EARLY WESTERN PENNSYLVANIA AGRICULTURE.

It has been well said that Pennsylvania like Gaul is divided into three parts, the eastern, the central, and the western parts. Indeed this is quite true, for upon an examination of the topography and the geology of the land we note three distinct divisions. In order to be coherent with my topic I shall deal with the third part and then only with the southwest because there was little settlement in the northwestern Pennsylvania until after 1800. Settlement in the southwestern Pennsylvania did not take place until after the French and Indian wars. According to Veech, settlement began in 1765. (1) He states that—the great abundance of game; general impunity from the Indians; the fertility of the soil; the fine springs and water courses; the cheap land and the easy access to the roads were the factors which aided in the moulding of this fur trading section into a territory of thriving farms and grain fields. (2)

I have only attempted to cover agriculture up to 1800, hence that leaves only a short period of thirty-five years and as I have stated, material in this field was scarce; much which might be said will remain unsaid and, upon second thought, there will necessarily be transfer of data from eastern and central Pennsylvania, since many of the settlers poured across the mountains into the Allegheny Plateau and brought with them their ideas concerning agriculture.

Now let us consider for a minute European agriculture and see what relations it bears to the agriculture of early western Pennsylvania. In Europe few plants were cultivated. Rye, barley, oats, wheat, beans, vitches, cabbage, and apples were the common crops. (3)

British agriculture had developed little before 1750. Rotation of crops and methods of fertilization were not universally common, but were only practiced by the upper portion of agriculturalists. Modern machinery had not yet come into existence with its revolutionary influence upon crops, prices, methods of cultivation and labor. The im-
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Implements used resembled those used by the Egyptians four thousand years before. (5) As yet labor was plentiful and products were scarce. Hence only the crudest notions of agriculture were carried into western Pennsylvania by the settlers.

The first settlers endured many hardships. "They generally left better homes in the east, but were willing to endure all manner of hardships for a few years with the hope of abundance later on." (6) "The life of the backwoods was rude and simple in the extreme. The pioneers cleared a little tract of land in the forest, began to farm in a rough sort of a fashion; hunted and traded with the Indians." (7) The Scotch-Irish were the first to scatter about the forts in Western Pennsylvania to farm and trade with the Indians. (8) "These Presbyterian Irish were already a mixed people," and hardened by the frontier activities in Ulster, made tip-top settlers for the frontier of western Pennsylvania. (9)

"The daily labors had to be carried on in constant preparation against surprise. While at work in the fields or forest their trusty rifles had to be within easy reach; sometimes, they even laid them across the plough handles. The women, the children, and the sick were left alone in the house. When the settler returned he little knew whether he would find them alive or not." (10)

The fort played an important role in the lives of the pioneers. "Often in the middle of the night, by the message that the Indians were at hand, the whole family was awakened and in dead silence prepared to move to the fort." (11) Families that had retired in their own homes the night before were found in the fort before dawn. "Upon these occasions the whole population huddled together in the forts. The whole country might have reminded one of a desert region if they had not seen the small fields of corn and other grain waving in the patches of cleared land." (12) Their crops they frequently had to leave in a deserted state during the summer and a great part of their labors was lost by this circumstance.

The losses sustained by their crops were not the only ones. Their sheep, hogs, goats and cows were devoured by
the panthers, bears, and wolves. "A pack of wolves would approach the cabin of a farmer in the quest of pigs or sheep and announce their presence by prolonged howls which terrified the community almost as much as did the war hoop of the Indians." (13) A man was also in danger after nightfall due to an instinct of the wolves to be brave in the dark. The only way one could become safe was to climb a tree. However there was no special delight afforded to one spending his night on the leafy down of a hickory or a stout oak. (14) Horses and cattle frequently got into their fields through breaches in the fences. Squirrels and coons were formidable enemies. They dug out the newly planted fields and feasted upon the ripening grain. (15)

All men presumed to know how to handle a rifle. Small boys looked forward with great pleasure for the time when they could be entrusted with fire arms. (16) "Every acre, every rod of ground which they claimed had to be cleared by the axe, and held with the rifle." (17) "These early pioneers ran the order of defense about the border settlements like a Dakota farmer ploughs a fire guard about his farm." (18) Often the work of guarding was carried on by a party of men each of whom was in military preparation. A sentinel was placed on the outside of the fence so on the least alarm the whole country could repair to their arms. (19)

Another great difficulty which the settlers had to battle with was the decided difference in climate and soil. Frosts and snow set in early in the fall. Frosts came about September 21st. Hunting snows came by October. Winters set in with a great deal of severity. It was no unusual thing to have snows one to three feet deep and of long continuance. (20) The spring was very short. The summers were cooler and more dry than at present. (21) The mills were not expected to grind after May. "All the housewives took care to have a summer supply of flour, otherwise they must revert to a hand mill." (22)

The western pioneers owe much to the American Indian. They practiced the Indian method of agriculture for the first years because the settler was merely concerned with ekeing out an existence for the first year or two. Along
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with the Indian corn and squash there was plenty of game and wild meat. Patterson says the early settlers were hunters instead of cultivators of the soil. The Indians were not planters—only scratchers in the soil. They cleared spots along the streams and the flats and carried on agriculture in very primitive fashion. “Their practice was to burn off the trees, scrape up the top soil into little hills, and plant the seed therein. Indian corn was indigenous and the Indians had raised it from time immemorial. Women did the work, and the only implements were their fingers, a pointed stick for planting, and a clam shell or a scapula of an animal for a hoe.” (24) Corn was sometimes planted without felling the trees and dead fish were used as fertilizer. Beans and peas were planted between the rows of corn. (25) Tobacco was another indigenous plant and the early pioneers were not long in learning its narcotic use.

The settlers also adopted the Indian method of clearing the earlier sections. The trees were felled by girdling them or by building fire around their bases. When they fell, they were burned into suitable lengths, heaped on a pile and reduced to ashes. This was commendable in that it used a minimum amount of labor, yet, on the other hand, it was quite destructive. (26) “It is estimated that an industrious woman could burn off as many fallen trees in a day as a strong man could cut with a steel axe in two or three days.” (27) Penn tried to guard against this destruction of the forests for, in his charter, it is stated that, “A fifth part of the land was to be kept in its original condition.” (28) Later different methods of clearing were applied. The timber being sawed into lengths ten to twelve feet and used for building. This was usually a winter’s job and the neighbors aided each other. “Money was scarce, labor plenty and cheap, hence grubbing, chopping and logging frolics were frequent and popular.” (29)

The whole system of the Indians was wasteful and disorderly but it yielded quick and fairly large immediate returns for a minimum of labor expended. And the first settlers owe their existence for the first several years to this crude agricultural system.

Ernest Bogart, in his Economic History of the United States, says that the great attractions to the farmer in the
Middle colonies were three fold, namely, free land, great fertility of the soil, and the assurance of a living and the necessities of life. (30) These attractions, with the exception of the first, were characteristic, in an agreeably large measure, of the entire colony of Pennsylvania, and land, in the west, was cheap, many of the settlers being squatters.

Much can be said on the positive side of the second, namely, the great fertility of the soil. “Among the old thirteen states no richer or more productive soil existed than was to be found in Pennsylvania.” Many mountains mark the western section of Pennsylvania but between these mountains are exceedingly fertile valleys. “Generally speaking the soil of Pennsylvania is rich, this is especially true of the limestone regions in the eastern part as well as in some of the counties on the Ohio in the west.” (32) These limestone regions are adaptable for grain raising. Greene speaks of Pennsylvania as “the chief granary of the continent.” (33) The surface was rolling and, near the streams, hilly. The uplands are fertile and can be cultivated to the very top. (34) Crumrine, in his History of Washington County, says, “The county in general is excellent for grazing and well adapted for all the requirements of agriculture”. (35) The whole of the western border is well adapted for grain raising and agriculture. (36)

The climate of Pennsylvania in the main is temperate, but yet the extremes of heat and cold are found here. The climate of Western Pennsylvania today is quite different from that of the early pioneer days. The winters were long and severe, the spring short and the summer hot and dry with a short cool fall. Here was also found the variation that Penn spoke of when he wrote home, “The weather often changeth without notice, and is constant almost in its inconstancy.” (37)

With this variety of climate and fertile soil the third great factor, namely, the assurance of a living and the necessities of life, was guaranted. All the food, as well as flax and hemp for clothing, leather for shoes, and timber for building, were raised at home. The few things not produced, such as salt, coffee, and implements could be brought over the mountains from the east on pack horses.
With the great variety of soil and climate the pioneers after a few years were able to produce a variety of crops. The cereal crops seem to have taken a lead from the first. Corn seems to have taken the lead in Western Pennsylvania. According to one author, "Corn was used mainly for bread and by hunters and travelers in the form of 'Johnny Cake', which was originally called journey cake."

"Corn is in especial favor. The settlers fed upon it in the winter, and parched grains were carried in the leather wallet to serve as his only food," says Theodore Roosevelt in his *Winning the West*. Everybody is familiar with the results of the excessive corn supply in the early nineties of the eighteenth century. It is quite evident that corn was supreme. Rye was another crop which occupied many acres. Both corn and rye were raised especially for the distilling industry. Drink was very common in those days and regarded as an absolute necessity of the agricultural class at harvest or any gathering of the farmers. "For each frolic one or more two-gallon jugs of whiskey were indispensable," says W. J. McKnight, in his *Pioneer Outline of History of Northwestern Pennsylvania*.

Flax culture was the mainstay of our early pioneers. It is readily grown on any soil and the seed gave them pure linseed oil. The finer fiber was spun into cloth and the coarser into a material called "tow". The fabric made of tow or linen was not warm. So a mixture of wools and linen called "linsey-woolsey" was made. The Irish potato was given much attention and was one of the crops which ranked with corn and rye. Buckwheat, millet, oats, barley, hay, peas, tobacco and melons were raised. Many berries such as strawberries, blackberries, raspberries, and wild grapes were cultivated.

The early settlers were anxious to raise wheat, but they insisted upon raising it upon the highlands first. The good fertile river valleys were considered too damp and also they were hardest to clear. Later the western settlers learned where and how to cultivate wheat, for Jenkins speaks of the wheat production as following, "Wheat was so plentiful in western Pennsylvania and the market so poor that it was customary to feed it to the cattle while rye, corn, and barley had almost no value for man or beast."
Every family besides these fields of a few acres, had its garden planted with smaller vegetables such as beets, parsnips, carrots, and radishes. The later grew to be seven inches in diameter. (45)

An orchard was planted as soon as possible after the clearing had been made. "Large orchards of apple trees are propagated in almost every plantation, which ever produce great quantities of fine, large, and well flavored fruit," says Robert Proud, in his History of Pennsylvania. (46) Peach and cherry trees were planted and produced luxuriantly.

We shall now turn aside and consider the early methods of planting and harvesting. The whole system was crude and simple.

The ground was prepared with a crude wooden plow dragged by several oxen. Later, and especially among the German's, the horse was used. (47) "The planters only plough the land once, and do not fertilize it and never allow it to lay fallow", says Michaux. (48) The crops were planted by hand and covered by a hoe or a crooked stick. The weeding and cultivation was done by hand and the hoe. This was not such a task as one might think because the soil was a good loam and the farms were only three or four acres in size.

Wheat and other grains were cut with a sickle and threshed with a flail or trodden out by oxen. "After the country was opened up a new system of reaping was adopted. The fields were run out at the time of sowing in what was called throughs, lands eight feet wide. Two full hand reapers were expected to cut this width and keep up with the gang or else be docked in their pay. The best reaper was selected as the leader and the rest had to follow not far behind to the end of the through. At the end of the through which extended across the field, one half of the reapers took up the sickles and carried them back half way to the starting point, where on the arrival of the other half the sickles were taken up, thus the grain was cut and bound into sheaves by the time the gang reached the beginning." (49) In after years the cradle took the place of the sickle. By this method a man could cut two to three acres in a day.
To flail ten to twenty bushels of wheat was a good heavy day's work. (50)

Hay-making made a special demand upon the human muscles. Expert cutters were engaged long before hand. These experts with the scythe took as much pains as the barber does with his razor. The boys of the neighborhood were used to bring up the rear. Their scythes were hung low and they, the boys, were not expected to make such large cuts. (51)

Little was done in this early frontier but farming, yet every farmer was at times a hunter, a miller, a trapper, a blacksmith, a lumberman, a sailor, and what not. In fact every early western Pennsylvania farmer was a "Jack-of-all trades." (52)

The farmers were free-holders, hence there were few hired servants. In the few cases that did exist, the servants were, "washed, lodged and boarded," by the year receiving in addition from ten to sixteen pounds sterling. (53) In many sections the only available labor was that of the family or a neighbor. Consequently then the planter only cleared a little land so that he and his immediate family could do the work. (54) Women worked in the fields and became quite as expert as the men with the scythe or the cradle. A day's work lasted from daylight to dark. Naturally, then, there was much cooperation among the farmers in harvesting and planting.

The implements used by the western pioneers were as crude as their methods of cultivation. There was not a great variety and even then some of the implements were shared by several farmers. The average farmer had a wooden plow, a spade, a wooden fork, an ax, a scythe, and a saw. (55) With these he could manage and get along reasonably well. The plows were constructed largely of wood and were heavy and clumsy. They usually required four oxen and two men to manage them. Harrows were nothing better than thorn branches cut from the nearest forest. Later these were followed by the triangular harrow. (56) Hay was often hauled with grapevines instead of rope.
There were few farm vehicles. A cart with iron rims, imported from England, passed from father to son. Few of the farmers had wagons but hauled their crops on sleds. (57) Rafts were used on the streams. The German farmer was better equipped than the others. (58)

Domestic animals were produced in large numbers. Cattle provided materials for meat, butter, cheese, and leather. Hogs were found running everywhere. Sheep were plentiful and served as a source of food and clothing. Horses roamed about freely in the woodland. (59)

In addition to these domestic animals the settlers tamed several wild animals. The American reindeer was drafted into service. Beavers were trained to go fishing and bring the catch back to their masters. (60) Wild geese lost their shyness and pigeons, which had wintered in the settlers cabin, became so tame that they flew out in the spring and returned.

In order to keep the swine and the cattle in-side the palisades and the worm fences, a triangular yoke was placed about their necks. A wooden tooth, resembling a wagon spoke, stopped a horse just as he was lifting his front foot. Bells were indispensable to indicate the whereabouts of the cattle or tell when they were approaching the fields.” They also served as a protection against wild beasts, rarely ever would a wolf or a bear attack an animal which wore a bell.” (61) Bells in fact were the sign of an efficient farmer. Doddridge tells us of a drove of horses, intended for a Baltimore market, on whose necks bells were hung. At the lodging in the mountains two bells were stolen. The drover had not gone far the next morning when he realized that the bells were missing. A man was sent back for the bells. The farmer and the hired man denied stealing the bells. “By a custom of the times the torture of sweating was applied to them.” This brought a confession and the bells were forthcoming and hung about the necks of the culprits. When it came time for the owner to use his hickory he said to the thief, “You infernal scoundrel! I will work your jacket nineteen to the dozen. Only think what a rascally figure I should make in the streets of Baltimore without bells on my stock.” (62)
Much of the timber cut was used for fences. There were different types of fences, but the one which was especially common was the palisade, formed by sticks driven into the ground close together. Another was the rail, made of rails six to eight feet long laid on top of each other at a sufficient angle to remain secure. These were called worm fences because they were so crooked. (63)

We shall now devote a short time to the barns and the homes of these western pioneers. The barn was generally erected of round logs laid in double layers. The roof was made with clap boards at first then straw, and finally shingles. These crude structures were built largely as a protection against the wolves and the bears which roamed at will. They were not much protection against the blasts of winter. (64)

"The houses west of the Allegheny were low cabins made of the trunks of trees from twenty to thirty feet long and four or five inches in diameter placed one above the other and supported by letting their ends into each other." The roof was formed of similar logs. Shingles were fastened to these by large splinters. Two large doors usually took the place of windows. These were hung on wooden hinges and at night were pushed to and closed with a huge log. The chimney which was at one end was also made of tree trunks. The back was covered with clay to separate the flames from the wooden wall. Four or five days are enough for two men to complete such a house. (65) "If well to do, besides the large living room there might be a small bedroom and kitchen and a loft where the boys slept." (66)

Before the lapse of a half century after the settlement began agriculture was a prosperous industry in the eastern and in the western parts of Pennsylvania best adapted to the tillage of the soil and yet legal records make little mention of agriculture before 1784. The General Assembly in that year directs 150 pounds to be granted to the Philosophical Society for the purpose of encouraging agriculture. (67) In 1788 the council made inquiries of the Pennsylvania Agriculture Society concerning the Hessian fly and its effect upon wheat. (68)

One is rather impressed that agriculture had not gone far beyond the primitive stage before 1800. It is a striking
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feature that the only industry open to these western pioneers should have developed so slowly. I believe the following reasons reveal the solution:

1. The wilderness required arduous labor and time.
2. Indian assaults were frequent and destroyed many crops, tools, and stock.
3. Wild beasts had their influence too upon crops and stock.
4. Seeds were hard to obtain.
5. The character of the soil was not understood.
6. Tools were crude and difficult to manage.
7. Transportation was inadequate.
8. The amount produced was greater than the amount consumed.
9. Labor was scarce.
10. The farmers were isolated, hence no conventions, no clubs, no societies of any kind. Neighbors were not able to profit by the experience of brother pioneers.
11. Superstition played a large part in planting and reaping.

I have attempted to give a general survey of agriculture up to 1800, a sort of a panorama as it were, and not a detailed account. If I have succeeded in doing this my time and labor has been well spent.

W. J. Hayward.

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