II. Leaf Tobacco

In 1990, approximately 137,000 farms in 16 states grew about 1.6 billion pounds of tobacco resulting in an annual gross income of well over 2.8 billion dollars. Tobacco is one of the most difficult and labor-intensive crops to produce. For each acre harvested about 250 hours of labor are required. In comparison, wheat production requires approximately three hours of labor per acre.

Cultivation

Growing

Cultivation begins with the selection by the farmer of a site for his/her plant bed, 50 to 100 square yards for each acre of tobacco to be transplanted. The soil in the seedbeds is sterilized and the bed is covered with either cheesecloth, plastic, or synthetic material. The seeds are so tiny that one ounce contains about 300 to 450 thousand seeds. Germination begins when the temperature reaches about 65°. When the plants are six to eight inches tall, they are ready for transplanting. Transplanting normally occurs from late March to early May in Georgia, Florida, South Carolina and eastern North Carolina, and from May through June in other growing areas. The seedlings are planted in rows three to four feet part. This spacing allows for 5,000 to 11,000 plants per acre.

The cultivation methods are similar to those practiced for other row crops. The main requirements are to keep the soil loose, eliminate weeds, grasses, insects and plant diseases.

When blossoms appear, the plant is “topped” by breaking or cutting off the top portion, including the newest young leaves. This allows the remaining leaves to utilize the plant’s nutrients to become larger, thicker and heavier. When the flower is removed, lateral buds or “suckers” develop in the leaf axils. These will reduce the size of the other leaves if not removed by hand or retarded by chemical controls.

Harvesting

The crop matures 60 to 90 days after transplanting. Then it is harvested by one of two methods: by “priming,” in which the leaves are picked individually from the plant as they ripen; or by “stalk-cutting,” in which the entire plant is cut. The former is used for flue-cured, cigar wrapper

and Puerto Rican filler tobacco, the latter for all other domestic leaf.

Much of the success in curing tobacco depends on its being harvested at just the right stage of maturity, neither too ripe nor too green. This critical point occurs when the leaves begin to turn a yellowish color. An experienced eye is required to recognize the proper stage of ripeness. The harvesting of most tobacco remains primarily a hand labor process, although mechanical harvesters have become increasingly popular in the flue-cured belts.

Curing

The first step in preparing harvested tobacco for market is curing. Three basic methods are used to dry the leaves and each involves its own traditional type of curing barn. In air curing, the tobacco is cured under natural weather conditions, although supplementary heat may be used. Burley, Maryland, dark air and cigar tobaccos all are air-cured. Flue-curing uses heated air, at gradually increasing temperatures, with no exposure to smoke odor. In fire-curing, smoke from wood fires surrounds the leaf, much as in curing hams or fish.

When fully cured, the leaf is too dry and brittle to be handled without crumbling. However, tobacco leaves readily absorb moisture from the warm, humid air common during “tobacco season.” When it is soft and pliable enough to be handled without breaking, the leaf is said to be “in case” or “in order” and ready for sorting and arranging in piles prior to delivery to market.

Marketing

Around 97% of the tobacco grown in the United States is marketed by the auction method where the tobacco is displayed for sale in small individual lots. The remaining 3%, made up principally of cigar-leaf tobacco, is sold either directly on the farms or through farmer-owned cooperatives. A very small quantity is sold in traditional wooden hogsheads.

Under the auction system, growers deliver their tobacco to the auction warehouse of their choice, where it is sold to the highest bidder. The bidders are buyers for tobacco products manufacturers, both domestic and foreign, and independent dealers who buy on orders for domestic and foreign tobacco products manufacturers or for future sales to these manufacturers. The auction system is of vast proportions, providing facilities for handling nearly 1.3 billion pounds of tobacco annually, mostly from July through February. Auction markets are in tobacco belt towns or cities in growing areas located in 12 states.

Shortly before the sale a Department of Agriculture Inspector examines each lot of tobacco and grades it according to official U.S. Standards.

The warehouseman starts the bidding. The auctioneer calls out the starter's bid, receives other bids, and announces the highest bid received and the buyer purchasing the lot.

Various quick signs are made by the buyers and are accepted as bids by the auctioneer. A farmer may reject the bid price offered for any lot of his/her tobacco. He/she does so by "turning" the ticket, that is, by folding it with a crease, tearing off a portion, or otherwise mutilating it. Such lots are usually "dressed up" and put back in line for later sale on the same warehouse floor. However, the grower may take the tobacco to another warehouse or market. Auction sales move along very rapidly. In the flue-cured district, the rate of sales is 500 lots per hour, and in burley, 360 baskets. As soon as the sale is underway, laborers begin moving the auctioned tobacco off the floor and loading it on trucks to be taken to the processing facilities of various buying companies.

Storage and Aging

Most tobacco marketed by growers is not immediately suitable for manufacture. It must be aged to improve the aroma and reduce the harshness and bitter taste of freshly cured leaf. However, prior to aging, the moisture level must be reduced to prevent deterioration during storage. This is done at a processing plant through the use of a re-drying machine which removes the natural moisture and adds controlled moisture to the leaf. Upon leaving the re-dryer the tobacco is immediately placed in containers for storage or export.

Cigar leaf tobacco is not redried. The leaves are normally taken directly from the curing barns to packing houses and built into bulk to undergo a fermentation process. As is the case with any tightly packed vegetable matter, the center of the bulk will become hot and the leaves will begin to deteriorate. The bulks are kept under close watch, and the temperature in the center is monitored. Every few days the bulk will be dismantled and rebuilt until all leaves have been placed in the center. The tobacco is then further sorted, sized, and packed into bales for storage in a cool place. Fermentation reduces the nicotine and moisture content of the leaf and also gives the tobacco a more uniform color. The process continues during the storage period but at a much slower rate.

Some tobacco is still aged in hogsheads much like those of colonial times. The round wooden containers of today are about 4 feet in diameter and 4 feet high and usually weigh between 950 and 1,200 pounds, depending on the tobacco type and the packing method.

Other processors have switched to smaller wooden or cardboard cases called tersa bales that hold about 450 pounds. The tersa bales are square, having a metal top and bottom, with plywood on two sides and

mesh on the other two. This allows the tobacco to breathe. These cases are increasing in popularity because of their ease in handling, and because they conserve space.

Storage warehouses are one-story buildings constructed to provide good ventilation and easy access for moving the tersa bales or heavy hogsheads. Tobacco usually requires one to three years of aging before it is ready for manufacture. During this period the tobacco continues a slow natural fermentation which gives it a sweeter, mellower flavor.

Leaf Tobacco Export/Import Considerations

Tobacco has been one of the United States' most important agricultural export commodities since earliest colonial times. The total value of United States unmanufactured leaf and products exported in 1990 was $6.48 billion, making a significant contribution to the U.S. balance of trade. Leading markets for U.S. leaf were Japan, Germany, the Netherlands, Hong Kong and Thailand.

The United States normally ranks around third among importers of unmanufactured tobacco. Over one-third of the tobacco imported into the United States is the oriental type used for blending in cigarettes. Most of this tobacco comes from Turkey, Greece, and Yugoslavia. Imports of flue-cured and burley leaf are increasing and account for approximately one-third of the imported leaf tobacco. Cigar leaf types make up most of the remaining imports. The Dominican Republic is the leading source of cigar type tobaccos, followed by Columbia, Indonesia, and the Philippines.

One of the recent trends in exportation is that some domestic manufacturers have sold the export rights to their competitors. As a result of this you may see brands of export products of a competitor while inspecting some domestic producers. Another trend is that the export market is increasing while domestic consumption is decreasing. However, the export market is not as reliable as the domestic market because of political troubles in major importing markets such as the Middle East and China.