The Pre-Revolutionary Agriculture of Lancaster County, Pennsylvania.

by Arthur C. Lord

One of the most important roots of agricultural heritage in America was being developed in Southeastern Pennsylvania during the Pre-Revolutionary period. The eminent agricultural geographer, Edward Higbee, in his book *American Agriculture* states that: "The cultural origins of the modern Corn Belt are traceable to colonial antecedents east of the Appalachians, particularly to Southeastern Pennsylvania," and that "The crop and animal-husbandry practices of these farmers of Pennsylvania set the style for the modern Corn Belt."[1] Lancaster County was a most important part of this region which was developing during the mid-eighteenth century a form of agriculture which placed great emphasis on the cultivation of feedgrains and the raising of livestock. This paper will investigate in detail, the nature of this system as it was developing through the patterns of agriculture during the period of 1750-1775, the Pre-Revolutionary Agriculture of Lancaster County, Pennsylvania.

Historical Background

Credit for the first agriculture within the county must go to the Indian. Before the coming of the European settlements, the Indian raised a variety of field crops. The main crops were maize, beans, squash, and pumpkins.[2] Hunting and fishing, though, still remained as an important source of food.[3] The Indians' partially-cleared fields were maintained by the Indian women, usually, by the use of fire. These fields were highly valued by the early settlers because, as a result of the acquisition of these lands, there would be less time spent clearing land, and a crop could be cultivated immediately.[4]

The date of the first European agriculture in Lancaster County is difficult to determine, but was probably begun by Swiss Mennonites during the summer of 1711.[5] While earlier fur traders who lived within the present boundaries of the county may have farmed

a little,[6] they no doubt farmed in the Indian mannner and left little impression on the landscape.

These first Swiss settlers were soon followed by French, English and Scotch-Irish, and a new agricultural system was soon established. Documentation from writers of the period such as Evans, Kalm, and Penn, and authorities on early agriculture such as Fletcher, and Wertenbaker, present us with a good idea of the nature of this early period as to crops and animals found on the pioneer farm. Lewis Evans, writing in 1753, states that, "wheat is the principal grain, . . . and the next is maize of American growth. Rye thrives pretty well, oats and barley fair worst."[7] All livestock was of European origin. Peter Kalm refers to a conversation with Bartram, pre-1770, who assures him that the cattle found in Pennsylvania were from Swedish and Dutch cattle brought over at an earlier time.[8] Penn stated in 1683, that "we have no want of horses . . ."[9] Kalm again reports on the custom of feeding corn to pigs and that it was a good fatting grain.[10] Fletcher states that "most farms raised only enough sheep to clothe their families."[11] Thus, the pattern is set of using European crops, livestock and agricultural methods in addition to Indian crops, maize being the principal one.

A significant change from Europe was the interrelationship of dwellings, farm buildings, and fields. One of the more important changes found in Southeastern Pennsylvania was the abandonment of the typical Rhineland agricultural village and the adoption of the farmstead where the farmer's dwelling, barn, and other buildings were all located within the field area. This was probably a result of the availability of land. Wertenbaker summarizes this well when he states:

> To the German peasant the possession of land was the most important temporal concern in life — the land gave him his daily bread, upon it he toiled and had his everyday existence. When he found that in Pennsylvania 100 or perhaps 300 acres could be had for the price of a dozen acres in the Vorderpfalz, he stretched his means to the limit to purchase . . . This fact made the establishing of the agricultural village, the foundation stone of German rural economy, impossible. It was no great matter for the people of Kriegsheim to go out from the village each morning for work on their tiny holdings, for it might entail a walk of but five or more minutes, but in Pennsylvania, had agricultural villages been established the workers might have had to walk a mile, perhaps five miles. In other words, it was impractical to have village communities with individual holdings averaging hundreds of acres, and the total area of a hundred square miles.[12]

Descriptions of early Lancaster and Southeastern Pennsylvania farmsteads differ greatly. How did early writers and travelers describe our early farmstead? Two views of the pre-revolutionary farmstead seem to have developed. On one hand, we have the large farmstead syndrome. Ellis and Evans give the impression that the farms were large and had large herds of livestock and extensive croplands. "Swiss barns . . . sixty to one-hundred-and-twenty feet long and from fifty to sixty feet wide, . . . The early farms cultivated spelt, barley, oats and buckwheat . . ." and ". . . by the second and

subsequent years cows and sheep were added."[13] Another is the record of the estate of Andrew Ferree, which is often referred to as an example of a Lancaster farm in the year 1753, which listed four working horses, one mare, six cows, ten sheep and ten head of cattle.[14] The Daniel Rosenberger estate, in 1771, listed: four horses, one colt, nine cows, four heifers, two calves, one bull, ten sheep and four hogs. This farm, while in Montgomery County, was referred to as a typical German farm of the period.[15] The most exaggerated claim found was made by "An American," who in 1775 claimed, "That some Pennsylvania farmers have . . . from five hundred head of horned cattle, oxen, cows, bulls, calves, and grazing cattle."[16]

On the other hand, we have the concept of the small pioneer farm from S. W. Fletcher: "The typical pioneer family was young and poor . . . a team of horses or a yoke of oxen, a plow, a wagon or ox-cart, a cow or two, and a few simple articles of farm and household equipment."[17] In 1789, Benjamin Rush pointed out that, "They (Germans) feed their horses and cows well of which they keep only in small numbers . . ."[18] Amos Long's assessment of the idea of small pioneer barns seems logical as well when he states, "the . . . pioneer farmer had few animals, there was little demand for storage, of hay, straw and grains and there were few implements to be sheltered from the weather."[19]

The Questions To Be Answered

What were the patterns of Lancaster's pre-revolutionary agriculture? The elements of agriculture studied included: the number of farms, the acreage per farm, the acreage cleared, the acreage in grains, and the number of horses, cattle and sheep per farm. This data makes it possible to reconstruct, for both the individual townships and for the county as a whole, what the average farm was like during the period under investigation, 1750 to 1775. It is unfortunate that there is a lack of county data for the period from 1711 until 1750 when first documentation occurs. In addition to the reconstruction of an average farm, some hypotheses are tended as to regional differences in agricultural patterns within the county. What was an average Lancaster County farm like? What was the average farm like in each township? Were there regional differences within the county? What geographic factors influenced these differences?

Methodology

The data on the elements of pre-revolutionary agriculture on Lancaster County farmsteads were gleaned from one of the few sources of comprehensive and factual data available, the Lancaster County Tax and Assessment Lists.* These lists cover a period from the 1750's to the 1830's, but are far from complete for the intervening years. During the period covered by this study, Lancaster Coun-

* Records from Lancaster County Historical Society, Lancaster, Pa.

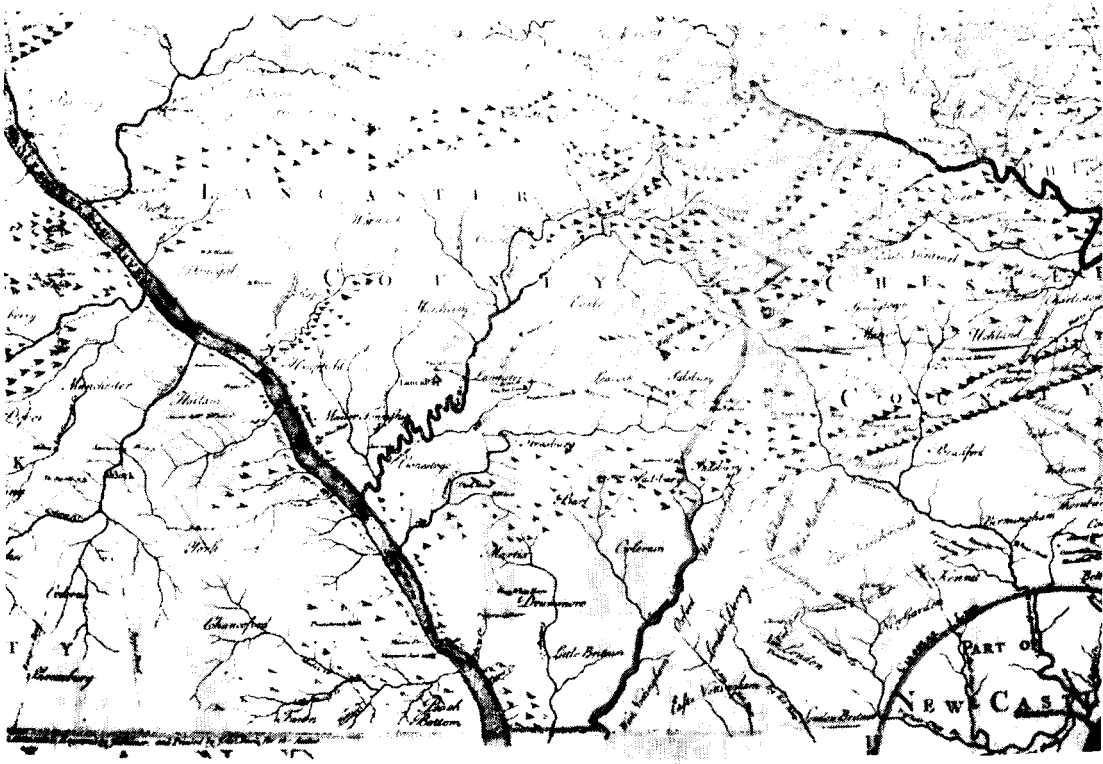


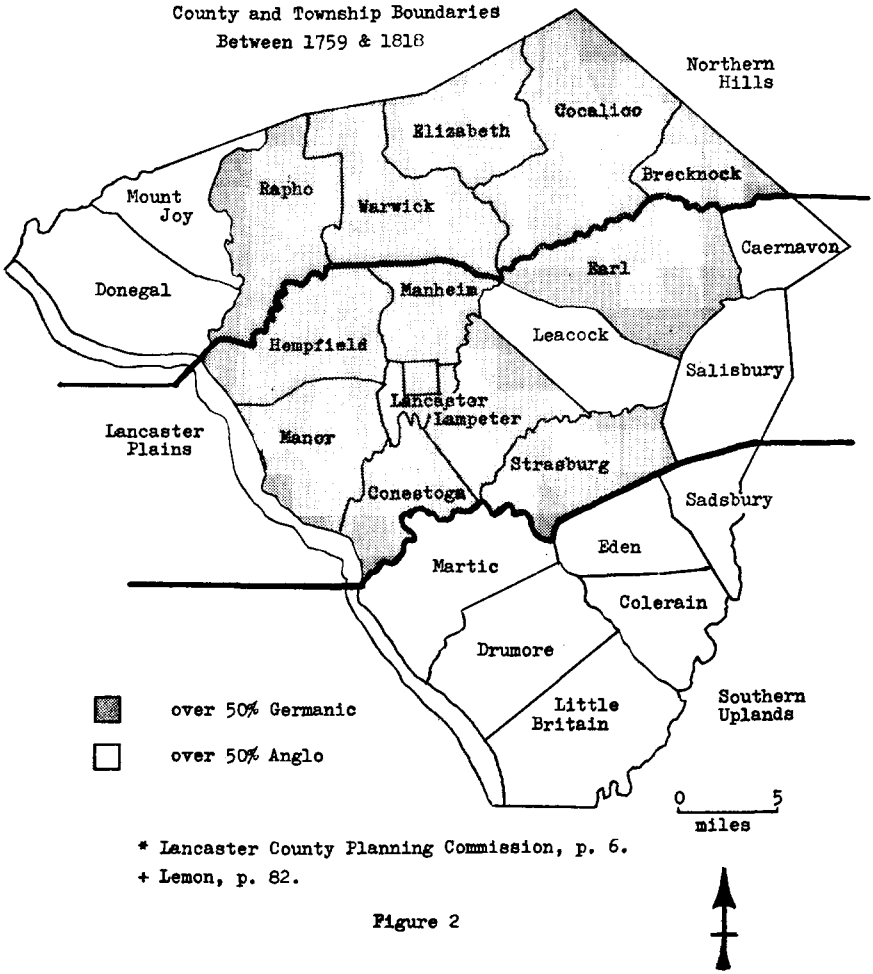
Figure 1, Scull Map of Southeastern Pennsylvania, 1759

ty consisted of twenty-four townships and the Borough of Lancaster in 1759, and by 1772 separate data was also included for the village of Manheim. The question of Manor Township, established in 1759, settled by using data for 1759 for both Manor and Hempfield Townships, from which the northern section of Manor was taken. (See Figure 1 for the location of the townships used in the study.) It was found that the most complete coverage for the pre-revolutionary analysis was for two periods, the first being the late 1750's, and the second, the early 1770's. For the late 1750's, fifteen enumeration districts used were for 1758, eight for 1759, and two for 1756. Coverage for the early 1770's was a little more scattered, inasmuch as fifteen were for 1772, five for 1771, two for 1773, two for 1770, and one each for 1769 and 1775. For this paper, the periods will be referred to as c1758 and c1772 because these are the average dates for each set of data. The Assessment Lists of these twenty-four townships and the borough and village were totaled and averaged to provide the data found on subsequent pages. It is, therefore, possible to analyze the elements of agriculture for Lancaster County during the periods of c1758 and c1772, the era which immediately preceded the Revolutionary War. Figure 2 illustrates a page of the Manor Township Assessment List of 1772, showing the variety of and the form of data available from the lists.

The data presented on the farms of the county, c1758 and c1772, must be qualified in order to reduce any chance of misconceptions. First, not all the county area was included in the assessment list to-

LANCASTER COUNTY PENNSYLVANIA

THE PHYSIOGRAPHIC REGIONS* AND NATIONALITY OF SETTLERS+



* Lancaster County Planning Commission, p. 6.

\+ Lemon, p. 82.

Figure 2

individuals and was therefore not taxed. Only deeded and taxed lands were included in the survey, which accounts for 55.8% of the total land area of the county in c1758, and 59.9% in c1772. Secondly, it was assumed that these rural land holdings were predominantly farms. If there was cleared land, some grain, or livestock listed it was, at least, a part-time farm. Not included were the small town lots in the several hamlets, the borough of Lancaster, and the village of Manheim. Cattle and horses listed for the village

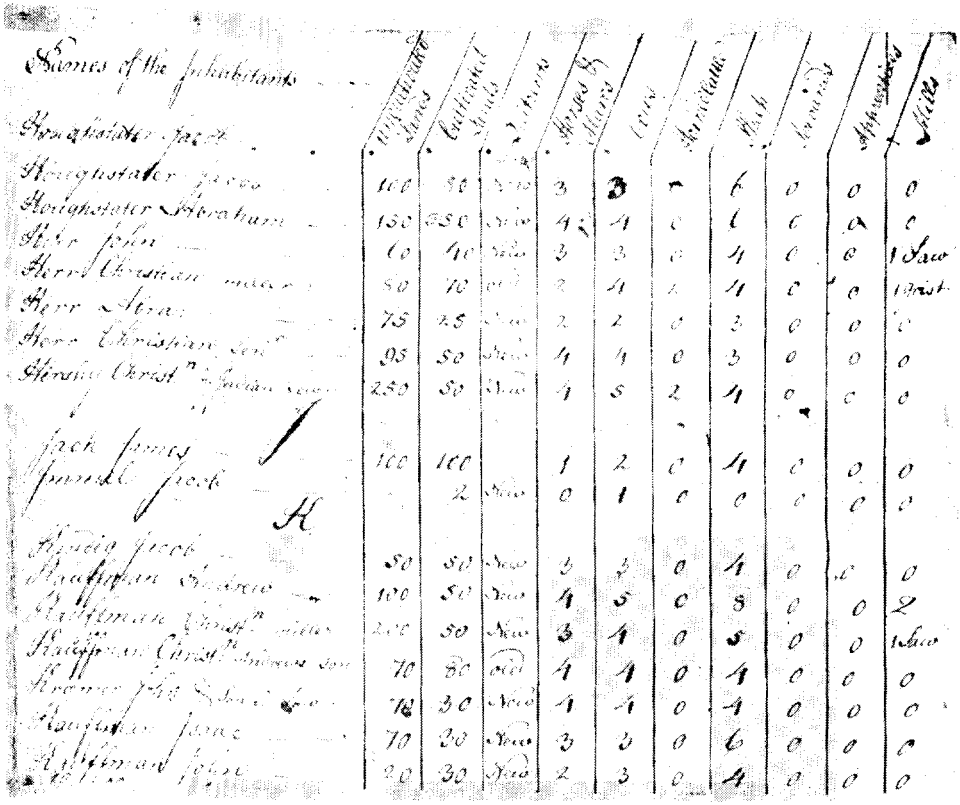


Figure 3, Manor Township Assessment List for 1772.

and the incorporated borough also were not included with the farm data. Lastly, there is no data on the total population of the county, inasmuch as the only listing is for the head of the family or single freeman. In some townships, renters and their horses, cattle and sheep were listed together, but the land they rented was included with the taxed lands of a large land owner. In others, they were listed as "renter" and all data was included under their name, and included in many cases, the rent and to whom it was paid. Whenever a unit of land was recognizable as a separate farmstead it was so listed, but it is acknowledged that more than one rural family was often included in a single taxable unit.

LANCASTER COUNTY FARMSTEADS OF C1758

The farmsteads of Lancaster County in c1758, while being less than fifty years old, were well developed, though still retaining some of the characteristics which one would expect of a frontier

PRE-REVOLUTIONARY AGRICULTURAL DATA – c1758

	Date of Data	Farm Units	Average Acres Per Farm	Average Acres Per Farm Cleared	Average Acres Per Farm In Grains	Average Horses Per Farm	Average Cattle Per Farm	Average Sheep Per Farm
Bart	1758	75	108.0	38.1	7.3	2.4	2.9	3.9
Brecknock	1758	67	120.0	24.3	7.6	2.1	4.4	3.1
Caernavon	1758	46	131.8	36.9	12.2	4.0	6.0	5.6
Cocalico	1758	245	106.4	30.8	6.8	2.1	4.8	2.4
Colerain	1758	63	82.1	28.0	5.2	2.3	3.4	4.5
Conestoga	1756	72	105.9	n.d.	7.8	2.4	2.5	3.1
Donegal	1759	131	157.5	41.5	6.8	2.7	3.9	3.7
Drumore	1759	121	144.6	51.4	8.4	2.8	3.5	7.2
Earl	1758	211	155.8	n.d.	13.3	2.7	3.2	5.0
Elizabeth	1759	40	138.4	16.4	2.3	1.9	2.5	1.3
Hempfield	1759	131	141.6	43.9	8.6	2.7	5.9	4.7
Lampeter	1758	102	172.1	53.1	12.4	3.4	4.2	7.1
Lancaster Twp.	1758	33	103.5	41.1	9.8	2.2	6.0	4.5
Leacock	1758	123	166.5	59.8	17.5	2.5	5.0	9.8
Little Britain	1758	145	117.2	30,2	6.0	2.8	4.8	7.5
Manheim	1759	81	110.8	34.7	7.8	2.5	3.7	3.1
Manor	1759	79	108.2	36.6	8.5	2.2	3.4	1.8
Martic	1756	53	54.3	n.d.	4.1	2.0	2.1	2.9
Mount Joy	1759	99	136.0	34.3	9.1	2.6	2.8	2.9
Rapho	1758	130	144.7	36.9	9.2	3.0	7.5	5.5
Sadsbury	1758	64	126.6	48.8	9.4	3.0	4.1	8.4
Salisbury	1758	67	174.9	68.2	14.9	3.7	7.0	9.3
Strasburg	1759	99	162.9	48.7	10.7	2.8	3.1	5.8
Warwick	1758	185	154.2	41.9	10.7	2.6	6.6	5.7
Totals		2462						
Averages			135.5	40.6*	9.3	2.6	4.5	5.1

*Conestoga, Earl and Martic Townships

standards, was 135.5 acres, but had only 40.6 acres cleared and only 9.3 acres in grains.* In reality then, we are discussing a forty-acre farm with 9 acres planted in grains. This then, was obviously not the large farm of some of the literature. Average, it is realized, is an artificial figure, but an arithmetically accurate one. From the assessment list examination, it was observed that most farms were between 100 and 200 acres in size with 30 to 50 acres cleared. There were a number of smaller and a few larger farms, but most would fit into those perimeters. While the separate township assessment lists were quite specific for farm units and acres cleared (or cultivated), they were less specific for the category of grain. The lists used such terms as grain, winter grain, and sown. All these terms for this paper have been combined as grains. From the written descriptions, previously cited, such as Lewis Evans (1753), wheat seems to have been the major grain with rye, oats, and barley being secondary. Fletcher stated that "Not until after 1790, when soil conservation rotations came into common use, did corn begin to rival wheat."[20] Ellis and Evans thought that "The early farms of Lancaster cultivated spelt, barley, oats, and buckwheat for summer crops and rye for winter crops."[21] Ralph Brown, historical geographer, writes that, "Until after the Revolution, experiments in wheat growing were entirely with the winter variety."[22] Daniel Rosenberger, in his will dated 1771, left for his wife's yearly maintenance "8 bushels of rye, 5 bushels of wheat, 3 bushels of buckwheat."[23] It should be obvious then, that when the term grain, corn, summer grain, or winter grain was used it stood for the total lands upon which grain was grown. The other cleared lands were probably used for a variety of purposes such as gardens, pasture, hay, orchards and fallow land — all necessary in the pattern of land use in the pre-revolutionary farmstead.

A second area of data concerning the farmstead was that of their livestock. Examination of the assessment lists makes it clear that Lancaster was still in the pioneer-farm stage. There was little evidence of commercial activity, and the farms were still of a subsistence character. The lists of livestock are, admittedly, conservative, in that only mature animals of over three years of age were subject to taxation.[24] There were some large herds within the county, but for the most part, the number of horses, cattle, and sheep reflected the pioneer farm with only a few head of livestock. This is no doubt the result of the small acreage of cleared lands, which would make the wintering of large herds difficult. The average farm of Lancaster County contained 2.6 horses, 4.5 cattle, and 5.1 sheep in c1758.

"Their horses are neat, round paunches, generally between fourteen and fifteen hands high, very mettled, six of them make a very pretty team . . ." is how the Conestoga horse was described in 1775. While the origin of the Conestoga horse was in doubt, it has been suggested "That it may have been the blood of a Flemish stal-

* No data available for Conestoga, Earl, and Martic Townships.

lion brought over by William Penn, since it had many of the characteristics of the Belgian — short arched neck, full mane, stout legs."[25] Six of them might have made a pretty team, but few Lancaster County farmers had six horses. The maximum number of horses owned by any one person in c1758 was twenty, which were owned by Henry W. Stiegel, of iron and glass fame, in Elizabeth Township. Most farmers had two to four horses but no large herds. Two obvious reasons for this is that, again, they only had 40.9 acres cleared, and it took time to build a large herd. For seven townships* more detailed data was provided since mares and horses were distinguished in the assessment list. Whether the "horses" were geldings or stallions, there is no way of knowing, but they outnumbered the mares 1.8 to 1. One suspects that teams of horses were purchased and brought into the area from some of the more settled counties to the east. Several men, both landowners and non-landowners, were identified in the lists as being drovers or wagoners. For example, 17 men in Lancaster Borough had six or more horses, and in addition, several of them were listed, under occupation as wagoners or drovers. It is suspected that using a team and a wagon in the Philadelphia trade was also a sideline for quite a few farmers.

It didn't make any difference if they were listed as cows, cattle or horned cattle, nearly every family in Lancaster County, c1758, had at least one. Fletcher reports that, "There was little improvement in feeding or breeding until after 1790. The cattle were mostly lean, rangy, variable as to type and color, and unproductive of either meat or milk."[26] The source of these cattle was the eastern counties where Swedish and Dutch cattle, as reported by Kalm,[27] were interbred with imported German and English breeds as the score of cattle brought over in 1683 by the first Germans.[28]

"Most farmers raised only enough sheep to clothe their families."[29] "The sheep of colonial days were sorry-looking creatures. They were so scrawny that a disgusted English farmer, Richard Parkinson, snorted, "They look surprisingly like goats."[30] This seems to be well supported by the assessment lists, because many of the larger farms had a flock of six to twelve head but only a few had more. In only eight of the twenty-four townships in c1758, did a man own a flock of more than twenty sheep. The largest flock was a Rapho Township flock of 60 head. A flock of 5.1 head of sheep per farm in c1758 was the county average, with about three quarters of the farm units having sheep.

Swine were reported as a part of most Pennsylvania farms of the 18th century by most all early writers, and are listed in many wills, but the assessment lists make no record of them.

What was the average farm like in c1758? It was a 135.5 acre farm of which only 40.6 acres were cleared and there were 9.3 acres

* Caernavon, Cocalico, Earl, Lancaster, Manheim, Rapho and Salisbury.

sown to grain. Their livestock included an average of 2.6 horses, 4.5 cattle, and 5.1 sheep per farm unit.

Lancaster County Farmsteads of c1772

One would expect that there would be a significant increase in all areas of farmstead development during this fourteen-year period, c1758 to c1772, which preceded the Revolutionary War. It seemed logical to expect that there would be an increase in the number of farms, the acreage cleared, and in the numbers of head of livestock per farmstead.

Farmstead Comparison: c1758 and c1772

Period	Farm Unit	Acres per Farm	Acres Cleared	Horses per Farm	Cattle per Farm	Sheep per Farm
c1758	2462	135.5	40.6	2.6	4.5	5.1
c1772	2647	135.4	52.0	2.5	3.2	5.1
Change	+185	-0.1	+11.4	-0.1	-1.3	0
	+7.5%	-0.1%	+28.1%	-3.8%	-28.9%	0

Table 2

In reality, in comparing the two periods we find the expected to be true only in part. The number of taxable farm units did increase by some 185 units for a 7.5% increase, and the acres cleared increased some 11.4 acres per farm for a 28.1% increase. Most unexpected was the very real drop in the number of cattle within the country. The decrease was from 11,300 head in c1758, to 8,825 head of cattle in c1772, for a decrease of 21.5%, a drop per farm from 4.5 head in c1758, to 3.2 head of cattle in c1772. Interestingly, the average acres per farm, the average number of horses, and the average number of sheep per farm remained nearly constant. One comparison unfortunately not included was that of the number of acres sown or acres of grain. Data was found only for two townships, therefore no valid conclusions could be made, though it is interesting to note that there was a 29.4% increase in grain acreage in Caernavon, and a 59.4% increase in Colerain. Grain seemingly grew in importance even if livestock did not.

The average farmstead of Lancaster County in c1772, the period immediately preceding the Revolutionary War, had an average of 135.4 acres, of which 52.0 acres were cleared. This average farm had 2.5 head of horses, 3.2 head of cattle, and 5.1 head of sheep. The farmstead of Lancaster County during this fourteen-year period was slowly developing. Some twenty-five thousand more acres were purchased as 185 new farmsteads were established during this period. This does not indicate any great influx of new families, but does create a picture of stability and natural growth. The farmers were slowly clearing the land, at a 21.9% increase, which in many cases

PRE-REVOLUTIONARY AGRICULTURAL DATA – c1772

	Date of Data	Farm Units	Average Acres Per Farm	Average Acres Cleared	Average Horses Per Farm	Average Cattle Per Farm	Average Sheep Per Farm
Bart	1772	70	125.5	47.5	2.5	3.2	6.1
Brecknock	1772	72	114.4	33.9	2.5	2.9	2.3
Caernavon	1775	48	172.4	50.5	3.2	4.6	5.1
Cocalico	1772	242	95.5	36.3	2.0	2.6	2.6
Colerain	1771	65	94.4	37.5	2.0	2.5	5.3
Conestoga	1772	98	138.6	50.0	2.2	3.2	4.2
Donegal	1771	126	133.7	43.1	2.4	2.8	4.4
Drumore	1772	112	155.8	95.2	2.6	3.0	8.1
Earl	1772	269	129.7	51.2	2.6	3.0	5.5
Elizabeth	1772	35	209.5	23.0	1.3	2.2	1.9
Hempfield	1773	131	152.2	58.2	2.8	3.8	5.5
Lampeter	1772	114	155.9	62.7	3.3	3.6	6.4
Lancaster Twp.	1772	27	140.7	65.3	2.9	4.7	4.8
Leacock	1770	120	166.7	67.7	3.0	4.0	8.7
Little Britain	1772	111	124.0	62.1	2.6	3.2	7.4
Manheim	1772	83	135.8	51.0	2.4	3.9	3.8
Manor	1772	114	118.2	41.6	2.7	3.6	5.7
Martic	1771	106	106.7	46.9	2.1	3.3	5.1
Mount Joy	1773	91	144.3	62.8	2.5	2.9	5.2
Rapho	1771	126	147.8	48.3	2.3	3.0	4.3
Sadsbury	1772	56	144.6	61.1	2.8	3.3	6.6
Salisbury	1770	115	158.4	71.1	2.8	3.3	5.2
Strasburg	1769	105	171.4	60.2	3.1	4.1	7.1
Warwick	1772	211	125.1	35.3	2.4	3.1	3.8
Totals		2647					
Averages			135.4	52.0	2.5	3.2	5.1

Table 3

would not produce a real increase, as many acres were being rested as part of a fallow rotation system.[31] Logic would tell us that with so little cleared acreage, an average of 52.0 acres per farmstead, and with so few head of livestock, that the large-barn period of Pennsylvania had not yet arrived because there was no need for the large barn. Even some twenty-six years later, in 1798, the average barn in Lancaster county was only 59.1 by 26.9 ft. in size, and 69.4% were log.[32]

The subject of livestock on the farms of c1772, as already stated, does leave us with some questions. The number of horses remained approximately the same with an average of 2.5 head per farm. After examination of the Assessment Lists, one finds that most farmers owned from one to four head, and a few men, who might well be wagoners, would own as many as six head. Only in Caernavon Township where a man owned ten horses, Drumore and Lampeter where a man owned seven head, do we find anybody who owned more than six horses.

The drop in the number of cattle both in county totals and in average per farm is difficult to comprehend. Fletcher makes the point that oxen were used to clear the land, and that after the roads were improved, there was a switch to horses for pulling loads.[33] This seems to be substantiated by the listing in the Andrew Ferree Estate (1735) of six cows and ten head of cattle.[34] The cattle spoken of are assumed to be oxen, as cows are listed separately. Not of Lancaster County, but Southeastern Pennsylvania, the Rosenburger Estate lists nine cows, four heifers, two calves, and one bull — but no oxen in the year 1772. If all the land was cleared and the roads improved by 1772, this would explain why there was less cattle; there would be less of a need for oxen than there had been in 1735, the date of the Ferree list. However, we still find only 38.4% of the land cleared. Only in Manor Township (See Figure 2), do we have data of any detail on cattle. It was reported for Manor in 1772 that there were 385 cows and 20 horned cattle. This does not reflect a large oxen or steer population, but there might well have been more in the earlier period of c1758 and the reason why there was a reduction in numbers. The largest herd found in c1772 was a Manheim Township herd of some twenty head — quite a reduction from the herds of 64 and 69 head of cattle found in c1758. One thing the records do establish is that it wasn't Lancaster County that "An American" was referring to when he claimed in 1775, ". . . that some Pennsylvania farmers have . . . some five hundred head of horned cattle, oxen, cows, bulls, calves, and young cattle."[35]

There was little change in the pattern of sheep in Lancaster in c1772, the numbers per farm remained constant. While there were some fair-sized flocks, one of forty in Leacock and one of fifty in Little Britain, many of the more well-to-do farm families kept a small flock of six to twelve sheep which, it is assumed, met the immediate needs of the family for wool and linsey-woolsey cloth. Fletcher states that, ". . . wool, not mutton, was the primary objec-

tive," and "there was a strong prejudice against mutton . . ."[36] The Assessment Lists seem to support this position.

The average Lancaster County farm of c1772, just a few years before the Revolutionary War, was a 135.4 acre farm with 52.0 acres cleared. The livestock included 2.5 horses, 3.2 cattle, and 5.1 sheep per farm. After some seventy years of farming, the farms of Lancaster County still seemed to have been little more than of a subsistance nature, producing little more than the needs of a farm family. On the 50 acres of cleared land, they raised crops for both human and animal consumption. The livestock of a typical farm would include only a team of horses, a cow or two, a steer to be fattened, and four to six sheep; these to provide the farm family with power, meat, and clothing. Grains, apparently, were the main surplus that could be sold in order to pay for the necessities which had to be purchased. In addition, a fatted steer or hog, on which we have no data, might also be sold. This humble origin seems little like a forerunner of the Feed Grain-Livestock Agricultural System of today, but it was the foundation for the expansion and developmental period of agriculture that occurred in Southeastern Pennsylvania in the post-revolutionary years, and which was later transferred to the midwest and called the Corn Belt. The Pre-Revolutionary Agriculture of Lancaster County, Pennsylvania — a humble beginning.

Regional Differences Within Lancaster County

County averages are interesting, and they do produce a norm by which individual farmsteads and township averages can be compared. If the agricultural data in Tables 1 and 3 are examined carefully, it is easy to see that there are some rather significant ranges in data for various townships. These differences are, without doubt, of greater importance than the county averages, inasmuch as they are a result of human and natural environmental influences on farms of pre-revolutionary Lancaster County. These geographical influences produced different patterns within the county area. It is through this type of analysis that we better understand the "why" of our heritage.

The cultural background of the settlers often determined the type of crops and livestock that were raised on a farm. Township differences were, though, often the result of one or two large landowners. Such a case is Elizabeth Township, where in 1759, as a result of his furnace, William Henry Stiegel owned 45% of the land and 35% of the horses, although he had no sown grain and only two horned cattle.

But what differences between township averages were the result of the natural environment, with some farms being in the fertile limestone lowlands of low relief (in central Lancaster County), some on the less fertile and hilly shales and sandstones of the northern hills, or the schists of the southern uplands? All of these factors must be considered in order to answer the question: What

were the regional differences within Lancaster County based on, and what roles did human and environmental factors play in producing these differences?

Regional Differences Based on Landform

Geographers for years have been concerned with the interrelationship between man's activities and the physical environment. In dealing with regional differences between the average farm of each of Lancaster County's townships, one could have examined the interrelationship between man and physical environmental elements such as climate, vegetation, soil fertility, and the slope of the land, in order to try to understand the reasons for the differences which occur.

Unfortunately, the climatic differences within the county are small because the area is not large. While it is often claimed that the Germans sought out the heavy timber areas, "Because, said they, where the wood grows heaviest the soil must be best . . ."[37], vegetation often has little influence on agriculture, inasmuch as clearing the land was the first change made in the physical environment after settlement. Therefore, we are most concerned with the landform regions including the soil, slope and drainage characteristics associated with them. This combined association is commonly referred to as the physiographic region, and it is generally accepted that there are three main physiographic regions in Lancaster County: (1) The Southern Uplands, (2) The Lancaster Plains, and (3) The Northern Hills. The Southern Uplands are underlain by resistant rocks, gneiss and schist, which have produced an area of rather severe slopes lying at higher elevation than the center of the county, and have produced a soil of only moderate fertility and good drainage. The Lancaster Plains are based on limestone strata, and erosion has produced a broad lowland of low relief and very fertile moisture-retaining limestone soils of great agricultural value. Lastly, the Northern Hills are a poorly-defined area along the northern border of the county, and are based on predominately shale and sandstone rocks of differing resistance to erosion. The end product has been a well-drained hill belt with greater slope and less fertility than the Lancaster Plains. In review, we find the Lancaster Plains to be an area of great agricultural potential while the Northern Hills and Southern Upland are areas of less potential because of the greater slope, less precipitation retention, and less fertility.

These differences should, therefore, be reflected as differences in regionalization in the farm characteristics of Lancaster County. Since the unit for farm production characteristics is the township, the boundaries for the physiographic regions, therefore, make use of the township boundaries and these are far from exact, but are drawn as closely to reality as possible. Figure 3 illustrates the boundaries of these three regions. The boundary for the Southern Uplands and Lancaster Plain is very close to the actual physiographic

boundary, but the Northern Hills and Lancaster Plains boundary has been greatly generalized, for large areas of Donegal, Rapho, Warwick, and Cocalico Townships are actually part of the Lancaster Plain (since there are several conclaves of limestone valley within these townships).

As a basic hypothesis, one would expect that agricultural production would be more highly developed in the fertile, rather level, and well-watered Lancaster Plain than in the less fertile and hilly Southern Upland or Northern Hills. Examination of Table 4 clearly illustrates that in c1758 the Lancaster Plains was more highly developed agriculturally inasmuch as it has more acres cleared, more acres in grains, and more horses than either of the other regions, more cattle than the Southern Uplands, and more sheep than the Northern Hills.

Agricultural Data of c1758:
Arranged by Physiographic Regions

Region	Farm Units	Ave. Acres	Ave. Acre Cleared	Ave. Acre. Grain	Ave. No. Horses	Ave. No. Cattle	Ave. No. Sheep
Southern Upland	521	112.8	39.2*	6.9	2.6	3.7	6.2
Northern Hills	895	135.0	34.8	8.1	2.4	5.2	3.8
Lancaster Plains	1044	147.3	48.2*	11.6	2.8	4.4	5.6
Total	2462	135.5	40.6*	9.3	2.6	4.5	5.1

*No data available for Conestoga, Earl, and Martic Townships.

Table 4

The data seems then, to support the hypothesis that because of a better agricultural environment, the Lancaster Plain had a higher level of agricultural productivity. The exceptions to this basic concept are that the Northern Hills had more cattle and the Southern Upland had more sheep.

Regional differences during the years between c1758 and c1772, when based on potential productivity of physiographic regions, should remain constant, since the environment changes little during such a brief period of time except for the natural increase of cleared land resulting from the time span of fourteen years.

In a comparison of Agriculture of c1758, Table 4, and the Agricultural Data for c1772, Table 5, one finds an expected increase in the average of cleared land occurring during the intervening fourteen years. The Lancaster Plain retained the lead in total acreage per farm, but an unexpected change did occur in the average number of cleared acres per farm, with the Southern Upland having a spectacular 56% increase while the Lancaster Plain and the

Agricultural Data of c1772:
Arranged by Physiographic Regions

Region	Farm Units	Ave. Acres	Ave. Acre Cleared	Ave. Acre Grain	Ave. No. Horses	Ave. No. Cattle	Ave. No. Sheep
Southern Upland	520	126.1	61.0	N.D.	2.4	3.1	6.6
Northern Hills	903	125.9	40.7	N.D.	2.3	2.8	3.6
Lancaster Pans	1224	146.4	56.6	N.D.	2.8	3.6	5.5
County	2647	135.4	52.0	N.D.	2.5	3.2	5.1

Table 5

Northern Hills both increased at 17%. It is unfortunate that data is lacking for all townships in grain production for c1772. Data was available for only Caernavon and Colerain.

In terms of livestock on the average farm in c1772, Lancaster Plain continued to lead in the number of horses per farm maintaining the 2.8 horses per farm of the c1758 period. While the number of head of cattle decreased in all regions, in c1772 the Lancaster Plains farms now led the County in the number of head of cattle per farm. The Southern Upland continued to lead, as in c1758, in the number of sheep and Lancaster Plains continued as second.

The only unexpected change which was noted was the great increase in the acres of cleared land in the Southern Uplands. Could the reason be that the thin-soiled upland was less heavily wooded and therefore more easily cleared?

Regional Differences Based on Nationality

When one is concerned with the physical environment, many elements can be considered, even though the physiographic region became the one to be used. This problem is lacking the cultural elements within the area. So many of the cultural elements, including the attitudes and orientations of man, can be summarized by the national group to which the early settler belonged. The early settler of the County was an immigrant from the British Isles: Scotch-Irish, Welsh, or English; or Germanic, from what is now Southern Germany or Switzerland. Basically then, these were the two main national groups: the Anglos and the Germans.

Hypothetically, these two groups should have brought with them different ideas on agricultural methods and organization as well as different crops and livestock. By the year 1758, granted, many of the occupants of the County were born here, but their parents and many neighbors had come here from the old world. This analysis will only be carried out for c1758 because these characteristics

would be still less identifiable by c1772. We should be able to identify a regionalization then, based on the national origin of the settler.

The extensive research on Southeastern Pennsylvania done by Lemon provides us with township identity based on national origin, although for most of the elements of agriculture, Lemon didn't go into detail for each township as he did in identifying national groups. Figure 3 illustrates for c1758 those townships with more than 50% of the population Germanic and those townships with over 50% of the population Anglo. A comparison between the Germanic and Anglo townships should then illustrate whether or not the nationality of the settler influenced the agricultural orientation of the individual farmsteads. This may or may not be completely objective, since eight of the thirteen Germanic townships are in the more productive Lancaster Plain whereas only three of the eleven Anglo townships are in the plain. Because the Southern Hills are totally Anglo, a comparison of the Germanic and Anglo agricultural patterns of the other two regions, Lancaster Plains and Northern Hills might be more valid, inasmuch as there is a more equal distribution of national groups in these regions. In order to be as objective as possible, both comparisons are illustrated in Table 6.

Comparison of Germanic and Anglo Townships: c1758
For All Lancaster County

Region	Units Farm	Acres Ave.	Cleared Ave. Acre	Ave. Acre Grain	Ave. No. Horses	Ave. No. Cattle	Ave. No. Sheep
Germanic	1475	137.3	38.1*	9.4	2.6	4.8	4.3
Anglo	987	132.8	43.7*	9.2	2.8	4.1	6.1
County	2462	135.5	40.6*	9.3	2.6	4.5	5.1

For Lancaster Plains and Northern Hills Only

Region	Farm Units	Ave. Acres	Ave. Acre Cleared	Ave. Acre. Grain	Ave. No. Horses	Ave. No. Cattle	Ave. No. Sheep
Germanic	1475	137.3	38.1*	9.4	2.6	4.8	4.3
Anglo	466	155.3	48.2*	11.8	2.9	4.6	6.0
LP & NH	1941	141.6	42.3*	10.0	2.6	4.7	4.7
County	2462	134.5	40.6*	9.3	2.6	4.5	5.1

*No data available for Conestoga, Earl, and Martic Townships.

Table 6

After examining Table 6, one can observe that there are regional differences between Germanic and Anglo townships, and that nationality and the associated cultural orientation of the settlers does make a difference in the type of agricultural system established by these settlers. It is not to say that the agricultural system of either

group is superior, but that there is a difference, and it is a product of the cultural differences of each nationality. When a comparison is made between the 1475 farms of the Germanic townships and the 987 farms of the Anglo townships for all of Lancaster County, one can see that in the Germanic townships the farms were larger, had more acres in grain, and more cattle; whereas the Anglo-township farms had more land cleared, more horses, and more sheep. Is this a result of environment or heritage? The comparison, though, between the Germanic and Anglo-township farms of just the Lancaster Plain and the Northern Hills, where the proportion of nationality to good and poor land is more equal, one can see a more significant difference. In the Anglo township the farms were larger, had more land cleared, more acres in grain, a larger number of horses, less cattle, and more sheep than did the farms of the Germanic townships.

A greater difference was expected between the Anglo and Germanic farmers than was found in the data. Were c1758 and c1772 already too late to find real, significant differences between a German farm and an Anglo farm? In the final analysis, one can observe that there were more cattle on German farms and the Anglo farm had more sheep. Perhaps it isn't completely the nationality of the settlers, since by this time a mixing of cultural traits, as far as agricultural practices, had already occurred; rather it was the ability of each man to perceive, through his cultural heritage and by observing his neighbor's methods, the potential of a physical environment, the markets in the area, and to create an agricultural landscape and patterns of agriculture not Germanic or Anglo, but a pattern unique to Southeastern Pennsylvania.

Summary

This study of the pre-revolutionary agriculture covers the characteristics of agriculture in the County in the period immediately preceding the Revolutionary War, c1758 to c1772, which was the result of some sixty-five years of development after first settlement. The patterns of agriculture identified for this period are a product of German, English, Scotch-Irish, and Welsh ethnic groups, whose perception of each other's cultural traits and of their physical environment created in the pre-revolutionary period, the agricultural foundation of a system which was to flourish in the late 18th and early 19th centuries and be transferred to the Mid-West as the feed grain-livestock system of the Corn Belt.

During the period preceding the Revolutionary War, c1772, the typical Lancaster County farm was a small pioneer farm carved out of a large land holding of 135 acres; 50 acres of cleared land, a team of horses, three to four head of cattle, four to six sheep, about a third of the cleared land in grains, a small house, and a small barn usually built of logs.

Patterns of rural development were influenced by the physical environment, and the better-developed farms wer usually found in

the rich Lancaster Lowland, while the Northern Hills and Southern Upland were less well developed. There were minor differences between Germanic and the Anglo areas of the county, with the greatest observable traits being a greater emphasis on cattle by the Germans and on sheep by the Anglos.

All in all, the clearest picture is that of the small pioneer farm — a truly modest beginning, but a strong foundation on which to build an agricultural system and a county heritage.

ABOUT THE CONTRIBUTOR

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NOTES

[1] Edward Higbee. *American Agriculture* (New York, 1958) p. 233

[2] Stevenson W. Fletcher. *Pennsylvania Agriculture and Country Life, 1640-1840* (Harrisburg, 1950) p. 37.

[3] Franklyn Ellis and Samuel Evans. *History of Lancaster County* (Philadelphia, 1883) p. 6.

[4] *Ibid.*, p. 345.

[5] Charles D. Spotts. *They Called It Strasburg* (Lancaster, 1968) p. 7, and others.

[6] Clyde L. Groff. "The Strasburg Weekly News" (July 4, 1970) p. 1.

[7] Lewis Evans. "A Brief Account of Pennsylvania . . ." in Lawrence Gipson. *Lewis Evans . . .* (Philadelphia, 1939) p. 115.

[8] Peter Kalm. *Travels in North America, 1749-1750.* Translated by Adolph B. Benson in 1770, reprint by Dover (New York, 1964) p. 179.

[9] William Penn. "Letters to the Committee of the Free Society of Traders" (1683) in A. C. Myers. *Narratives of Early Pennsylvania, West New Jersey, and Delaware, 1630-1707* (New York, 1912) p. 229.

[10] Kalm, p. 179.

[11] Fletcher, p. 191.

[12] Thomas J. Wertenbaker. *The Founding of American Civilization: The Middle Colonies* (New York, 1963) pp. 270-271.

[13] Ellis and Evans, p. 343-349.

[14] Fletcher, p. 175.

[15] Jesse L. Rosenberger. The Pennsylvania Germans (Chicago, 1923) pp. 145-146.

[16] Fletcher, p. 175.

[17] *Ibid.*, p. 60.

[18] Benjamin Rush. *An Account of the Manners of the German Inhabitants of Pennsylvania* (1789), Rupp Edition (Philadelphia, 1875) p. 16.

[19] Amos Long, Jr. *The Pennsylvania German Family Farm* (Breinigsville, Pennsylvania, 1972) p. 314.

[20] Fletcher, p. 143.
[21] Ellis and Evans, p. 348.
[22] Ralph H. Brown. *Historical Geography of the United States* (New York, 1948) p. 35.
[23] Rosenberger, p. 142.
[24] James T. Lemon. *The Best Poor Man's Country* (Baltimore, 1972) p. 161.
[25] Fletcher, p. 199.
[26] *Ibid.*, p. 175.
[27] Kalm, p. 75.
[28] Fletcher, 174.
[29] *Ibid.*, p. 191.
[30] *Ibid.*
[31] Lemon, p. 170.
[32] Arthur C. Lord "Barns of Lancaster County", *Journal of the Lancaster County Historical Society* (Vol. 77, No. 1, 1973) p. 38.
[33] Fletcher, p. 174.
[34] *Ibid.*, p. 90.
[35] *Ibid.*, p. 175.
[37] Ellis and Evans, p. 345.
[36] *Ibid.*, p. 191.