Commercial tobacco production in the colonies began at Jamestown in 1612. As tobacco growing expanded into new areas, differences in soil and climate were reflected in distinct characteristics in the tobacco leaf. Moreover, special properties of the leaf are achieved by using certain methods of growing and curing. These variations in leaf properties affect suitability for the various forms of manufactured tobacco. As a consequence, modern production has become a highly localized activity with each area producing a special type of leaf for a specific use, whether it be for cigarettes, cigars, pipes, or chewing. Today tobacco is grown in much of eastern United States. (Figure 1).

The production of Pennsylvania Seedleaf Type 41, a high quality cigar filler, is highly localized. In Pennsylvania, Lancaster County produces over 90 percent of the Pennsylvania Seedleaf grown in the state. Most of the remaining Seedleaf is produced in adjacent Lebanon, Chester, Berks and York counties. (Table I). This unusual concentration of tobacco production within one county and the marked absence in the remainder of the state form the basis of this study. An examination of the physical setting of Lancaster County, the historical development of tobacco production, the human elements of the farmers, their culture and system of labor, and the facilities which have become established over the years for curing and storing tobacco will be undertaken. Analysis will seek to explain the dramatic decline in tobacco in the county over the past several decades.

The duration of the frost free period is the most important tempera-
In Lancaster County the growing season averages 160 days, which substantially exceeds the 90 days in the field required for Pennsylvania Seedleaf. Temperature conditions similar to those of Lancaster County are found throughout Pennsylvania.

Tobacco growing in Lancaster County is largely confined to the
Table I
Pennsylvania Seedleaf Type 41: Acreage, Yield, Production and Value, 1977

<table>
<thead>
<tr>
<th>County</th>
<th>Acreage</th>
<th>Average Yield</th>
<th>Production</th>
<th>Value of Production</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres</td>
<td>Pounds</td>
<td>Pounds</td>
<td>Dollars</td>
</tr>
<tr>
<td>Dauphin</td>
<td>50</td>
<td>1,900</td>
<td>95,000</td>
<td>57,000</td>
</tr>
<tr>
<td>Snyder</td>
<td>100</td>
<td>1,800</td>
<td>180,000</td>
<td>108,000</td>
</tr>
<tr>
<td>York</td>
<td>100</td>
<td>1,900</td>
<td>190,000</td>
<td>114,000</td>
</tr>
<tr>
<td>Berks</td>
<td>300</td>
<td>1,900</td>
<td>570,000</td>
<td>342,000</td>
</tr>
<tr>
<td>Chester</td>
<td>300</td>
<td>2,100</td>
<td>630,000</td>
<td>378,000</td>
</tr>
<tr>
<td>Lancaster</td>
<td>11,960</td>
<td>1,944</td>
<td>23,247,500</td>
<td>13,948,500</td>
</tr>
<tr>
<td>Lebanon</td>
<td>650</td>
<td>1,850</td>
<td>1,202,500</td>
<td>721,500</td>
</tr>
<tr>
<td>Other counties</td>
<td>40</td>
<td>1,875</td>
<td>75,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>13,500</td>
<td>1,940</td>
<td>26,190,000</td>
<td>15,714,000</td>
</tr>
</tbody>
</table>

Source: 1977 Crop and Livestock Annual Summary.

Lancaster Lowland, an area of mostly limestone soil, but tobacco also occurs on peripheral non-limestone soils. (Figure 2). Such a high incidence of tobacco on limestone suggests that this is a major factor in the localization of tobacco production. However, limestone soils similar to those in Lancaster County are found in other parts of the state but very little tobacco is grown on them. Hence, limestone soil facilitates but, by itself, does not localize the crop.

These limestone soils decisively influenced the settlement patterns of the Germans in Pennsylvania. For over twenty centuries, the ancestors of the Pennsylvania Germans lived along the upper Rhine River. This is rolling country with fertile soil and is one of the most productive wheat growing areas in Europe. German immigrants looked for this type of land in Pennsylvania and found it in the fertile limestone valleys. Traveling through the wilderness these farmers searched out land most similar to their memories of slope, vegetation and soil of their homeland. F. J. Turner stated that a limestone area on a geological map of Pennsylvania would serve as a map of German settlements.4

Settlement of the area that is now Lancaster County began in 1709, when a colony of Mennonites from Switzerland settled south of the present city of Lancaster in the Lancaster Lowland. About 1740, German Lutheran and German Reformed groups from the upper Rhineland began to settle in the same vicinity. A few years later in the 1750's the Amish arrived and competed with the early occupants for
land. Farms characteristically were not sold; instead farms were passed down from generation to generation and even today land cleared by these early Germans is in the hands of their descendants.6

By 1800 Pennsylvania was the most important wheat producing state and Lancaster County was the leading county.7 The dislocation in trade patterns resulting from the Napoleonic Wars drove up the prices of wheat and led to an increase in land prices in the county to speculative levels of $200.00 per acre. After 1815, wheat prices dropped with its consequent impact on wheat lands purchased at inflated prices.8 A decade later the completion of the Erie Canal and the subsequent expansion of steamboat and railroad capabilities opened the old Northwest to wheat and livestock production on a vast scale and provided strong competition with the east.

Lancaster County farmers were faced with strong economic pressures to find an alternative cash crop. Truck cropping was considered, but the 60 miles to Philadelphia, the logical market, was too great. For many farmers, tobacco offered a crop that fitted into their crop rotation
They recognized the soil depleting nature of the tobacco plant and initially refused to grow it for fear of destroying their soil. However, they found that with the practice of crop rotation and manuring, tobacco could be cultivated without any ill effects.

Tobacco was raised in Lancaster County as early as 1828 by farmers near Ephrata. It was used mainly for local consumption because there was only a limited market. The Germans of Lancaster County could see no reason for buying it from others when it was possible to grow it on their own land. The farmer would hang the tobacco in his barn rafters and use most of it for chewing and pipe smoking without sweating or properly curing the leaves. The remainder of his crop would be rolled into cigars and sold at local stores at “three fips” or eighteen and three-fourths cents a hundred. These became known as “stogies”, a contraction of Conestoga, a local river.

Benjamin Thomas, a farmer of York County, experimented in 1837 with seeds of a Cuban variety of tobacco known as Havana. His crop developed leaves of excellent quality. Thomas gave seeds to farmer friends in York and Lancaster counties, and in 1839 York County produced 160,000 pounds of the new type compared to only 29,000 pounds in Lancaster County. However, by 1859 Lancaster County had become the leading producer in Pennsylvania with over 2 million pounds, or 65 percent, of the state’s total production. Lancaster County never relinquished its position as the largest producer of this Pennsylvania Seedleaf.

The Pennsylvania Germans were intensely devoted to their church, their land, and their families and assumed a tightly knit interrelationship of all three. Their religious beliefs impelled them to a life style of frugality, sobriety, hardwork, and stability. An inherent feature was their love for the land which forbade any desecration of the land or diminution of its productivity. This same characteristic demanded that intensive labor be expended on the land to render it more productive; to do otherwise was sinful behavior. These attitudes controlled family relationships and dictated that children must be kept busy, preferably at manual tasks. Large families thus insured a large labor supply and their work ethic dictated that acceptable work be provided. Tobacco growing, harvesting, and preparation fitted well into these needs. The preeminence of Lancaster County as a tobacco producer was due to the cultural traits of the Pennsylvania Germans. Other forms of tobacco, namely cigarette, pipe, and chewing, are more tolerant of poorer practices than that of cigar leaf. Generations of experience helped them...
produce cigar leaf of excellent quality while their method of bringing tobacco culture into the crop rotation system did not diminish the soil quality nor disrupt existing farming methods in any great manner. Thus, successive crops of uniform quality tobacco were possible year after year. With labor a major cost factor in growing tobacco, large Amish and Mennonite families were consistently able to produce tobacco cheaper than other farmers.

The distinctive representatives of Pennsylvania Germans in Lancaster County today are the Amish and Mennonite. Most Amish farms are located in the Lancaster Lowland and most tobacco grown in the county is in the Amish areas. (Figure 3). In the Amish concentration south of Quarryville several communities of Amish farmers are raising tobacco though not on limestone soil. That there is such a strong correlation between Amish farmers and tobacco distribution suggests the role played by these people in the production of tobacco. Many tobacco crop experts, as well as farmers, add that the winter work required in the production of tobacco limits much tobacco growing to Amish farmers.
because they desire to work year-round and especially want winter work for their children.

The soil of Lancaster County is favorable for the production of tobacco but it does not localize production. In adjoining Chester County very little tobacco is grown on limestone soils and most tobacco production is on Amish farms located in non-limestone areas. Tobacco could be grown in surrounding counties, but is not. Apparently, land occupancy correlates closely with tobacco production.

Other sections of Pennsylvania have Pennsylvania Germans raising tobacco on non-limestone soils. For example, about ten miles down the Susquehanna River from Selingsgrove in Snyder County is a group of Mennonites called "Old Order Mennonites" very similar to the Amish living in Lancaster County. These families migrated from Lancaster County because lower land prices attracted them. Each one of these families is growing tobacco and they are the only tobacco producers in that area. The Amish in the Kishocoquillas Valley between Lewistown and Huntington are long established settlers who never grew tobacco and still do not. That Germans who migrated from Lancaster County raise tobacco while other long established Pennsylvania Germans do not demonstrate the dominance of the cultural role in tobacco production.

Commercial tobacco growing is fundamentally a labor intensive enterprise, and in comparison with other crops, production costs are high largely because of high labor requirements. It has been estimated that man-hours required for producing tobacco are about 18 times the hours required for small grains, seven times those for corn, and two and one-half times those for cotton. Cigar filler requires about 300 man hours of labor per acre. The plants are started in a specially prepared seedbed, transplanted to the field, cultivated, and then harvested during August and September. After harvesting the leaves must be dried, pulled off the stalk, hung in tobacco barns, and given other special preparations before delivery to the buyer. The Amish system of farming is well adapted to these operations.

From the earliest settlements, most of the work of the Pennsylvania Germans was done by the Germans themselves with the aid of their families and with the cooperation of their neighbors. At present this holds true and there is very little hired labor among Amish or Mennonites. Their labor problems were solved by the rearing of large families; in Lancaster Country the average size of an Amish family is over seven persons. Children are put to work on the farm at an early age instead of continuing in school, for fear that they should become lazy. They are taught not only the habits of labor, but the love of it. To fear
God and to love work are the first lessons the children learn.\textsuperscript{19} As a result, there is a high devotion to farm work and emphasis on family cooperation. These characteristics are ideal for the production of cigar leaf and the tobacco acreage is usually limited according to the size of the farm and the number of persons on the farm.

Another important labor factor is that of tradition because tobacco requires an experienced and skilled labor force. Such an accumulated knowledge of growing tobacco—a knowledge born of tradition, training, and pride—has been an important factor in the continued production of uniform, high quality leaf. This concentration of tobacco growing skills within the Amish household has perpetuated tobacco production in Lancaster County or wherever the tobacco growing Amish family has settled.

Facilities for handling tobacco have also contributed to the continued leadership of Lancaster County. The tobacco barn is a familiar sight in Lancaster County, but in tracing the development of tobacco it should be remembered that the tobacco barn came after the crop gained importance. When tobacco production originated in the county very little attention was devoted to its storage. A garret, unused room in the farm house, rafters in the barn, or any other farm building, was used as a place in which to hang the crop. When the size of the yield increased beyond these capacities, wooden sheds were built to serve as storage houses for the tobacco crop. Ventilation was secured by hanging some of the vertical boards of the building on hinges.\textsuperscript{20} The cost of a tobacco barn in which to cure the crop was approximately $1,000.00 per acre of tobacco in 1966.\textsuperscript{21} A newcomer to tobacco growing must face a major capital investment to compete. Such high construction costs cause most to hesitate and tends to limit production to those already involved.

Localization has also been maintained through long established market facilities. Since 1883, Lancaster County has had the second largest cigar leaf curing and storing buildings in the country second only to New York City.\textsuperscript{22} Buyers of tobacco contract the farmers individually, rather than contracting a "middleman." This system is known as "barn door" marketing. The grower is under practically no obligation to sell to a particular buyer but is free to sell whenever he can make the best bargains.\textsuperscript{23} Buyers can get all the cigar filler they need in the county and there is little need for farmers in adjacent areas to begin the cultivation of tobacco.

During the 20th century the cultural attributes of the Amish and Mennonite tobacco farmers have remained unchanged but intrusive
factors from outside the area have tended to cause a sharp decline in tobacco acreage. Tobacco acreage in Lancaster County has declined from a high of 32,783 acres in 1910 to 11,960 acres in 1977. Between 1950–1975, there was a drop of 18,620 acres. While Amish and Mennonites with their tradition of family labor continue to grow tobacco, other farmers have abandoned it. The difficulties of finding adequate labor and the resistance of tobacco to mechanization have led farmers without large families to turn to corn, soybeans, poultry, dairying, hog raising, and steer feeding which can be mechanized.

Competitive imports have risen since the early 1960's to supply over half of the cigar leaf market. Amish and Mennonite farmers in Lancaster County have refused governmental production quotas and price support programs. As a consequence, Type 41 growers do not have U.S. Department of Agriculture import restrictions to protect their market from competitive tobacco types produced by foreign growers.

Since 1971 consumption of cigars has steadily declined. This decline reflects in part the reduced level of cigar advertising since 1972 and anti-smoking publicity. Consumers have switched from large to smaller, thinner, and filter-tipped cigars that require less leaf.

In 1968 there was an increased interest in Type 41 tobacco for use in chewing and between 1969 and 1974 the percent of Type 41 tobacco used for chewing increased from approximately 25 percent of the production to 80 percent of the county production in 1975, 1976, and 1977. It is evident that tobacco production would have declined even more had not the chewing interests absorbed part of the cigar leaf.

Historically, Lancaster County agriculture rested upon a corn, wheat, livestock, and pasture base. The Erie Canal, turnpikes, roads, and railroads stimulated competition in these crops from western regions and forced a search for some new crop to stabilize farm income. The Amish and Mennonites adopted tobacco into their over-all rotation scheme and within a half-century the county achieved leadership in producing cigar filler Type 41 tobacco. Physical factors such as climate, soils, and topography favor tobacco culture in Lancaster County but do not limit it to that locale. The overwhelming control that induces localization of tobacco culture in this region is the complex of cultural characteristics of the Amish and Mennonite tobacco growing families. The cultural complex embraces a farming system of family operated farms, large families motivated by religious values and work ethics, and accumulation of the skills, traditions, experiences, capital investments, and marketing techniques derived from growing the crop.
NOTES


5. Ibid.

6. By contrast, the Scotch-Irish chose foothills rather than valleys; shale soil rather than limestone. Their desire to live in hill country was fully as strong as that of the Germans to live in limestone valleys. The English, also, were more inclined to pastoral occupations and they chose, in general, the foothills rather than the valleys. Ibid., p. 125.


15. Ibid.


25. High costs of hired labor, lack of seasonably available labor, general reluctance among hired farm labor to engage in hard labor, and difficulty in finding available labor effects labor availability.
