the start-up of new enterprises should improve the success rate of these operations and, in the long-run, prove a prudent investment of state resources that will bring returns to both growers and their communities.

A New Role for Cooperatives

An obstacle to success for many of the opportunities for supplemental income mentioned is the potential for growers glutting the marketplace with a particular product, failing to target consumers' tastes and preferences, or not capturing sufficient value in their produce. To address this issue, many growers are turning to new cooperatives to assist with coordinating production and marketing with other major producers and cooperatives, including those in other regions. While familiar with the cooperative structure of tobacco boards, the operation of these new associations often requires more personal investment by their members for them to succeed. For many of these new organizations, there is a need to build capacity internally even as they seek outside partners, markets and input. For new ventures, in particular, there is a need to conduct complex feasibility studies before entering production to determine whether the crop is economically viable for farmers. State assistance in the form of consultants from a variety of state agencies and private sector organizations can spell the difference between a cooperative thriving or folding.

Once farmers expand into new crops, the advantages of membership in a cooperative become evident. While few individual farmers can afford the processing and packaging facilities required to sell to more extensive markets, cooperatives composed of several farmers create a "critical mass" in which these costs, borne by multiple growers, are reasonable. State assistance in developing this infrastructure can be of great value in helping farmers diversify their production and succeed in capturing market share.

Obviously, some, if not most, tobacco farmers will try to remain in tobacco production as their principal cash-generating crop. For this group, there are several initiatives to provide assistance in making tobacco operations more efficient. Also, these farmers likely will continue to acquire tobacco quota, growing larger and larger, creating new issues for them in terms of business and risk management, cash flow and debt, and labor. Furthermore, the shifting nature of tobacco, particularly the trend toward contract production, will pose new challenges for growers of all sizes. In order to remain competitive, particularly

if the tobacco program changes or ends, U.S. tobacco farmers will need advanced production techniques to lower their production costs and boost their return over investment per acre. As farmers search for alternatives, they will continue to need the support and assistance of state extension agencies to keep their tobacco activities profitable.

Tobacco Communities

Tobacco is grown in 568 counties across 20 states, with production concentrated in the Southern United States. Across the tobacco belt, the crop is of varying economic importance, playing only a small role in some parts of the region while serving as the dominant economic and social element in others. Kentucky, North Carolina and Tennessee have the greatest number of counties involved in tobacco production. Coastal South Carolina and Georgia, northern Florida, southern Indiana, Maryland, Ohio and Virginia all have significant economic, historical and social connections to tobacco production.

The impacts of changes in tobacco will be felt unevenly across the tobacco-producing region. Of the 568 counties producing tobacco, the USDA has assessed that only 80 depend on tobacco for more than 5 percent of the total income in the county, a level that is used to identify dependency on the crop. An additional 135 counties range between 1 percent and 5 percent of the county's total income, making them "vulnerable," depending on other economic conditions in the county. A further measure of vulnerability to changes in tobacco production is proximity to urban areas, both because of increased employment opportunities off the farm, improved high-value on-farm alternatives, and elevated property values. One-third of all tobacco growing counties are not near any metropolitan areas, accounting for one-fifth of total tobacco production. Farms located in these areas will have more difficulty finding supplemental income as tobacco receipts decline.

Changes in the tobacco sector have an impact beyond the farms that grow the crop. Tobacco is a major source of business for suppliers of seed, fertilizer, and chemicals; agricultural equipment dealers, and farm credit providers. Tobacco is a high-cost crop, requiring an average of \$2,000 per acre in non-labor inputs. Other crops and livestock are considerably less costly to grow (corn requires an average of \$200 per acre) and, thus, affect local economies to a less proportionate degree.

Tobacco also is responsible for a significant number of jobs, particularly in the rural South. Tobacco provides some permanent and considerable seasonal employment opportunities associated with planting, cultivation and harvesting,

as well as at auction warehouses and industry tobacco handling centers, where tobacco is transported for stemming and repacking after auction. Furthermore, cigarette manufacturing, and the industries that support it, are major employers both inside the tobacco belt and elsewhere. These often are relatively high-paying jobs in a sector (manufacturing) in which wages historically are low and jobs have been vanishing for decades. In all, there are an estimated 500,000 jobs directly dependent on tobacco, as well as many more in supporting industries. Finally, cigarette manufacturing has a major presence in a number of small- and medium-sized metropolitan areas, where they are major parts of the local economy, including Richmond, Virginia; Louisville, Kentucky; Winston-Salem, North Carolina; and Macon, Georgia.

Tobacco communities already have felt the impact of changes in tobacco production through the introduction of contract sales. Direct sales of burley and flue-cured tobacco in 2001 bypassed auction houses throughout the South, resulting in even fewer sales days than reductions in quota alone can account for. For the 2002 season, there is little doubt that some auction warehouses will open only as tobacco receiving stations and many more simply will not open at all. This translates into a loss of employment and income for those directly associated with the warehouses, but also a loss for the communities where they are located. If the tobacco program is eliminated or transforms into a system more reflective of global market pressures, the trend toward low-cost, large-scale production and direct purchasing will accelerate the decline for isolated rural auction warehouses.

Because tobacco farmers have diversified to some extent in the past decade, there has been a decline in the overall importance of tobacco to the economies in many Southern communities, particularly with respect to non-farm industry. This has happened against the backdrop of diminishing returns for agricultural operations of all kinds in the South, however, which makes tobacco's position as a consistent cash earner increasingly important, even for diversified farmers. Tobacco remains a dominant crop for parts of Kentucky and North Carolina, and is a vital part of the rural economy in Virginia and parts of South Carolina, Georgia, and Tennessee.

Analysis by Fred Gale of the Economic Research Service of the USDA provides some insight into how changes in tobacco's performance as a cash crop will affect different communities. According to Gale, tobacco accounts for less than half of farm sales in most tobacco counties, with the average of the tobacco share of farm sales at about 20 percent for all tobacco counties. In the heart of the tobacco belt (the Virginia-North Carolina border area and eastern Kentucky), tobacco provides 70 percent of farm receipts. This good news—that tobacco is not necessarily the monolithic crop that it has been historically perceived to have been—is tempered by the fact that it is most dominant in regions where climate, farm sizes, and terrain make alternatives scarce, production costs high and farm expansion difficult. Any changes in tobacco production patterns will undoubtedly leave these regions with lower production and few good options.

Gale's conclusions also do not necessarily mean that tobacco is not an important part of farm household income in tobacco counties with diverse economies. Nearly 80 percent of tobacco farms' income is from tobacco sales. Many growers who, like other farmers, have off-farm employment rely on the returns from tobacco sales to keep their farm operations solvent. While most tobacco producing counties have relatively diversified economies, they do not often experience growth of an order to absorb rapid drops in tobacco earnings. In the handful of counties that are the most dependent on tobacco, economic alternatives are even more limited. (Of the 33 most tobacco-dependent counties in Gale's analysis, 26 are in Kentucky, four are in North Carolina, with one each in Indiana, Tennessee, and Virginia.) Furthermore, within tobacco-dependent counties, nearly half of employed residents commuted out of the county for work,

indicating that there are few employment opportunities within these counties. As tobacco experiences declines and the economy slows, employment options likely will become even more scarce and competitive. For many growers in counties far from urban areas, appropriate employment opportunities may not exist at all.

Making the Shift

Given the uncertainty among growers and communities and the close ties between tobacco income and the local economy in much of the tobacco belt, there have been serious discussions throughout the region on how to manage for an uncertain future. Many local leaders have hoped that a portion of states' tobacco settlement funds would be used to provide assistance to the communities most affected, an approach followed to greater and lesser degrees in Kentucky, North Carolina, Tennessee, Virginia and elsewhere. States with more diversified economies, or where tobacco farming is less important either historically or economically, have not targeted transitional assistance to tobacco communities specifically. For those seeking tobacco settlement funding to counteract the loss in income from tobacco farming, there is at times tension between those who wish to see funds invested in agricultural development projects and others who desire funding for rural and community development projects. These two concepts can be blended, however, as has been the case in Kentucky, where state funding for alternative farm activities is coupled with support for new entrepreneurial activities in tobacco counties with few extant alternatives to tobacco.

Farmers often note that capital is a major need. While there generally is no shortage of capital for rural development, rural lenders often are very conservative and reluctant to extend credit to risky new projects. As more farmers attempt to develop new enterprises, some of them radically different from existing operations in the area, there is going to be an increased demand for credit. Rural lenders, facing this increase in demand, logically will prioritize those projects with the lowest levels of risk, exacerbating the limitations on capital access for those tobacco farmers with unfamiliar entrepreneurial ambitions. Using tobacco settlement and other rural development funds to partially or wholly guarantee business development loans would allow these rural lenders the confidence to extend credit to a greater range of opportunities, accelerating the diversification of the local economy.

While declining tobacco production as a result of quota cuts has reduced tobacco-related spending by producers, their expansion into supplemental and alternative activities can replace some of this lost tobacco-related business in the local economy. As communities consider alternatives for farmers, the availability of inputs for these alternatives should be considered. A major concern raised about contract hog and poultry production is the use of company-designated (and often company-owned) input providers, a practice which improves cost-efficiency but bypasses local economies. Rural communities seeking to improve their economic portfolios would prefer to encourage activities that can complement and accentuate the local economy. Toward that end, coordinating local economic development activities with agricultural diversification should be a priority, particularly in the most tobacco-dependent communities.

As tobacco shrinks as a percent of the total farm economy, rural development investment, spurred in part to support tobacco communities, could serve as a timely injection of cash into the local economy in different sectors, including construction, retail, and services. There is a need for these communities to prepare for a change in focus away from tobacco and into an even more diversified economy. This is something that may take a concerted effort to assess and promote the advantages and opportunities available in tobacco-producing counties, to develop partnerships with regional development

organizations, and to leverage available private, state and federal support for rural development activities.

For smaller counties, the intricacies of federal and state program rules and the daunting task of accessing and utilizing the manifold support services available to them may limit their efforts. For many poor counties there exists only limited capacity in either the public or private sector to conduct the initial investigation and analysis necessary to take advantage of the opportunities available. Economic development activities in these counties may be further limited by a shortage of trained personnel to identify and provide technical support for new initiatives.

Given the range of tobacco communities and their varied situations, options for easing the transition underway in tobacco will be varied. Financial support, while necessary for some communities, will be underutilized or ill-targeted in another. Technical support and guidance may be imperative in one county and unneeded elsewhere. Making available to tobacco communities in particular the resources—financial, intellectual and human—that will support the diversification of tobacco-dependent communities’ economies will be necessary throughout the region in the coming years as tobacco receipts decline and tobacco communities face financial hardships.

Unexpected Alliance: Tobacco Farmers and Public Health Advocates

For some time, the public health community has designated smoking as a major cause of preventable illness and death in the United States, and has worked diligently to reduce smoking and impose restrictions on access to cigarettes. Tobacco farmers historically have viewed public health advocates as “the enemy” (and vice versa) working single-mindedly to destroy their way of life. By the 1980s, however, as public health campaigns began to have noticeable impacts on smoking rates, some public health advocates began to investigate the impact of tobacco policy on farmers and their communities. What they learned from discussions with tobacco farmers, agricultural groups, rural sociologists and others was that the gains in public health by reducing smoking were having unintended negative consequences on the economic and, by extension, public and mental health in tobacco country. By the 1990s, these discussions resulted in recommendations for increased assistance to U.S. tobacco growers, and in discussions between health advocates and grower representatives.

From this beginning came the Southern Tobacco Communities Project, which brought together growers, public health representatives and community organizations to explore what common ground the groups might find. Together with numerous partners, the Project released 10 shared core principles demonstrating a commitment to disease reduction and the ensured stability of American tobacco farmers and communities. Following this, the group worked together at the state and federal level to influence policy and legislation. Among their efforts was a push for the application of tobacco settlement funds to help tobacco growers and protect public health, particularly in the major tobacco growing states. When President Clinton created the Presidents’ Commission, the work of this multi-state contact group was used as both a model and foundation, with the two co-chairs and much of its membership drawn from active participants in the earlier discussions.

Conclusion

Tobacco is not alone among agricultural commodities facing difficult times. Cycles of boom and bust seem to reflect the norm rather than the exception for U.S. agricultural producers. But tobacco represents in many ways a special case and, as such, requires special attention. Tobacco is subject to federal intervention in the market, a fact that improves the value of tobacco in terms of price per pound, but at the cost of limiting production, which in the end effectively decreases the total revenue a farmer can expect from the crop. Tobacco growers do not respond to market pressures in the same manner as most farmers, but respond to signals from a program that keeps prices artificially high and, in turn, keeps more farmers in tobacco production than the market would otherwise support.

A complication of this is that for many of the same farmers who are able to continue growing tobacco because of the tobacco program, they are unlikely to find sufficient alternatives to tobacco income if it were to disappear. Program controls on the geographic spread of tobacco production and the maintenance of historical production patterns for more than 70 years have created an anomaly among agricultural crops: a major crop where small farms are the predominant producers. Because of this, tobacco farmers are almost certain to find it impossible to simply replace their tobacco farming income with other crops.

The commodity value of tobacco quota is a major aspect of most quota-holders' economic portfolio, either through the active use of it to produce tobacco, the income potential for lease or rent, or the collateral value for loans against quota. For older quota holders, quota income may be a primary source of retirement income. Because of the production controls of the federal program, tobacco farming also has been restricted to its historic 1930's production range. Included in this range are some of the poorest communities in the rural South. Tobacco provides for these areas a profitable commodity that cannot be replaced in the same magnitude. Because of the existence of the tobacco program and the multitude of influences it has had on shaping the economic relationships of tobacco farmers and their communities, it is necessary to approach tobacco farmers as a special case within agriculture.

A major limitation of the tobacco program is the added costs that the quota system imposes on domestic tobacco above and beyond the increased price of tobacco through production controls. Chief among these added costs is the commodity value of a tobacco quota. Because quota represents the opportunity to produce tobacco, quota has a value in and of itself. As quota is reduced in quantity, it increases in value. Thus, while tobacco prices remain above global market clearing prices, most of this added value is accrued by quota holders, only about half of whom actually raise tobacco. Farmers who lease or rent quota pay the added costs of quota, which increases operating costs and places significant barriers to entry for young farmers and to expansion to farmers interested in increasing their productive capacity. Support for restructuring the quota system is gaining momentum among growers. Any such action would remove the cash value from production allotments, either through their conversion into permits through the abolishment of production limitations altogether, or through the requirement that allotments must be used by the owner regularly over a determined period or surrendered. To accomplish this, it is equitable to compensate quota holders for lost revenue.

The shift from an open-market production system to a contract sales system seems inevitable. Contracting can eliminate inefficiencies in tobacco marketing and improve the economic competitiveness of American leaf in both domestic and foreign markets. There is also, however, the strong potential for growers to be placed at a disadvantage in a restricted market where only a limited number of purchasers set the price and terms in an environment where market information is tightly controlled. The expansion of contract production has led to calls for increased protections for producers in contract relationships and for requirements for public disclosure of tobacco market information regardless of how the tobacco is sold.

Because one of the major challenges U.S. tobacco farmers face in the market is the high cost of American leaf against foreign production, there has been interest in the creation of a dual-market system, such as in peanuts, where tobacco grown for export could be marketed at lower prices in exchange for increased production allowances, or a removal of all production controls. This would preserve tobacco production controls for the domestic market, but allow farmers the opportunity to expand production into global markets in a cost-effective manner. There are several drawbacks to such a proposal, not the least of which is the uncertain future of the peanut program. Furthermore, increased tobacco production for export is not likely to garner much support in Congress, where such a shift would need to be authorized, since it runs contrary to decades of action on smoking cessation. Also, the regulatory and logistical hurdles in recreating the peanut program for tobacco is likely to impose unacceptable burdens on growers and tobacco companies alike. Finally, while increased production could reduce costs to market-clearing levels for some producers, these opportunities for expanding production would be distributed unevenly throughout the tobacco belt, with smaller farmers less likely to be able to take advantage of the new opportunities.

Regardless of the end results of the changes in tobacco, it is abundantly clear that tobacco farmers and communities will be drastically changed. Quota and production cuts, industry layoffs and the loss of sales and jobs in secondary industries have had an impact on these communities already. The communities most dependent on tobacco income also are often the least likely to attract investment and new industry, and are the least able to replace tobacco income with other agricultural alternatives. To cushion the impact of the changes to the tobacco industry, support for rural and community development needs to be improved and redesigned to respond to what likely will be a major transition in rural communities during the next 10 years.

Tobacco has been a fixture of the agricultural and economic landscape of America for nearly 400 years. During that time, production and marketing of the crop have changed considerably. Tobacco today is at a crossroads in America. The United States no longer is able to move tobacco markets unilaterally, and American growers are capturing an increasingly small portion of the global tobacco market. Few predict the demise of American tobacco production, but its pre-eminence as a cash crop is being challenged by a crowded global market and a vastly changed domestic one. The transition for tobacco from unchallenged dominance to participant in a globalized system will have profound repercussions throughout the region and beyond. Preparing for these changes, and providing for as smooth an adjustment as possible, will be the challenge for policymakers and farmers for some time to come.

References and Resources

“A Lighter Risk for Smokers?” *Richmond Times-Dispatch*, Richmond, Virginia, October 2, 2000.

“Carter v. Williamson (8/96),” *CourtTV*, from the Internet site www.courtTV.com/verdicts/carter.html, accessed on October 12, 2001.

“Echineacea as a tobacco crop alternative,” Center for Integrated Agricultural Systems, College of Agricultural and Life Sciences, University of Wisconsin-Madison, from the Internet site <http://www.wisc.edu/cias/pubs/briefs/048.html>, accessed on August 29, 2001.

“Flue-Cured Tobacco Contracting,” The University of Georgia College of Agriculture and Environmental Sciences Cooperative Extension Service, from the Internet site www.ces.uga.edu/Agriculture/agecon/pubs/comm/tobaccocontract.htm, accessed April 3, 2001.

“Governor Glendening Announces Maryland is Poised to Close the Book on Tobacco Farming,” press release from the Governor’s press office, Annapolis, Maryland, July, 2001.

“Historical Sketch,” Special Collections of the National Agricultural Library, from the Internet site www.nal.usda.gov/speccoll/findaids/tobacco/hist.html, accessed on March 16, 2001.

Industrial Hemp and other Alternative Crops for Small-scale Tobacco Producers, Agricultural Research Service and Economic Research Service, United States Department of Agriculture, Washington, D.C., Summer 1995.

“The Beginning: History of the Auction System,” Tobacco Heritage Organization, from the Internet site www.tobaccoheritage.org/complethistoryofauctionsystem1.htm, accessed on March 16, 2001.

“Tobacco and its Culture,” an interview with John van Willigan, *Kentucky Humanities*, Kentucky Humanities Council, Lexington, Kentucky, from the Internet site www.kyhumanities.org/magazine/tobacco_culture.htm, accessed on September 28, 2001.

“Tobacco Program History,” Agricultural Marketing Service, United States Department of Agriculture, from the Internet site www.ams.usda.gov/tob/tobhist.htm, accessed on March 28, 2001.

“Tobacco Settlement: States’ Use of Master Settlement Agreement Payments,” United States General Accounting Office, Washington, D.C., June 2001.

Transition Programs/Strategies for Southern Maryland Tobacco Farmers, Tri-County Council for Southern Maryland Agriculture Program, from the Internet site www.tccsmd.org/web/ag/t_buyout.html, accessed on August 29, 2001.

“Turning over New Ground,” *The Lexington Herald-Leader*, Lexington, Kentucky, March 18, 1999.

Banker, David, and Janet Perry. “Contracting Changes How Farms Do Business,” *Rural Conditions and Trends*, Vol. 10, No. 2, United States Department of Agriculture, Washington, D.C., July 2000.

Beelman, Maud and Zoe Davidson. “Support for Tobacco Trade: Up in Smoke,” International Consortium of Investigative Journalists, Center for Public Integrity, Washington, D.C., November, 1999.

Bennett, Chuck. “Biggest in the World: An overview of the STMA and the Chinese Cigarette Industry,” *Tobacco Reporter*, October 15, 1999.

- Benzhong, Kang. "BAT knocks hard on China's door," from the Internet site [www/sinopolis.com/Archives/TOPSTORY/ts_010720_04.html](http://www.sinopolis.com/Archives/TOPSTORY/ts_010720_04.html), accessed on September 4, 2001.
- Bhardwaj, Harbans L., Andy Hankins, Tadesse Mebrahtu, Jimmy Mullins, Muddappa Rangappa, Ozzie Abaye, and Gregory E. Welbaum. "Alternative Crops Research in Virginia," from J. Janick (ed.) *Progress in New Crops*, ASHS Press, Alexandria Virginia, 1996.
- Bickers, Chris. "Nitrosamine Costs Make Farmers Fume," *Progressive Farmer*, Birmingham, Alabama, May, 2000.
- Bickers, Chris. "Tobacco Contracting Comes on Strong," *Progressive Farmer*, Birmingham, Alabama, January/February 2001.
- Blackwell, John Reid. "Tobacco's 'turning point,'" *Richmond Times-Dispatch*, Richmond, Virginia, July 26, 2001.
- Bogo, Jennifer and Jonathon Labozzetta. "Up in Smoke: Tobacco Growers Look Elsewhere to Save the Family Farm," *E Magazine*, March-April, 1999.
- Borio, Gene. *Tobacco Timeline: A Capsule History of Tobacco*, from the Internet site www.tobacco.org/History/Tobacco_History.html, accessed on March 14, 2001.
- Breed, Allen G. "For Tobacco Auctions, It May Be The Last Call," Fox News Online, October 20, 2000.
- Brown, Blake A. *Flue-cured Tobacco Outlook and Situation*, North Carolina State University, Raleigh, North Carolina, December 28, 2000.
- Brown, Blake, and Tomislav Vukina. *Provision of Incentives in Agricultural Contracts: The Case of Flue-Cured Tobacco*, Department of Agricultural and Resource Economics, North Carolina State University, Raleigh, North Carolina, January 2001.
- Brown, Blake, and Tomislav Vukina. *The Emergence of Tobacco Contracts: What Should North Carolina Farmers Expect?* Department of Agricultural and Resource Economics, North Carolina State University, Raleigh, North Carolina, January 2001.
- Caldwell, D. "Back to the Future," *On-line News*, North Carolina Cooperative Extension Service, from the Internet site ww.ces.ncsu.edu/depts/agcomm/writing/2000/retrofit.htm, accessed May 29, 2001.
- Capehart, Jr., Thomas C. "Trends in the Cigarette Industry After the Master Settlement Agreement," United States Department of Agriculture Economic Research Service, Washington, D.C., October 2001.
- Capehart, Tom. "U.S. Tobacco Import Update," *Tobacco Situation and Outlook*, United States Department of Agriculture Economic Research Service, Washington, D.C., September 2000.
- Chase, Randall. "From truffles to tobacco? Farmers eye alternative crop," *The Nando Times*, from the Internet site www.archive.nandotimes.com/newsroom/ntn/biz/091298.html, accessed on August 29, 2001.
- Clauson-Wicker, Su. "Farmers Face Fork in the Road," *Virginia Tech Magazine*, Blacksburg, Virginia, Summer 2000.
- Clines, Francis X. "Maryland Farmers Turn From Tobacco to Flowers," *The New York Times*, February 25, 2001.
- Curry, Tom. "Tobacco cash may plug budget holes," MSNBC, from the Internet site www.msnbc.com/news/543823.asp accessed on March 14, 2001.
- DeLozier, Stan. "As growers flock to new deal, burley auctions vanishing," *The Knoxville News-Sentinel*, Knoxville, Tennessee, September 12, 2000.

- Dickson, Terry. "Farmers pay price for safer tobacco," *The Florida Times-Union*, Jacksonville, Florida, March 5, 2001.
- Dmitri, Carolyn, and Edward Jaenicke. "Contracting in Tobacco?" *Tobacco Situation and Outlook*, Economic Research Service, United States Department of Agriculture, Washington, D.C., December 1999.
- Dresser, Michael. "Buyout to cut Md. tobacco crop 81%," *The Baltimore Sun*, Baltimore, Maryland, July 31, 2001.
- Dunkley, Mac, managing director, Bright Belt Warehouse Association. Interview with the author, April 27, 2001.
- Durham, Ralph. "Tobacco Farmers Must Weigh What Matters Most," *The Progressive Populist*, Austin, Texas, April 1999.
- Farmers' Use of Marketing and Production Contracts*, Farm Business Economics Branch, Rural Economy Division, Economic Research Service, United States Department of Agriculture, Washington, D.C., December 1996.
- "Flue-Cured Tobacco Cooperative Stabilization Corporation will operate auction market centers," press release, "Flue-Cured Tobacco Cooperative Stabilization Corporation, Raliegh, North Carolina, November 14, 2001.
- Frankel, Glenn. "Big Tobacco's Global Reach," four part series in *The Washington Post*, November 17-20, 1996.
- Furgurson III, E.B. "A hazy future - Officials looking for alternative crops for state's tobacco farmers," *The Capital*, Annapolis, Maryland, July 9, 2000.
- Gale, H. Frederick, Linda Foreman, and Thomas Capehart. "Tobacco and the Economy: Farms, Jobs, and Communities." Economic Research Service, United States Department of Agriculture, Agricultural Economic Report No. 789, Washington, D.C., September 2000.
- Gale, H. Frederick. "Tobacco Communities Facing Change." *Rural Development Perspectives*, vol 14, no. 1, United States Department of Agriculture, Washington, D.C., May, 1999.
- Givan, William and J. Michael Moore. "The Magnitude and Economic Effects of Flue-Cured Tobacco Quota Losses in Georgia," memo to extension agents in tobacco producing counties, College of Agriculture and Environmental Science Cooperative Extension Service, University of Georgia, Athens, Georgia, March 12, 2001.
- Givan, William and J. Michael Moore. "What If: The Alternative to Tobacco – is Tobacco?" College of Agriculture and Environmental Science Cooperative Extension Service, University of Georgia, Athens, Georgia, March 12, 2001.
- Givan, William, and J. Michael Moore. "Tobacco and the Georgia Farm Economy," comments made at "A Georgia Tobacco-Health Issue Dialogue," Tifton, Georgia, February 7, 2001, from the Internet site www.ces.uga.edu/Agriculture/agecon/pubs/comm/state.htm, accessed on September 28, 2001.
- Global Agriculture Information Network reports, Foreign Agriculture Service, United States Department of Agriculture, Washington, D.C., 1997-2001.
- Hankins, Andy. "Producing and Marketing Wild Simulated Ginseng in Forest and Agroforestry Systems," Virginia Cooperative Extension, Virginia State University, Petersburg, Virginia, November 2000.
- Karg, Pamela J. "New Directions: Co-ops help tobacco farmers transition to new crops," *Rural Development Perspectives*, United States Department of Agriculture, Washington, D.C., September 2000.
- Kaufman, Marc. "U.S. Helps Tobacco in Trade Case," *The Washington Post*, June 26, 2001.

- Kelder, Graham and Patricia Davidson, ed. *The Multistate Master Settlement Agreement and the Future of State and Local Tobacco Control*, The Tobacco Control Resource Center, Inc., Northeastern University School of Law, Boston, Massachusetts, March 24, 1999.
- Knight, Edward, Patricia C. Ayers and Gerald Mayer. "The U.S. Tobacco Industry in Domestic and World Markets," CRS Report for Congress, Congressional Research Service, Washington, D.C., June 9, 1998.
- Knight, Edward, Patricia C. Ayers, and Gerald Mayer. *The U.S. Tobacco Industry in Domestic and World Markets*, Congressional Research Service, Library of Congress, Washington, D.C., June 9, 1998.
- L'Heureux, Dave. "Farmers leery of direct contracts promoted by 'Big Tobacco,'" *The State*, Columbia, South Carolina, January 28, 2001.
- Leavey, James, ed. *The FOREST Guide to Smoking in Scotland*, Quiller Press, United Kingdom, 1998.
- Lindblom, Eric. *False Friends: The U.S. Cigarette Companies Betrayal of American Tobacco Growers*, National Center for Tobacco-Free Kids, Washington, D.C., December, 1999.
- Lu, Adrienne. "Feeling burned by the rules," *The News and Observer*, Raleigh, North Carolina, August 28, 2001.
- Matus, Ron. "Tradition is up in smoke," *The Gainesville Sun*, Gainesville, Florida, September 20, 2000.
- Mayse, James. "Farmers worried about future of tobacco warehouses," *Lexington Herald-Leader*, Lexington, Kentucky, February 17, 2001.
- McGrew, Jane Lang. "History of Tobacco Regulation," National Commission on Marijuana and Drug Abuse, from the Internet site calyx.com/~schaffer/LIBRARY/studies/nc/nc2b.html, accessed on March 14, 2001.
- McLeod, Mike and Dale McNeil. "Congress Will Consider Tobacco Program Reforms Early in 1998." *The Agricultural Law Letter*, McLeod, Watkinson & Miller, Washington, D.C., November-December 1997.
- Mitchell, Kristin B. "Tobacco plan cost is estimated at \$21 billion," *Richmond Times-Dispatch*, Richmond, Virginia, March 22, 2001.
- Nutter, David. "Transgenic tobacco could lead to pharmaceuticals," *Spectrum*, Virginia Polytechnical University, Blacksburg, Virginia, July 2, 1998.
- Patton, Janet. "\$10 million asked to aid farmers still selling tobacco at auctions," *Lexington Herald-Leader*, Lexington, Kentucky, October 10, 2001.
- Powder, Jackie. "Experiment may turn tobacco to wine," *The Baltimore Sun*, Baltimore, Maryland, February 20, 2001.
- Preliminary Report of the Kentucky Tobacco Task Force*, Frankfort, Kentucky, December, 2000.
- Reaves, Dr. Dixie Watts. "Economic Impacts of Tobacco Industry Changes on Producers and Their Communities: Challenges and Opportunities." Report for the Community Affairs Office, Federal Reserve Bank of Richmond, Richmond, Virginia, August, 1999.
- Redhead, Stephen C. *Tobacco Master Settlement Agreement (1998): Overview, Implementation by States, and Congressional Issues*, Congressional Research Service, Library of Congress, Washington, D.C., November 5, 1999.
- Schreiner, Bruce. "Near-empty burley warehouses show industry changes," *Lexington Herald-Leader*, Lexington, Kentucky, January 25, 2001.

- Smith, Gina. "Tobacco yielding cures to diseases," *The State*, Columbia, South Carolina, June 23, 2001.
- Snell, William and Daniel Green. "Policy Issues and Options Surrounding a Buyout of U.S. Tobacco Quotas," Department of Agricultural Economics, University of Kentucky, Lexington, Kentucky, December 2000.
- Snell, William M., A. Blake Brown, and Russell W. Sutton. "Tobacco Policy," Paper on U.S. Tobacco Grower Policies Past and Present, from the Internet site www.boldweb.com/greenweb/tobacco1.html, accessed on April 3, 2001.
- Snell, William, and Daniel Green. "Tobacco Contracting Issues and Update for 2001," University of Kentucky Department of Agricultural Economics, Lexington, Kentucky, March, 2001.
- Snell, William, extension professor, University of Kentucky Department of Agricultural Economics. Interview with the author, April 10, 2001.
- Snell, William. "The U.S. Tobacco Program: How It Works and Who Pays For It," Department of Agricultural Economics, University of Kentucky, Lexington, Kentucky, September, 1996.
- Snell, William. *Will the Federal Tobacco Program Survive?* Department of Agricultural Economics, University of Kentucky, Lexington, Kentucky, June, 2000.
- Stohr, Greg. "Brown & Williamson Can't Recover \$1.1 Mln From Smoker," Bloomberg Business News, October 12, 2001.
- Sutton, R.W. "Tobacco Agreement Issues - Farm Level Considerations," Cooperative Extension Service, Department of Agriculture and Applied Economics, Clemson University, Clemson, South Carolina, September 10, 1997.
- Tart, Glenn. "Market Preparation of Burley Tobacco According to U.S. Standards," North Carolina State University, Raleigh, North Carolina, 2000.
- Tiller, Kelly H., Daryll E. Ray and Stephen P. Slinsky. "Changing Tobacco Markets: Effects on Burley Tobacco Farms," Agricultural Policy Analysis Center, Department of Agricultural Economics and Rural Sociology, The University of Tennessee, Knoxville, Tennessee, 1999.
- Tiller, Kelly H., Daryll E. Ray, and Stephen P. Slinsky. *Changing Tobacco Markets: Effects on Burley Farms*, Agricultural Policy Analysis Center, Department of Agricultural Economics and Rural Sociology, the University of Tennessee, Knoxville, Tennessee, August, 1999.
- Tiller, Kelly. "Tobacco Issues: Contracting and Use of Tobacco Settlement Payments," presentation to the 2001 Agricultural Outlook Forum, Arlington, Virginia, February 23, 2001.
- Tobacco at a Crossroads: A Call for Action*, Final Report of the President's Commission on Improving Economic Opportunity in Communities Dependent on Tobacco Production While Protecting Public Health, Farm Service Agency, United States Department of Agriculture, Washington, D.C., May 2001.
- Tobacco Briefing Room, from the Internet site www.ers.usda.gov/briefing/tobacco, Economic Research Service, United States Department of Agriculture, Washington, D.C., accessed March 12, 2001.
- Tobacco Market News, Agricultural Marketing Service, United States Department of Agriculture, Washington, D.C.
- Tobacco Situation and Outlook*, Economic Research Service, United States Department of Agriculture, Washington, D.C., April 2001.
- Tobacco Situation and Outlook*, Economic Research Service, United States Department of Agriculture, Washington, D.C., September 2001.

- U.S. Census of Agriculture, 1992 and 1997, United States Department of Agriculture.
- Wagner, John. "Tobacco growers get relief," *The News and Observer*, Raleigh, North Carolina, October 17, 2000.
- Weaver, Jay. "Tobacco firms agree to historic smoker payment," *The Miami Herald*, Miami, Florida, May 8, 2001.
- Williams, Bob. "Tobacco buyout could saddle U.S. with tons of unwanted leaf," *The News and Observer*, Raleigh, North Carolina, October 26, 2000.
- Williams, Bob. "Warehouse owners cool to tobacco-auction co-op," *The News and Observer*, Raleigh, North Carolina, August 16, 2001.
- Wilson, Catherine. "Court rejects tobacco appeal in airline smoke settlement," *Tallahassee Democrat*, Tallahassee, Florida, October 11, 2001.
- Wilson, Denny, executive director, Burley Auction Warehouse Association. Interview with the author, April 20, 2001.
- Wolfe, Charles. "Uncertain future in state," Associated Press, August 27, 2000.
- Womach, Jasper. "Tobacco Price Support: An Overview of the Program," Congressional Research Service, Library of Congress, Washington, D.C., August 29, 2000.
- Womach, Jasper. "Tobacco-Related Programs and Activities of the U.S. Department of Agriculture: Operations and Cost," Congressional Research Service, Library of Congress, Washington, D.C., August 29, 2000.

Glossary

American Blend	The most popular type of blended cigarette, made from a mixture of flue-cured or Virginia tobaccos, burley and oriental tobaccos.
Bale	A pile of tobacco prepared for marketing. Bales come in two types: farmer bales, weighing approximately 85 pounds; and experimental, with a weight of 850 pounds.
Basket/Pallet	Wooden container used to sell tobacco at the market level.
Blending	The process of combining specified grades of tobacco as prescribed by a customer.
Burley	A type of air-cured tobacco which is used in American-blend cigarettes. Burley is grown in a number of countries including the United States, Brazil, Malawi, Mexico, and Italy.
Buyer	A representative of a tobacco leaf merchant responsible for purchasing tobacco.
Coupon/ Warehouse Ticket	A multi-part legal document identifying the purchase of tobacco by a specific dealer. The ticket includes a bar code identifying the warehouse and unique number assigned to the pile from the tobacco. The warehouse records the weight of the pile on the ticket. Prior to auction, the USDA representative grades the tobacco and the USDA grade is handwritten on the ticket. At auction the dealer grade and purchase price per pound is handwritten on the coupon.
Curing	The process of drying freshly harvested tobacco leaves. Flue-cured tobacco is cured with artificial heat; burley is cured or dried in sheds or barns.
Dark Air-cured	A large group of tobaccos which are used in the manufacture of dark cigarettes, cigars, and other tobacco products. Dark tobaccos generally are fermented after curing.
Dealer	A federally-approved tobacco broker.
Disappearance	Tobacco that is consumed (e.g., smoked, chewed).
Filler	Blended, cut and flavored tobacco ready for cigarette manufacture. Also a neutral tobacco used in cigarette production for filling capacity rather than flavor.
Flue-cured	“Bright leaf” tobacco grown in Virginia, North Carolina, South Carolina, Georgia, and Florida that is heat-cured in enclosed barns. Flue-cured tobacco also is grown in Brazil, Zimbabwe, India, Canada, China, and numerous other countries.
Grading	The classification of tobacco according to specific physical characteristics, such as body, color, and stalk position. Tobacco is graded before sale by the USDA representative assigning government grades.
Oriental	A type of tobacco, distinguished by its relatively small leaves and aromatic qualities. Grown primarily in Greece and Turkey, it is used in English-, American-, and Oriental-blend cigarettes.

Pile	In burley tobacco, a unit of tobacco in either bundles or bales weighing approximately 700 pounds.
Priming	Method of harvesting in which the tobacco leaves are picked individually or in leaf groupings as they ripen on the plant; usually refers to flue-cured tobaccos.
Processing	Collective name for all those processes to which leaf tobacco is subjected from the moment it is purchased to the completion of the cut blend; includes threshing or stemming, redrying and blending.
Stabilization (Pool)	Stabilization purchases tobacco that does not exceed the federal supported price at auction.
Tobacco-specific Nitrosamines (TSNA)	Carcinogenic substance formed on tobacco leaves when combustion fumes come into contact with leaves in curing barns. The USDA has mandated that all U.S. flue-cured tobacco be cured through indirect heat in order to eliminate TSNA's from domestic leaf.
Wrapper	The outer covering of a cigar, consisting of a strip of tobacco cut from a leaf. Also, a type of tobacco grown for this purpose.

From *Tobacco Terminology*, on the Internet site www.universalscorp.com/Tobacco/Terminology.asp, accessed on June 30, 2001, with additions.

Appendix I: Making the Grade

A Short Course on Tobacco Grading

Under the federal tobacco program, USDA tobacco graders assess the quality of leaf to be sold at auction, assigning a federal grade to a given lot of tobacco. Graders consider specific physical characteristics, including length, body, color and the position of the leaf on the plant's stalk, in assigning grades. Split among five stalk positions, burley tobacco has more than 130 tobacco grades; flue-cured has 109 grades among five stalk positions. The grades were established by the Agricultural Marketing Service (AMS) of the USDA in 1935 as part of its market reporting purview. Inspectors from the USDA examine each lot of tobacco on the warehouse floor prior to sale and assign it a grade. Together, the grading system and the AMS's daily market news service provide growers with market signals that help them determine whether to sell, reject a bid, or place the tobacco in the stabilization pool. The grade also determines the price support level for the lot should it be surrendered into a stabilization pool, as the holdings of the cooperative tobacco board is called.

Because different parts of the tobacco plant yield differences in aroma, flavor, and strength, tobacco companies rely on the sorting of leaf types and positions to arrive at the optimal blend for their customers. In order to understand the different grades within the USDA system, it is best to separate tobacco first by its stalk position and then by color and quality. From the bottom of the plant, the five stalk positions and their USDA position-designation letter (in parentheses) for burley are:

Flyings (X)	The lowest leaves on the stalk; generally flat, open-faced and relatively thin, showing the greatest amount of injury and duress.
Lugs or Cutters (C)	A group of mid-stalk leaves; thin-to-medium-bodied with a tendency to roll, and are broad in comparison to their length.
Leaf (B)	Leaves grown above the middle of the stalk; medium-to-heavy-bodied with a tendency to fold and are narrower in comparison to their length.
Tips (T)	Leaves grown at the top of the stalk; relatively narrow and pointed, generally less than 16 inches long, with less maturity than the leaf (B) group.
Mixed (M) and Nondescript (N)	These two groups, categorized together, consist of leaf that does not indicate a particular stalk position. The M group is made up of tobacco from across stalk positions. The N group is generally extremely low-quality tobacco that does not meet minimum quality tolerances of any group.

For flue-cured tobacco, the groupings are slightly different. While flyings, lugs and leaf remain, the tips (T) group in flue-cured is called primings (P) because of the manner in which these leaves are harvested as they ripen.

Tobacco is further divided by color, which indicates the maturity or ripeness of the leaf. Color variations add 13 sub-groupings. The quality of a lot of tobacco is assigned a numeric value from one to five, according to its maturity, ripeness, color intensity and hue, percent injury, uniformity, and leaf body. These attributes affect the grades of the various stalk position differently. Other factors that can weigh in on a tobacco's overall grade are moisture, damage, and abnormal amounts of dirt or sand.

The Philip Morris grading scale used for contract production in burley eliminates the M and N group, since contracted tobacco must be separated by stalk position, and collapses the multiple color and quality grades within the remaining grades into four basic group grades, numbered 1-4. Thus the Philip Morris grading system reduces the existing 120-plus incremental grades to 16 more differentiated grades. Other companies' grading scales would similarly simplify the grading process and provide for less variation between stalk positions. This simplified process differentiates between and among grades more than the incremental scale used by the USDA, and allows the company to distribute price premiums (and thus incentives) for higher grades and discounts for lower grade tobacco.

Appendix II:

The Issue of Low-TSNA Tobacco

Flue-cured tobacco contracting came about in part due to a shift in technology for curing tobacco. In 1999, Star Scientific, a wholly-owned subsidiary of Star Tobacco and Pharmaceuticals, began marketing StarCure tobacco, produced using a proprietary process that reduced the formation of carcinogenic toxins present in tobacco smoke, primarily tobacco-specific nitrosamines (TSNAs). Tobacco companies expressed an interest in this low-nitrosamine tobacco, and the USDA moved to have all flue-cured tobacco cured in this manner by June 2001.

Flue-cured tobacco is cured by hanging the green leaf in a barn and then heating the air in the curing barn. Before World War II, the heat source for most curing barns was a wood fire outside the barn, with the heat transferred to the tobacco through a flue that ran under the floor of the barn and then up through the curing barn. After World War II, most farmers switched to fuel oil as a heat source, but continued to utilize the flues that carried the heat through the barn. During the oil crisis in the 1970s, farmers began to switch to propane and natural gas heat. Because these fuels burn more cleanly, farmers also were able to dispense with the flues and began direct-firing tobacco. While easier and more efficient, direct-firing exposes tobacco to combustion gases, which contribute to the creation of TSNAs. Experiments in creating a low-nitrosamine burley variety have been frustrating, with Star Scientific scaling back its tests in 2001 after producing leaf in its 2000 trials that had below-par flavor.

In much of the rest of the world, the curing of flue-cured tobacco continues as it has since the process was first discovered in 1838. Because of this, foreign leaf is lower in TSNAs and thus "safer" in this regard than American leaf. In an effort to reduce the harm to human health from smoking, tobacco companies began purchasing only low-nitrosamine tobacco beginning in July 2001. Announcement of this policy, coming in late 1999, gave growers very little time to retrofit curing barns with heat exchangers to carry heated air through the barns while venting the combustion gases to the outside. The cost for installing these exchangers averages anywhere from \$3,000 to \$5,000 per barn. Since many growers have multiple barns, retrofitting barns can add considerable costs for growers at a time when tobacco revenues are declining.

In order to provide for a swift transition to low-nitrosamine tobacco and to ensure that farmers would be able to meet the USDA retrofit deadline, the flue-cured stabilization board and Philip Morris created a reimbursement fund for farmers totaling \$85 million. Additionally, Star Scientific, which purchases tobacco for Brown and Williamson, and RJ Reynolds offered farmers contracts with price premiums for low-nitrosamine tobacco, essentially a payment over time for an up-front investment. Interestingly, the stabilization board program was initiated in part to ward off contracting from flue-cured tobacco, providing farmers with assistance for barn conversion in order to protect producer independence. A major concern among growers with retrofitting barns is the stability of a market outside of contracting once they have made the investment in heat-exchanging equipment.