Agricultural Resources of Pennsylvania, c 1700-1960

Potter County Potato and Cannery Crop Farming, 1850-1960

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This document is a parallel to the official National Register MPDF narrative. The two versions are not identical, but they contain the same information differently organized. National Register policy prohibits embedded images in official documentation. These PDF versions re-integrate the images for the reader's convenience. The National Register documentation was completed and submitted piecemeal. This PDF document reflects the updates made during the process of making statewide coverage together, again for the reader's convenience.

Conceptualization: Historical Farming Systems and Historic Agricultural Regions

Pennsylvania presents interesting intellectual challenges for the agricultural historian and archaeologist. The watchword for Pennsylvania's agricultural history is "diversity." The widespread transition to a relatively specialized monocrop or single-product system did not really take hold until after the Second World War in Pennsylvania. Beginning in the settlement era and stretching well into the 20th century, diversity of products was a hallmark of nearly every farming region as a whole, and of individual farms too. As late as 1930, the state Agricultural Experiment Station Bulletin proclaimed "the largest number of farms in Pennsylvania are the farms with some diversity of crops and livestock production."[1] According to the 1930 Federal census, nearly 53 percent of the state's farms were either "General," "Self-Sufficing," or "Abnormal" (mainly part-time) farms. "Specialized" farms were defined as those where at least 40 percent of farm income derived from a single source. These included types labeled variously as "dairy," "cash grain," "fruit," "poultry," and "truck farms."

Over time, regionalism declined in significance within Pennsylvania, yet farming across the state remained surprisingly diverse. Along with other eastern states, Pennsylvania agriculture shared in the general shift more towards specialization, commercialism, state oversight, industrialization, decline in farming population, and the like. This trend is recognized in the context narrative. However, it is

important always to keep in mind that existing literature on Pennsylvania agriculture exaggerates the degree of change before 1950. In 1946, Penn State agricultural economist Paul Wrigley identified "Types of Farming" areas in Pennsylvania. Only the Northeast and Northwest were given descriptors that implied specialization; these were dairying areas. The rest were given names like "General Farming and Local Market section." Equally significant was the fact that statewide, the top source of farming income – dairying -- only accounted for a third of farm income. To be sure, there were pockets where individual farms specialized to a greater degree (in terms of the percentage of income derived from a single product), but these were the exception rather than the rule; overall even in the mid-20th century, Pennsylvania agriculture was remarkably diversified both in the aggregate and on individual farms.[2]

Even many farms defined as "specialized" by the agricultural extension system were still highly diversified in their products and processes. This was because so many farm families still engaged in a plethora of small scale activities, from managing an orchard, to raising feed and bedding for farm animals, to making maple sugar or home cured hams. Many of the resulting products would not necessarily show up on farm ledger books because they were bartered, consumed by the family, or used by animals, or sold in informal markets. In other words, they fell outside strictly monetary calculations of "farm income." Yet they were important aspects of a farm family's life and took up a good deal of family members' time. Indeed, we can't understand the historic agricultural landscape without acknowledging these activities, because they so often took place in the smokehouses, poultry houses, potato cellars, summer kitchens, springhouses, and workshops that appear so frequently in the rural Pennsylvania landscape. These spaces might not be well accounted for (if at all) in a conceptualization that emphasizes commodity production, but they become more readily comprehensible when we take into account the broader diversity of farm productions. Another important benefit of this perspective is that it preserves—indeed reclaims—contributions that a preoccupation with specialized market commodities tends to obscure, for example those of women and children.

Acknowledging the historic diversity of Pennsylvania farm productions helps to clarify much, but it also raises a fundamental challenge for conceptualizing an approach that will faithfully convey Pennsylvania's agricultural history, and make

it possible to understand the landscape that was created as people farmed in the past. How can we make sense of this sometimes bewildering variety? Added to diversity of products we must consider a diversity of cultural repertoires; a diversity of labor systems; diversity of land tenure arrangements; varied levels of farm mechanization; 93 major soil series; ten different topographic regions; and growing seasons ranging from about 117 to over 200 days. The concept of a "farming system" was found to be particularly helpful as a framework for understanding how agriculture in Pennsylvania evolved. A "farming system" approach gathers physical, social, economic, and cultural factors together under the assumption that all these factors interact to create the agricultural landscape of a given historical era. Physical factors like topography, waterways, soils, and climate set basic conditions for agriculture. Markets and transportation shape production too. Other components, equally important but sometimes less tangible, form part of a "farming system." For example, cultural values (including those grounded in ethnicity) influence the choices farm families make and the processes they follow. So do ideas, especially ideas about the land. Social relationships, especially those revolving around gender, land tenure, labor systems, and household structure, are crucial dimensions of a farming system. Political environments, too, affect agriculture.

The idea of a "farming system" opens the way to a more comprehensive and accurate interpretation of the historic rural Pennsylvania landscape. For example, because the notion of a "farming system" includes land tenure and mechanization levels, we can identify a distinctive region in the heart of the state where sharecropping and high mechanization levels supported a cash-grain and livestock feeding system. This allows us to interpret the tenant houses, "mansion" houses, multiple barn granaries, large machine sheds, and crop rotation patterns that typify this region. Or, by including cultural forces as part of a system, we can differentiate a three-bay "English" barn from a three-bay German "ground" barn. By attending to labor systems, we can appropriately interpret the Adams and Erie fruit-belt areas that relied on migrant workers. And so on. So whether we seek to interpret German Pennsylvania, the "Yorker" northern tier, home dairying areas where women dominated, or tobacco farming in Lancaster County, the "farming system" approach is key to understanding all aspects of the rural Pennsylvania farm landscape—not only the house and barn.

Identification of Historic Agricultural Regions

Mapping done by agricultural economists in the early 20th century identified "Types of Farming" areas based on soil types, topography, markets, climate, and production. These helped to establish clear regional boundaries to the extent that topography, climate, and soil types set basic conditions for agriculture, and they also aided in identifying 20th century production patterns. However, the agricultural economists were mainly interested in production and markets; they did not take into account other important factors which shaped the landscape, especially ethnicity, labor patterns, and land tenure. For this cultural and social data, cultural geographers' work has proven valuable, because it maps information on settlement patterns, building types, ethnic groups, and even speech patterns. And finally, new maps of farm tenancy were generated for this report. Examples of these maps are reproduced below. Together, these resources were used to outline regions that allow us to avoid a "one size fits all" approach on the one hand, and the over-detailed focus on a single farm on the other.

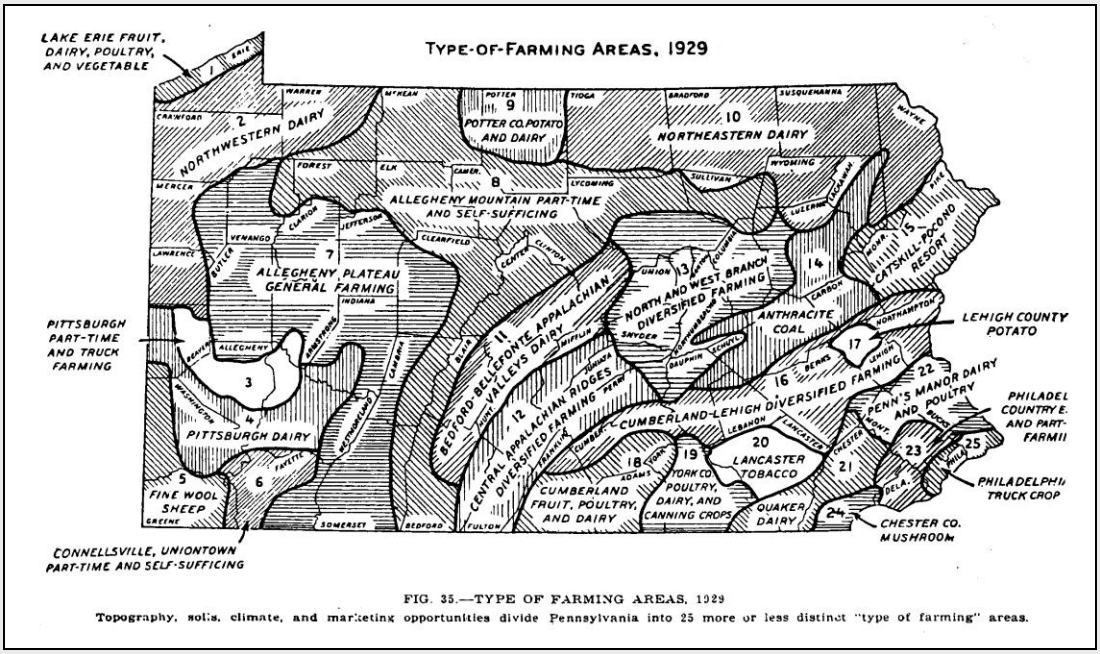
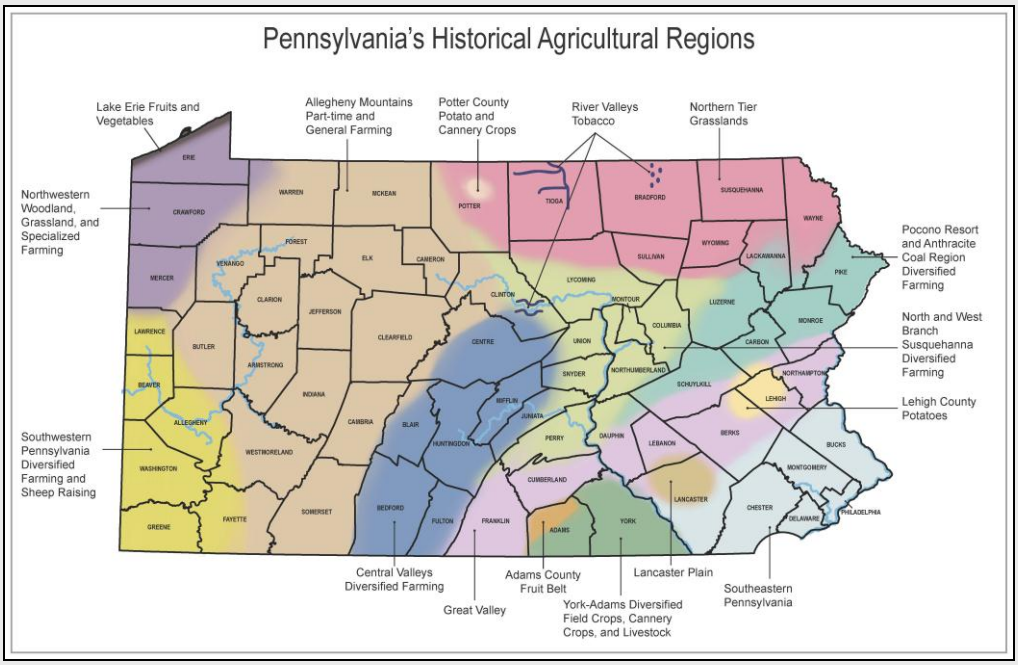


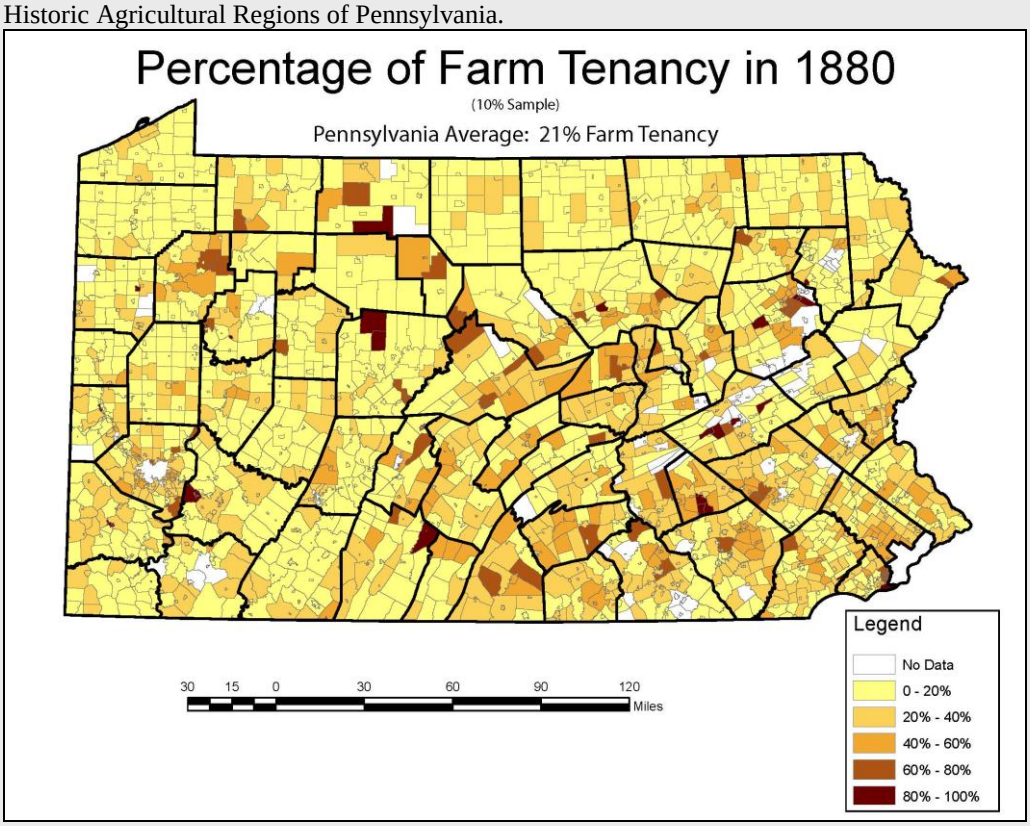
FIG. 35.—TYPE OF FARMING AREAS, 1929

Topography, soils, climate, and marketing opportunities divide Pennsylvania into 25 more or less distinct "type of farming" areas.

From Penn State College Agricultural Experiment Station Bulletin 305: "Types of Farming in Pennsylvania," April 1934



Historic Agricultural Regions of Pennsylvania.

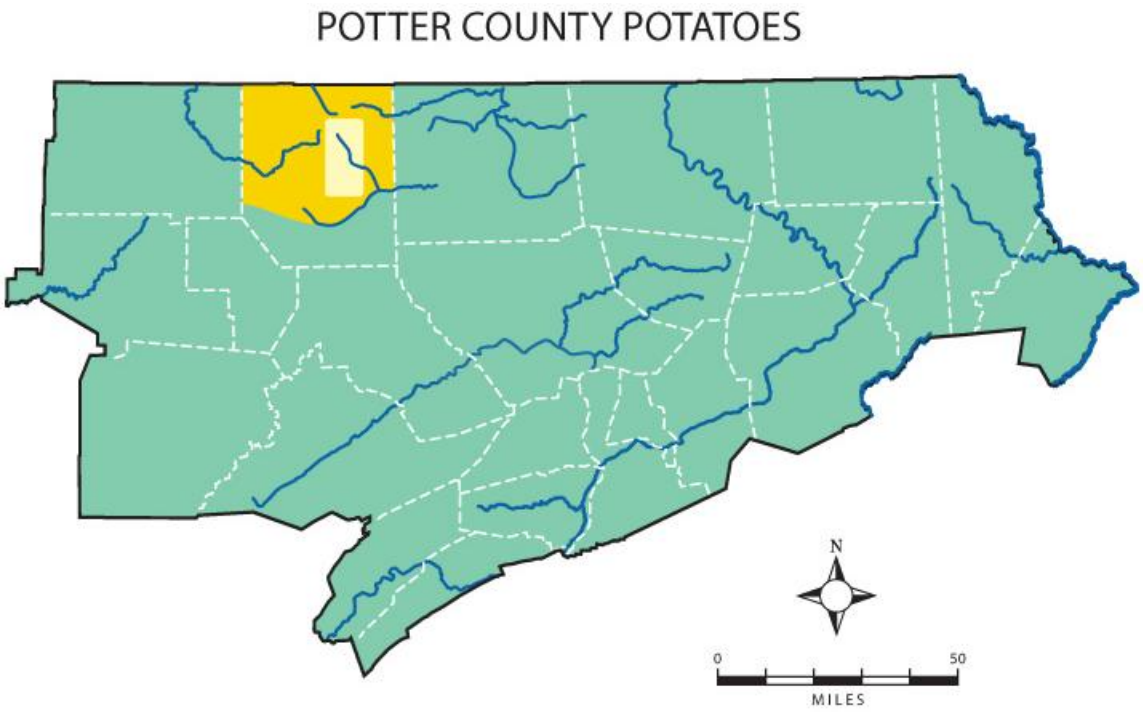


Share Tenants as a percentage of all farmers, 1880.

1 Emil Rauchenstein and F. P. Weaver, "Types of Farming in Pennsylvania." Pennsylvania Agricultural Experiment Station Bulletin # 305, April 1934, 39.
2 Paul I. Wrigley, "Types of Farming in Pennsylvania." Pennsylvania Agricultural Experiment Station Bulletin # 479, May 1946.

Location

The northern two-thirds of Potter County, roughly including the townships of Sharon, Oswayo, Genesee, Bingham, Harrison, Pleasant Valley, Clara, Hebron, Allegany, Ulysses, Hector, Pike, Sweden, Eulalia, Roulette, Keating, Home, Summit, Abbott, and West Branch. On the 1929 "Types of Farming" map, Bingham, Ulysses, and Abbott townships had [potato] "crop specialty" farms as their "second most predominant types of farms."[1] (However, in neither 1929 nor 1946 Types of Farming maps did specialized potato farms here occupy a rank at the forefront.)

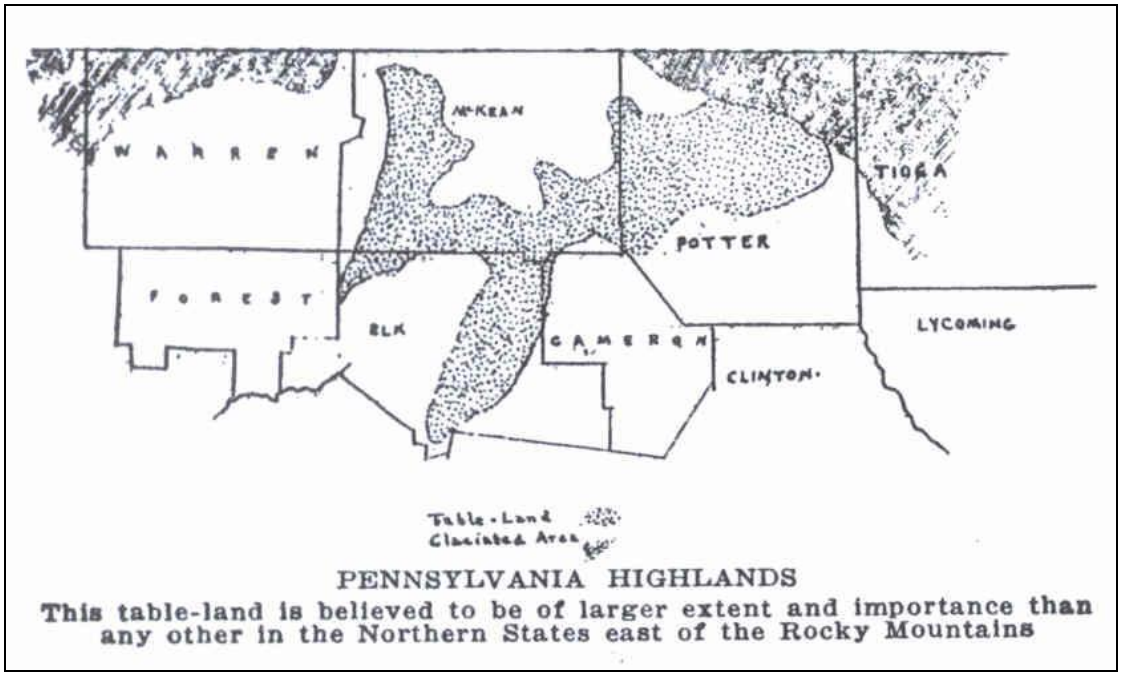


Properties in this region that do not meet the registration requirements for potato and cannery crops may still be evaluated under the regional context for the Northern Tier grasslands.

Climate, Soils, and Topography

The climate here is chilly, with an annual mean temperature of around 47° Fahrenheit and a growing season that is the shortest in the Commonwealth. Most of the county lies within USDA Plant Hardiness Zone 5, with about 165 frost-free days per year. Rainfall ranges from 36-42 inches.[2] Soils are ultisols of the Dekalb series whose parent material is shale and sandstone. They are not naturally productive, but in small interstices they offer hospitable conditions for potatoes. Topography consists of a "Deep Valleys" section, but in the central part of the county there is a high plateau or tableland, an

especially high and relatively flat section differentiated within the Allegheny Plateau physiographic province, extending roughly across the middle of the county from east to west. On a 1926 map, this area was labeled the "Big Level" of the "Pennsylvania Highlands." Another, glaciated high plateau section occupies a triangular area in the northeastern part of the county.[3] The county's arable lands are concentrated in these two sections.



"Pennsylvania Highlands," from Rufus B. Stone, *McKean: the Governor's County*, 1926, p. 191. The 1929 "Potter County Potato and Dairy" region (Agricultural Experiment Station Bulletin # 305) took up the northern two-thirds of the county

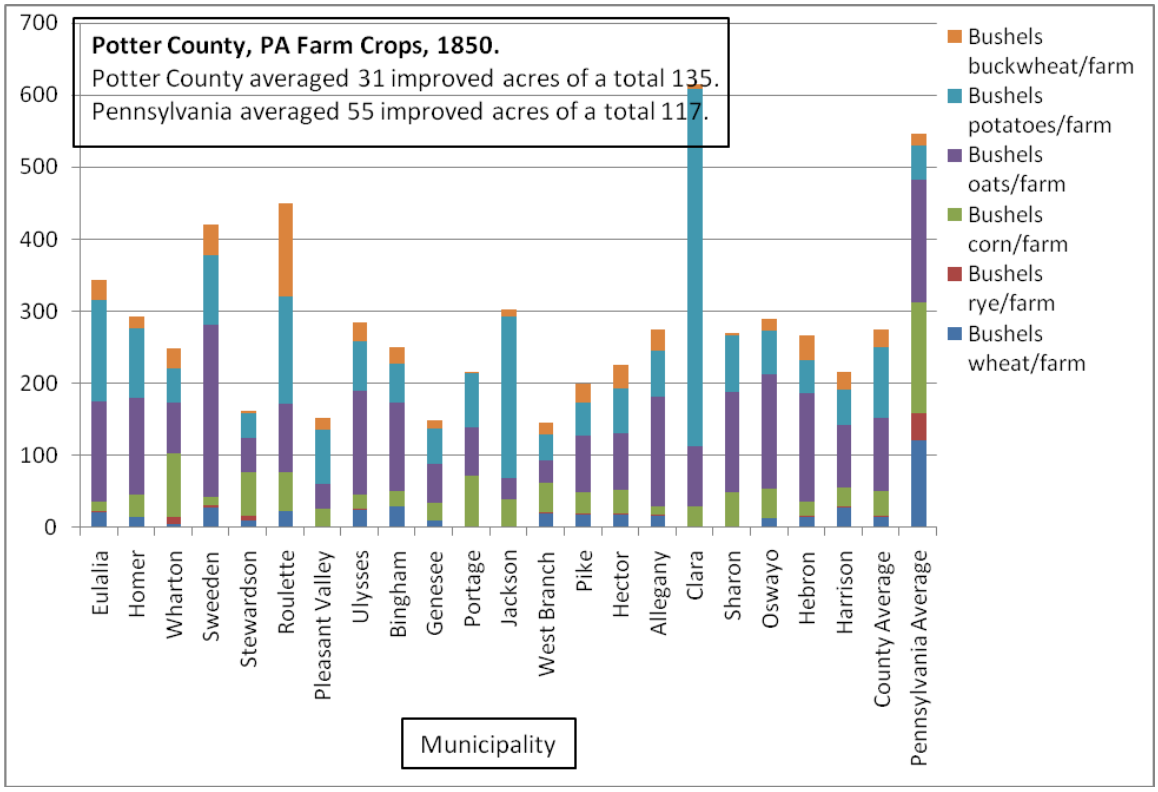
Historical Farming Systems

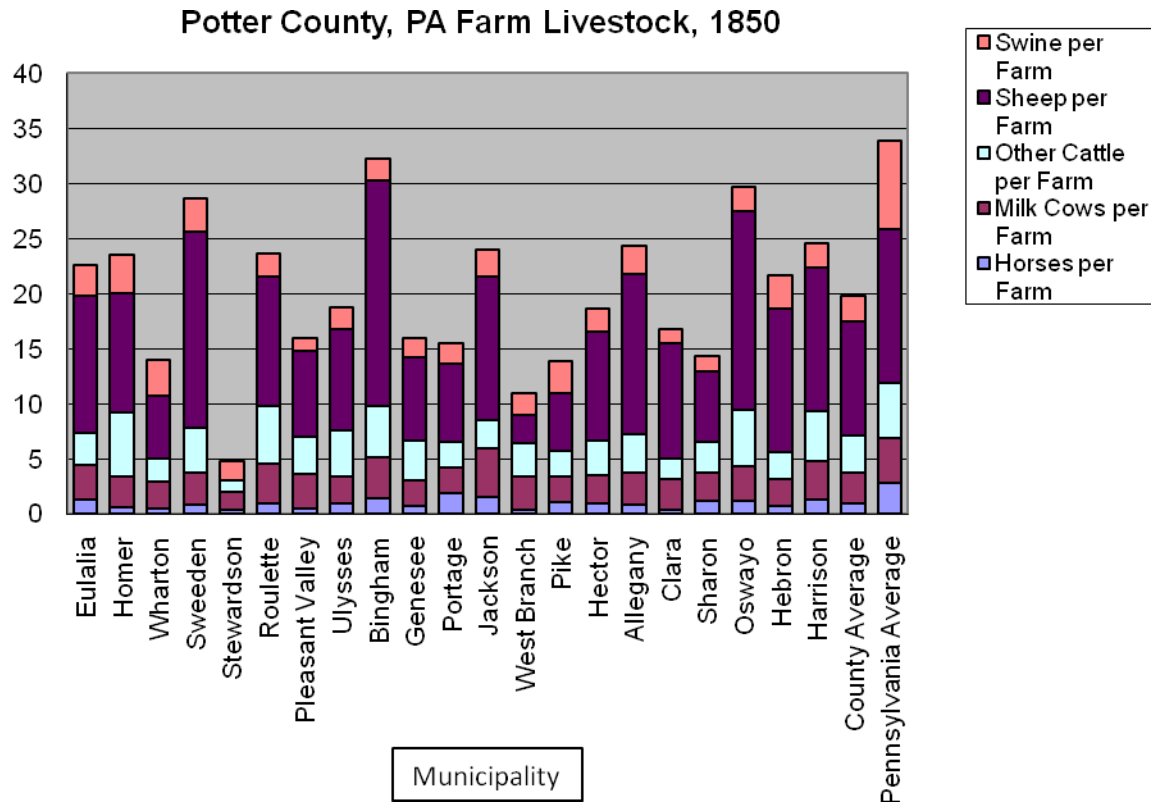
1850-1915: Diversified Home Dairying and Potato Production

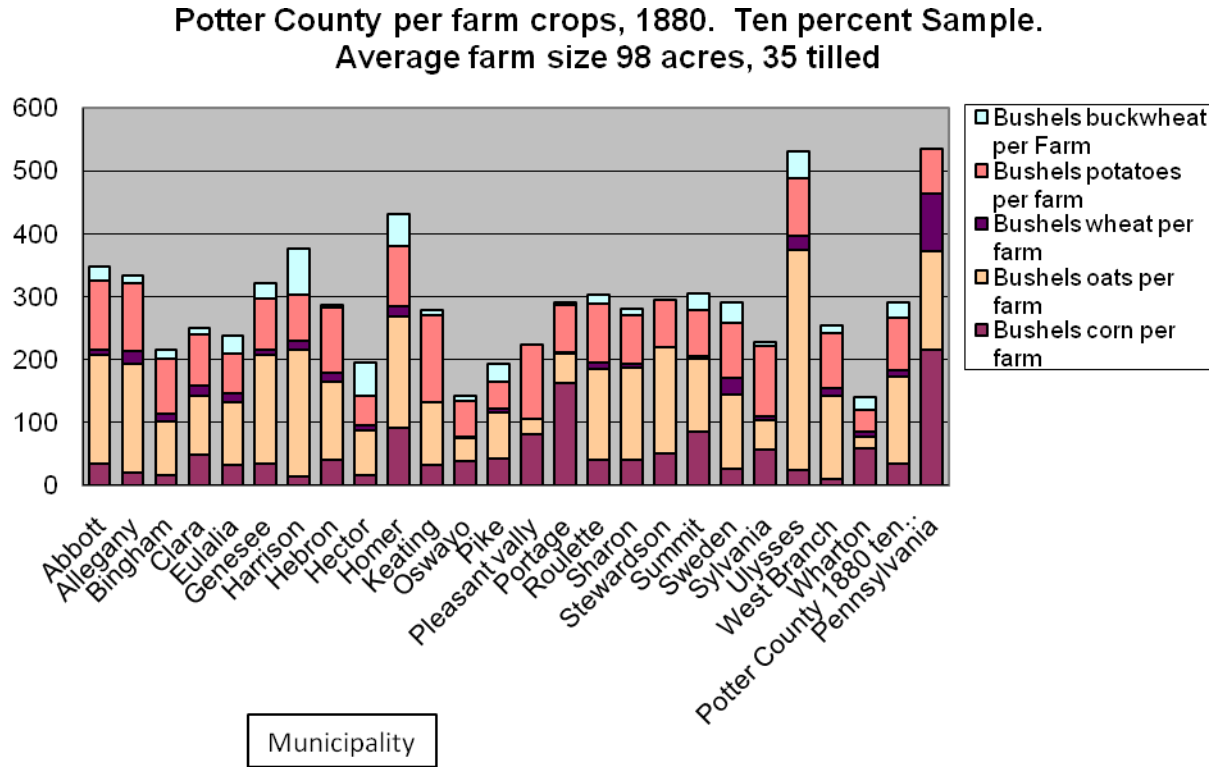
Products, 1850-1915

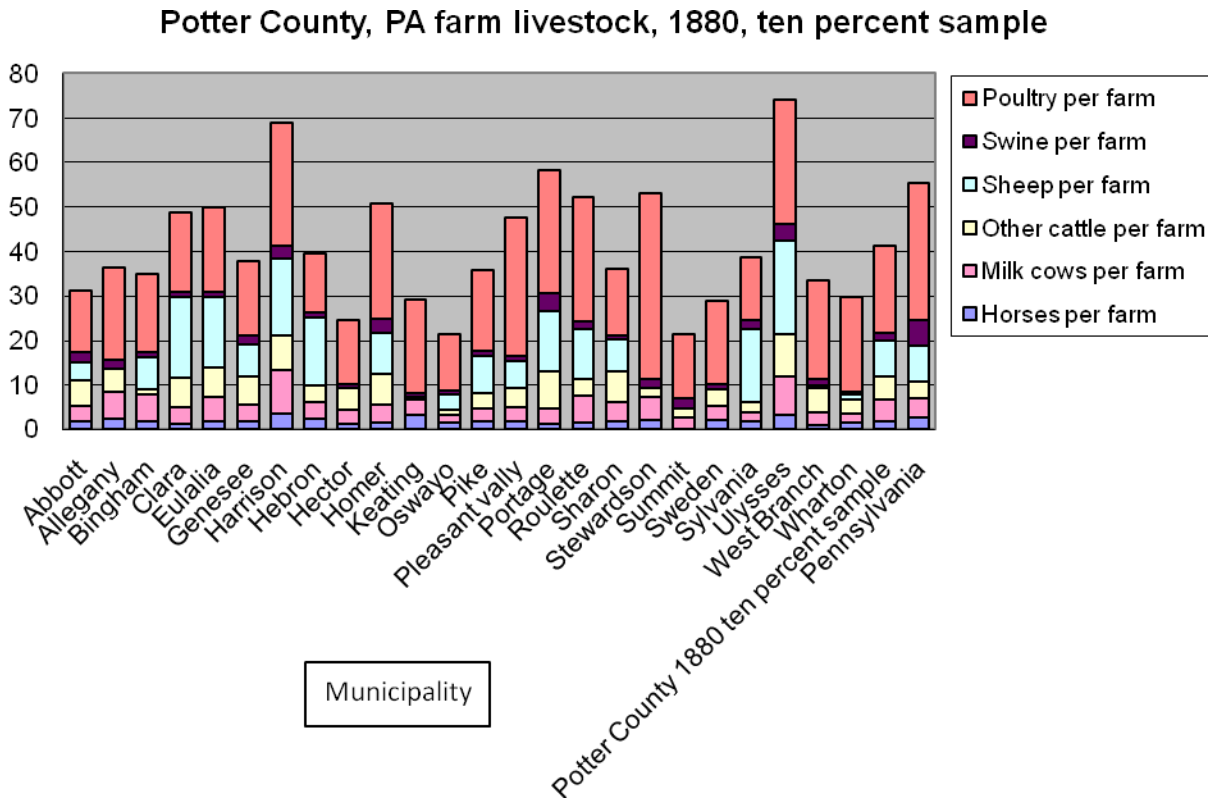
By far the main economic enterprise of early Potter County was lumber. Coudersport became a center of the lumbering industry, and very little farmland was cleared; the population inched up from about 1,200 in 1830, to 11,500 in 1860, to a peak of 30,000 in 1900, after which it declined to about 18,000 by 1940. Farming very much resembled the grassland economy that was simultaneously developing in the remainder of the Northern Tier. Tilled acreage was low, around three dozen acres in 1850. Mechanization and horse power were insignificant. Sheep and cattle supplied the mainstay in the livestock economy; butter production was higher than average. In this cool climate, hay and oats did well, as did buckwheat. Reflecting the woodland environment, farms frequently

produced over a hundred pounds of maple sugar. Notably, even at an early date, the local paper boasted that "we can raise more and better potatoes to the acre than can be raised on any other land in the Nation!"[4] The manuscript census bears this out. Seven Potter County townships show potato production well above the state average, and also well above the other Northern Tier counties. Little evidence survives about where this production may have been marketed, but we can surmise that some went to the local lumbering population; and some may have made its way out of the county after 1851, when the Erie Railroad reached Wellsville, New York, just twenty miles away. It is important to emphasize that even though it may be considered a notable crop within a diversified production system, especially in comparison to other parts of Pennsylvania, potato production was nowhere near a specialty. In the late nineteenth and early twentieth century, poultry production assumed a more prominent place in the diversified farm economy.




Potter County, PA Farm Livestock, 1850
40
35
30
25
20
15
10
5
0
Eulalia
Homer
Wharton
Sweeden
Stewardson
Roulette
Pleasant Valley
Ulysses
Bingham
Genesee
Portage
Jackson
West Branch
Pike
Hector
Allegany
Clara
Sharon
Oswayo
Hebron
Harrison
County Average
Pennsylvania Average
Municipality
Swine per Farm
Sheep per Farm
Other Cattle per Farm
Milk Cows per Farm
Horses per Farm


Potter County per farm crops, 1880. Ten percent Sample.
Average farm size 98 acres, 35 tilled
600
500
400
300
200
100
0
Abbott
Allegany
Bingham
Clara
Eulalia
Genesee
Harrison
Hebron
Hector
Homer
Keating
Oswayo
Pike
Pleasant vally
Portage
Roulette
Sharon
Stewardson
Summit
Sweden
Sylvania
Ulysses
West Branch
Wharton
Potter County 1880 ten...
Pennsylvania
Municipality
Bushels buckwheat per Farm
Bushels potatoes per farm
Bushels wheat per farm
Bushels oats per farm
Bushels corn per farm



Labor and Land Tenure, 1850-1915

In only two townships did farms declare hiring even one laborer for as many as fifty weeks in 1880; otherwise, labor needs were met by family and neighbors. Mechanization was low in this grassland economy. Likely many still supplemented farm income through lumbering. The tenancy rate in 1880 was just twelve percent, as opposed to 21 percent statewide. Family members milked, hayed, herded, churned, and fed animals.

Buildings and Landscapes, 1850-1915

Houses, 1850-1915

Little remains on the landscape from this period, but a few buildings may date to the late nineteenth or early twentieth century. Two of the houses show a possible local type: a one and one half story, frame gable-roof structure, five bays across the front with central door, and two bays deep. These houses have eyebrow windows

House, West Branch Township, Potter County, c. 1880. Site 105-WB-002.


View of attached kitchen ell and root cellar, West Branch Township, Potter County. Site 105-WB-002.

on the second, half-story level. They are covered with clapboard and painted white. Their proportions and the eyebrow windows suggest faint echoes of mid-nineteenth century Greek Revival attributes, but their overall aspect is very plain. These visual characteristics do link them with the Yankee/Yorker tradition, however. In general, housing characteristics of the Northern Tier apply in Potter County.[5]

It is significant that one of these houses has an attached kitchen ell and a root cellar. The ell follows the Northern Tier/New England pattern of a one-story work space appended to the main block of the house. The root cellar's presence is significant as an indicator that potato culture indeed took up an important place in household production, and also because it was associated with women's work space.


House with Eastlake detailing, Ulysses Township, Potter County. Site 105-UL-002.


House, Sweden Township, Potter County, late 19th century. Site 105-SW-

Barns, 1850-1915

One surveyed property possessed a late nineteenth century "English" style barn – that is, a small, un-banked, three-bay barn with doors in the eaves side. This configuration is consistent with small-scale, diversified farming of the period. It provided, in an all-purpose space, room for hay storage, threshing, and livestock housing.


English barn with machine shed extension, West Branch Township, Potter County, c. 1870. Site 105-WB-002.

Landscape Features, 1850-1915

Landscape features from this period in Potter County would resemble those in the Northern Tier Grassland. Settlement and hence clearing occurred generally somewhat later than in Bradford and Susquehanna Counties, around the same time as in Tioga County. Immediately around the house, a few ornamental plantings such as sentinel trees or flowering shrubs might appear. Farm layout exhibited characteristics of Northern Tier farms. The farmstead was frequently bisected by a road, and often, farm buildings were ranged, gable side facing the road, across the road from the farm house. Pasture and meadow would account for a large portion of farm acreage, as would woodlots. Fields would be small and square-ish, and usually defined by treelines or hedges. Worm fences and possibly a few stone fences would also be present.

Farmstead bisected by road, Oswayo Township, Potter County. Site 105-OS-001.

Farmstead with twin barns, Oswayo Township, Potter County. Site 105-OS-002.

Rural scene, Honeoye, Sharon Township, Potter County, c. 1920. http://www.eg.bucknell.edu/~hyde/potter/Honeoye.JPG. Accessed on February 17, 2004.

1915-1940: Diversified Dairying plus Potatoes

In this particular subsection of the Northern Tier Grassland, dairying developed along a parallel to other Northern Tier counties – that is, farms carried half a dozen or more dairy cows producing fluid milk mostly for New York City market, and thus governed by New York sanitation statutes. Cattle feed consisted of purchased concentrates, silage, hay, and pasture. In this period, potatoes emerged as a notable complement to the dairying economy, further differentiating Potter from the other Northern Tier counties. The manuscript census for 1927 reveals a complex pattern at the individual farm level. The largest farms, over 200 acres, included 10 or more acres of potatoes within a mix that included livestock and field crops. However, smaller farms that raised significant amounts of potatoes tended *not* to have a diverse operation. So, by this period, potato production can be considered a "sub" system, pursued either by large operations in combination with other enterprises, or by smaller farms that tended more toward specialization. In the aggregate, these collectively were enough to produce identifiable patterns at the township level of analysis, especially in Ulysses, Bingham, and Abbott Townships.

Products, 1915-1940

Where acreage was concerned, only a small percentage of the average farm (36 of 132 acres) was in crops. On farms where a diverse agriculture was practiced, the cropland was dominated by hay land. In this cool climate, farmers were relatively early in adopting silage corn. Though only about half of farms had silos in 1927, this proportion was well above the statewide average. Oats, buckwheat, and potatoes accounted for the remainder of cultivated land. Dairy herds averaged from half a dozen to a dozen, and much of the milk was sold in fluid form to condensaries and cheese factories.[6] Pasture land was extensive. Interestingly, Potter County dairymen were more militant than elsewhere in the state, participating in Dairymen's League actions. Poultry represented a strong component of the farm enterprise, particularly into the Depression years. Five dozen chickens supplied eggs to sell. Some farmers made their own dairy and poultry rations using home grown oats, buckwheat middlings, and barley, but most purchased ready mixed feed. These two-horse farms probably had a surplus of oats. By 1935, the county agent also reported 2000 acres of soybeans in the county, raised in rotation for hay. There is little information on sheep raising; by far the more significant triad was dairy: poultry: potatoes.

In this period, the extension system helped local farmers to exploit a known advantage: the suitability of local conditions for potato culture. By the turn of the twentieth century,

Potter County was already known for its superior potato quality and yields: "the potato crop," said the county agent in 1920 "is the second largest farm product produced in Potter County. It is the only staple cash crop grown in the county that yields a bigger crop and a better quality than can be produced in other parts of the country."[7] In 1919, the county agent reported that "the extremely high altitude and the short season in Potter County gives us ideal conditions for growing seed potatoes. In fact our conditions are among the most favorable in the US."[8] So once the agricultural extension system was in place, agents almost immediately homed in on the potential for certified seed potato production. They encouraged farmers to rogue[9] their plants, grade the potatoes for shipping, organize spray "rings" (cooperatively owned spraying outfits), rotate crops, plant cover crops (usually soybeans), form marketing organizations, and purchase improved varieties, developed by Penn State scientists. This work soon began to pay off, and by the 1920s the agent was reporting increased shipments of seed potatoes and table potatoes to both regional and national markets. A "Camp Potato" was set up at Denton Hill, in 1938 east of Coudersport, for experimentation and demonstration purposes.[10]

Camp Potato, Denton Hill, Potter County, about 1950 . Lycoming Agricultural Extension Archives, Slide Collection. By permission.

While local people certainly had already recognized that potatoes did well in this place, the intervention of county agents was critical in organizing and rationalizing production. Spraying, in particular, achieved spectacular results when it was first tried – as much as a 125 bushel yield increase, with accompanying "large financial returns." Certified seed potatoes garnered a substantial price premium, too, since at the same time, agricultural extension agents all over the state were pushing their clientele to raise only potatoes from certified seed stock. The agent claimed in 1922 that over 400 farms were served by spray rings; that works out to about twenty percent of all farms in the entire county. In 1923 the agent claimed that sixty percent of the potatoes had been sprayed; and the crop was rogued by professionals brought in from the State College. Maps in the agricultural extension reports show that demonstration work was concentrated in Abbott, West Branch, Sweden, Ulysses, Eulalia, Hebron, and the northern tier of townships. Countywide, potato production just about quadrupled between the 1880s and the mid 1920s, from about 150,000 bushels to over 500,000. By the mid 1930s, almost 200,000

bushels of certified seed potatoes came out of Potter County. So, the Potter County potato economy was dramatically developed, if not created from scratch, by county agents. This is an especially sharp example of changes that were taking place in American agriculture during this period, towards more capitalistic, scientific practices as defined by the land-grant system.

Potter County farm families continued to produce seed and table potatoes in the 1920s and 1930s. Very few farms actually received enough of their income (40 or more percent) from potatoes to qualify as specialized potato farms. Rather, the county agent noted in 1939, potatoes formed one leg of a triad that consisted either of dairy: potatoes: poultry or sheep: potatoes: poultry.[11] All the while the agent was busily promoting potato production, he was helping farm families with issues relating to dairy production and poultry raising.[12]

Labor and Land Tenure, 1915-1940

In this period, the Potter County grassland farming- plus- potatoes economy was farmed with family and local hired labor, largely by owner-operators (the tenancy rate was just under the statewide average, i.e. about 27% in 1910 and 21% in 1940) on farms that averaged well over 100 acres, quite a bit of which was in woodland, while only a quarter was in crops – including hay, which took up two-thirds of the cultivated acreage.

Buildings and Landscapes, 1915-1940

Houses, 1915-1940

In the c. 1920 photo shown above, there appears to be a "foursquare" house that could date to this period. However, in general, dating for the houses surveyed in fieldwork is uncertain and could either predate this period or date to it. Typical forms included gabled houses with "ell" wings; typical construction material was wood with siding.

Barns, 1915-1940

Barn with milk house, Eulalia Township, Potter County. Site 105-EU-001.

As in the Northern Tier, Potter County barns underwent changes in direct response to the demands of milk markets. The Dairymen's League, which marketed Potter County milk, entered an agreement with New York milk markets which required their patrons to "pass the Grade B inspection" in 1925. This resulted in a noticeable changeover – rearranging stables, building milk houses, providing light and ventilation, cementing floors, and installing stanchions, among other things. The agent reported that 200 milk houses were constructed in the summer of 1927 in Coudersport, Ulysses and Germania area. By 1937 the requirements had grown still more exacting, so the agent's work in this area continued apace.

Outbuildings, 1915-1940

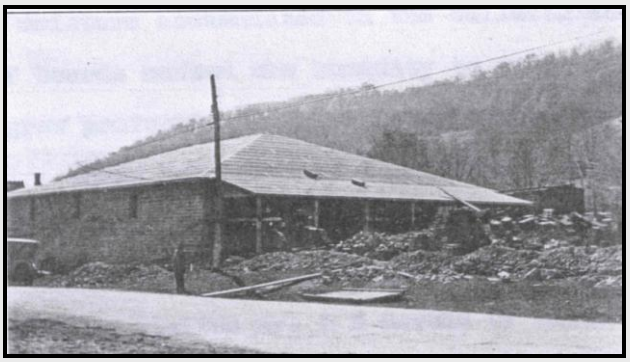
Because it was in the Northern Tier grassland region, Potter County had a significant number of milk houses and silos. As elsewhere, farm families turned to poultry in the depression decades of the twenties and thirties. So, they built brooder houses, layer houses, and broiler houses, or they altered other buildings to accommodate poultry. This pattern followed those in the other Northern Tier counties. See the Northern Tier Grassland narrative for more discussion.

Silo, Eulalia Township, Potter County, Site 105-EU-001.


Machine Shed, Eulalia Township, Potter County. Site 105-EU-001.


Granary, Eulalia Township, Potter County. Site 105-EU-001.

Potato Storage Houses, 1915-1940

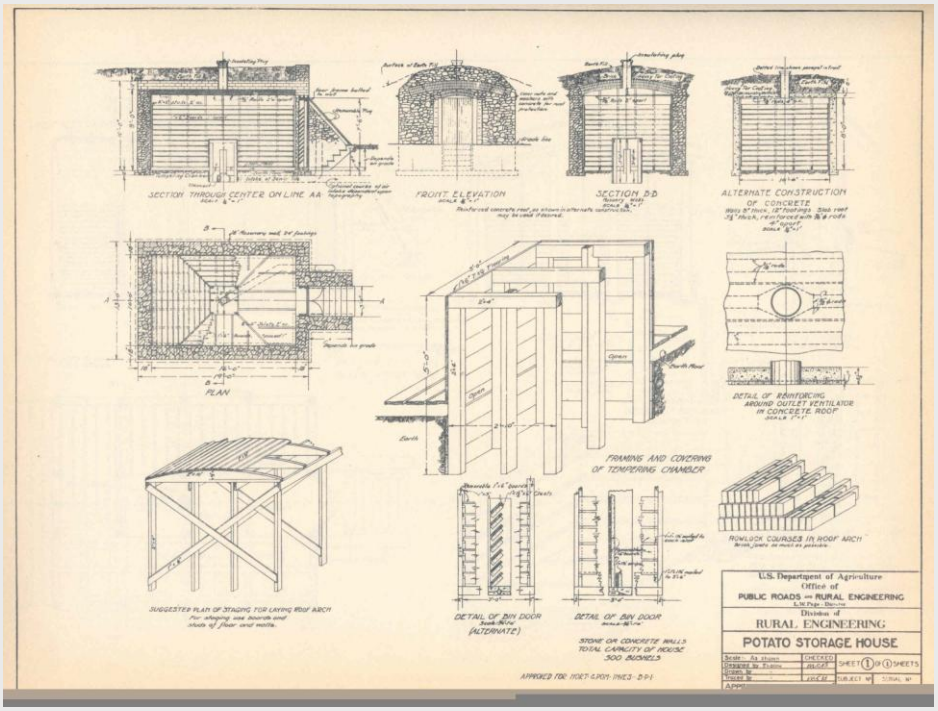

Potato storage building, Potter County, 1922, Agricultural Extension Agent Annual Report, PSU Archives.


Former potato storage facility, Coudersport, Potter County, 2004. Site 105-CO-001.

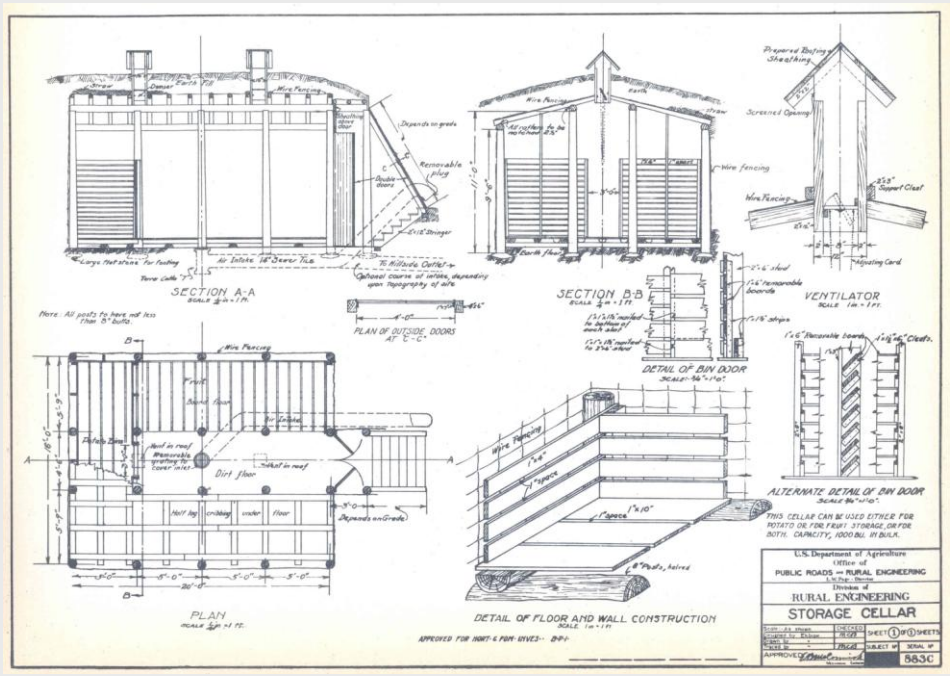
Central storage: Once the potato crop was more established, the need grew for proper storage. Storage was an issue, because so much of the Potter County crop consisted of seed potatoes, which would not be in demand for a full eight months. (Table potatoes, on the other hand, could be sold and moved out by the car lot as they were harvested.) This was a critical problem, because now farms were producing disease-free potatoes and producers wanted to ensure that post-harvest problems like storage rot didn't spoil their crop. So the extension agent embarked on an effort to build a centralized potato storage facility in Coudersport. In 1922 he wrote optimistically: "The Association [the Potter County Cooperative Potato Association] took up the project of building the large storage house at Coudersport and is furnishing a service absolutely necessary in the development of the seed production program in the county. The building project is only started and more buildings will be constructed in following years."[13] This building stored 70,000 bushels.

It was not an unqualified success; there were constant technical problems relating to humidity and temperature control. However, at some point problems had been solved enough so that by 1945 the agent began to refer to a "Potter County style potato storage" facility.

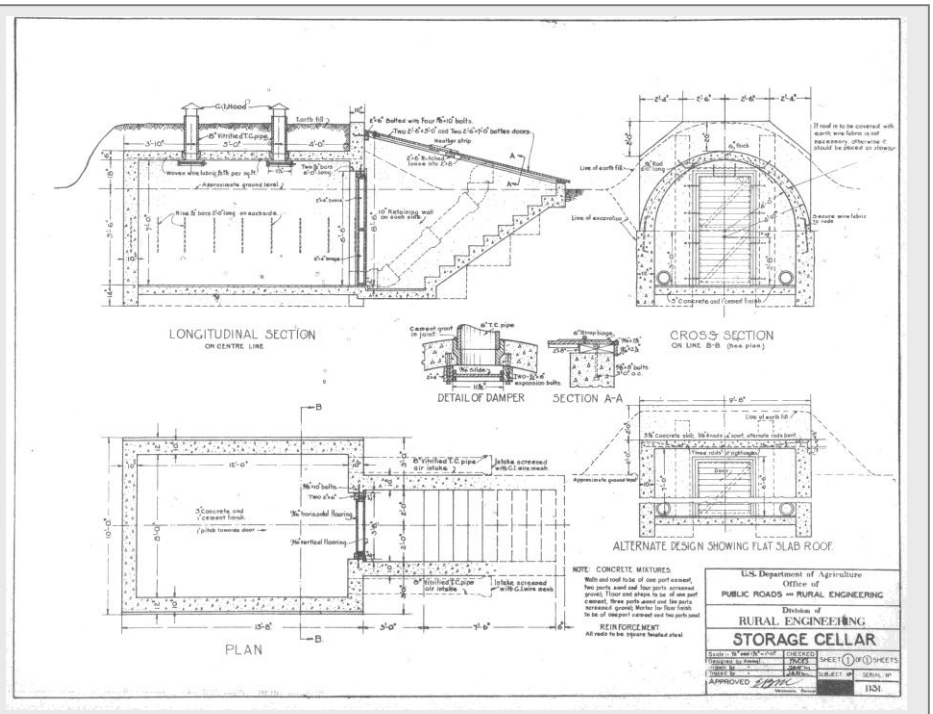
Roof of a modern potato barn, Allegany Township, Potter County. This facility is recent but gives an idea of farm storage. Site 105-AL-001.



From USDA Farm Building and Equipment Plans and Information Series, #880, 1929. Not paginated.



Potato storage building plans, from USDA Farm Building and Equipment Plans and Information Series, #883C, 1929. Not paginated.



Potato storage building plans, from USDA Farm Buildings and Equipment, #1131, 1929. Not paginated.


Aerial photo of farm, 1940s, Sweden Township, Potter County. Site 105-SW-001. Private Collection. By permission.

Farm storage: Many farm families still stored their potatoes on the farm. Some people stored potatoes in their home cellars, but this wasn't always satisfactory; they lost a lot that way.[14] The agent encouraged them at least to ventilate their cellars. In 1924 he recommended "false floors and walls… together with some system of adequate ventilation either by means of windows or the chimney leading from the cellar out through the house." Pit storage outside the farmhouse was another option, though that same year the agent admitted that "we are not ready to recommend pit storage as an advisavle [sic] proposition in this climate due to the fact that pits have to be covered so heavy to protect them from the extreme frost that there is considerable danger from heating…"[15] By 1940 at least some of these problems had been solved, for the 1940 report said that "plans were made for nine potato storage houses in the county, all of which were completed and used this season. All of these were of the under ground type with earth banking at the top of the cellar. Insulating material was used in all cases over the top with a ventilated space under the roof. A ventilation system was planned in each case by using an electric fan. A cooling or temperature control system was provided in each case by having a metal door between the storage and a vestibule or cold room in front of the storage. Fans were used to circulate the air against this metal door to reduce the temperature to the proper degree. Assistance was also given in remodeling one bank barn into a potato storage." The following year, six potato storage houses were built with "plans suggested by the county agent."[16]


Potato storage, Sweden Township, Potter County, 1940s. Site 105-SW-001.


Potato barn, Sweden Township, Potter County, c. 1945-1960. Site 105-SW-004.

Field workers did not find many signs that barns were converted for potato storage. The considerable earth moving and particular requirements of a potato barn seem to have dictated new construction.

Landscape Features, 1915-1940

The agricultural extension agent [1924] tried to introduce new crop rotations for potatoes; it isn't clear how influential he was, but his recommendations included using clover, and recommended planting potatoes close together so they could not be cultivated both ways.

Treeline, fields, woodlots looking northwest, Sweden Township, Potter County. Site 105-SW-005. This photo shows landscape features characteristic of the twentieth century.

Woodlots were being planted during this time- two owners encountered during fieldwork indicated woodlots that grandfathers had planted in the first two decades of the 20th century. As of 2004, field workers saw quite a few pine plantations (pines of various species), interspersed with larch (Larix) and Norway spruce, throughout the county. These were estimated to be about 75 years old.

Diked pasture along a stream, Harris Township, Potter County, 2004. Site 105-HA-001.

Contour stripping was encouraged in hilly areas during this period. Historic aerial photographs show that few followed the recommendation in the 1930s.

It is not clear that expanded potato culture changed the landscape significantly. Acreage was comparatively small, and fields would not have a distinctive shape.

1940-1960: Diversified General Farming Plus Potatoes and Vegetables

Products, 1940-1960

Production in Potter County changed dramatically with the onset of World War II. Local producers were asked to increase potato production by 39 percent. They bent their efforts toward the goal and exceeded it in 1943 with a 46 percent increase. Production in 1943 was four times that of the previous year and by 1944 the county's yield stood at over 2 million bushels – it had been just over half a million in 1924.[17]

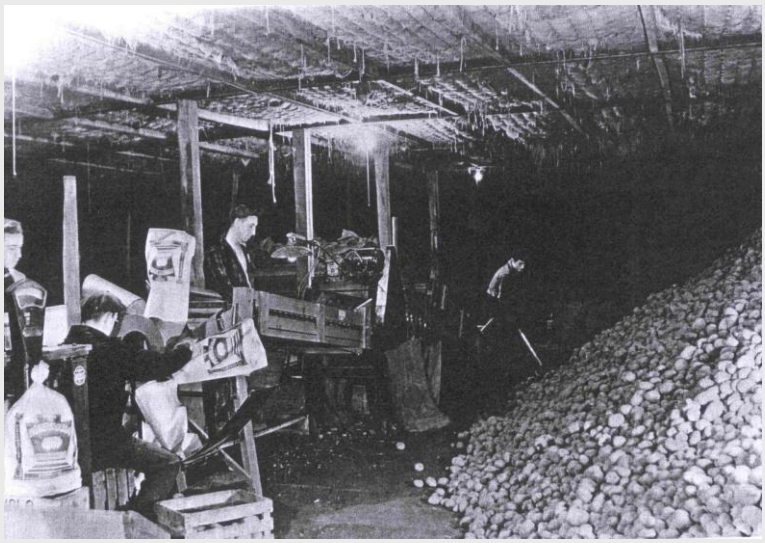
In the postwar period, certified seed potatoes and table potatoes dominated. However, vegetable crops were added, including snap beans, peas, asparagus, cauliflower, strawberries, kidney beans, and later cucumbers. These crops were destined for canneries and freezer facilities in other counties.[18] The agent noted in 1947: "Beans, peas, and strawberries are used by potato growers in place of a grain crop in their three year rotation."[19] By 1952, the number of "man-days" devoted to beans in the county was twice that for potatoes.[20] In the late 1950s cucumbers were added.[21]

This development was part of a wider set of social, economic and technological changes, in which farming shifted from diverse, multi-season production for mostly local markets, to specialized, seasonal production for distant markets. The transformation was speeded not only by changes in plant breeding, fertilization, pesticides, etc. (DDT made a spectacular debut in the late 1940s) but also by a nationwide road transportation network and refrigeration and freezing technologies. Transportation also made it possible to bring in cheap labor from long distances (see below). In turn, the availability of migrant labor drove Potter County's expansion from potatoes to other labor-intensive crops.

Labor and Land Tenure, 1940-1960

The sudden, drastic increase in potato production during World War II precipitated a labor crisis, coming as it did during a period when so many workers were being drawn away to military service or war-industry employment. Moreover, the county's year-round population was tiny, only about 18,000, and it was dropping; by 1950 it was only 16,810. Thus the local labor pool was limited to begin with. In 1943, the county agent reported that an "emergency farm labor" program had been put in place. Mostly this consisted of high school students: "during 2 weeks of potato digging season, we had over three thousand workers on the farms of the county. The total number of placements made in the County aggregated 15,788. These placements were made on approximately 581 farms and were divided about as follows." 3120 men and 3000 women were placed. 868 boys under 14, 2646 boys 14-16; 1491 boys 16-18; 395 girls under 15; 2370 girls 14-15;

and 1896 girls 16-18.[22] Though he did not say explicitly, these were likely students from the local public schools. However, another group also contributed; the agent made reference to a "labor camp" operated in abandoned CCC housing, where about 150 men were housed, and bussed from one site to another. This arrangement foreshadowed more systematic ones to come.[23]



Grading and Sacking Potatoes, Potter County, no date. Pennsylvania State Archives, Manuscript Group 219, Philadelphia Commercial Museum Collection.

In 1946 the extension agent included a separate "Farm Labor Narrative" in his report. "the largest supply of help," he noted, "were those who drove in from adjoining territory including; Allegany and Cattaragus counties in New York, and Tioga, McKean and Cameron Counties in Pennsylvania. These workers drove from their homes to work in the morning and back in the evening. This accounted for about 1600 workers." Potter County residents who furnished labor included unemployed workers from the tanneries, glass works, "unemployed veterans of World War II," and high school students. Also, "an arrangement with the farm labor office at Heightstown, New Jersey and Mr. Perrine brought us 150 southern colored people who were used in the vicinity of Ulysses." This is the first overt mention of the migrant laborers who were to play a key role in the potato harvest for the next two decades. He concluded, "the farmers of the county expect a permanent need for outside labor during the potato digging season… they … feel the need for a recruiting service outside of the county."[24]

And indeed, farmers did avail themselves of "outside recruiting services." These were both private and state-organized. By 1948, Potter County's migrant labor accounted for 90 percent of the seasonal farm labor supply in the county. In 1952, 1,200 Southern migrants were brought in.[25] Absolute numbers peaked in 1958 at around 3,000 (housed in 45 camps)[26] – almost nineteen percent of the year-round population. Briefly, around 1960, Potter County imported more migrant workers than any other county in

Pennsylvania. Not every farm had migrant workers, and the numbers of workers on any given farm were typically small, ranging from half a dozen to a maximum of around fifty.

These workers were African Americans from the Carolinas, Virginia, and Florida. They were part of a developing pattern of migrant labor (sometimes called the "Florida Itinerary") organized by crew chiefs, originating early in the year in the deep South, then following work northward with the advancing season. The northernmost stop was usually in upstate New York, late in the year, after which the workers returned southward to await the beginning of a new season. These workers were being displaced by mechanization in cotton production and by the "southern enclosure" which had been going on since the New Deal era. Labor and racial policies in the South ensured that they lacked bargaining power. Indeed, one historian has argued that the rise of an Atlantic migrant labor stream brought with it a "nationalization of the farm labor market" which brought with it the "southernization" of northern states like New Jersey and Pennsylvania, where farm labor was concerned.[27] Wages were predictably low for these vulnerable workers, left unprotected by the major labor-rights legislation of the New Deal era. Working conditions and housing were uneven at best (see below). State agencies were charged with regulating sanitation and housing, but they often were understaffed, and sometimes thwarted by uncooperative local officials.[28] Schooling for migrant children was similarly patchy.[29]

Buildings, 1940-1960

Potato Storage Houses, 1940-1960

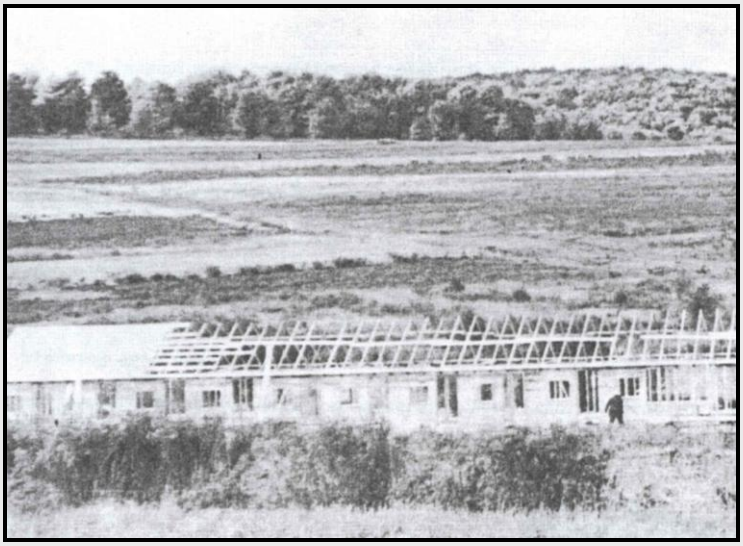
Potato storage facilities continued to be an important building type in this period; see above for descriptions of these.

Migrant Housing, 1940-1960

Migrant worker housing, Sweden Township, Potter County. Site 105-SW-003.

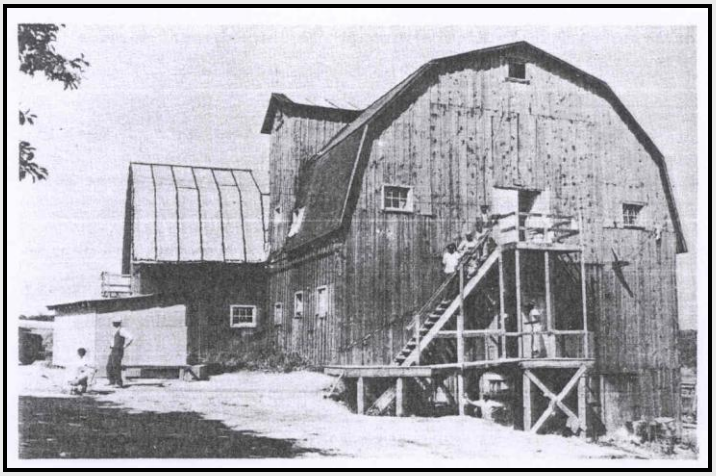
The major new associated building type to appear in this period was migrant housing. In Potter County, migrant housing was varied and mostly improvised. At first, workers were housed in farmhouses, hotels, tourist cabins, and the

like. As the influx of migrant labor grew, they were housed in other ways, for example in converted barns; and sometimes in purpose-built "camp" style housing. (The Farm Placement Program reported 45 camps in 1957 in Potter County.)

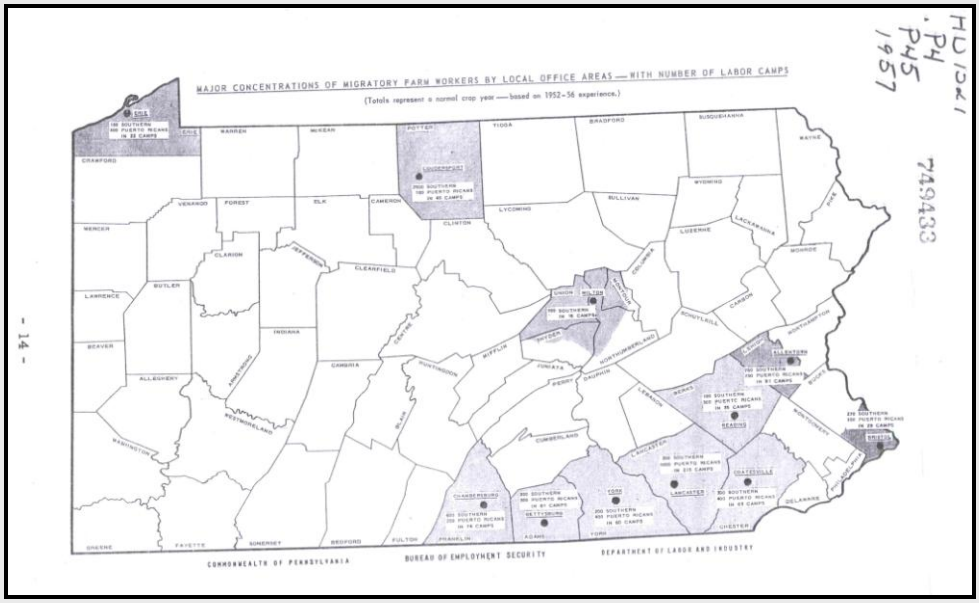


Migrant housing in Potter County under construction, From Pennsylvania. Governor's Committee on Migratory Labor. Report, 1953.

Records give good descriptions of migrant housing in the county. During World War II, the county agent reported that workers were housed in the CCC camp at Lyman Run and in a hotel at Genessee. In 1946, non-resident labor was housed in two farmhouses (owned by Leon McCasling and E. J. Worley) in the Ulysses area; farmhouses owned by L. C. Traub, Fred Winkleman, and Elmer Schall near Germania; and Seward Daily in Genessee. "The second floor of the Southern restaurant at Ulysses and a number of unused rooms in large houses at Ulysses were used and the men boarded at the two resturants [sic] in that town." Other places used included: "the large two-room school house in Germania together with the Waldhiem [sic] hotel at that place… the Brookside tourist cabins, Port O'Call tourist cabins, Mitchell's Tavern, National Hotel, and three large private homes owned by Mrs. Wm. Ayers, Leigh Neefe, and Francis Way…" Altogether, "these places accommodated approximately 1500 workers from outside of the county."[30] An undated newspaper article mentioned that prisoners of war were also used to harvest potatoes.

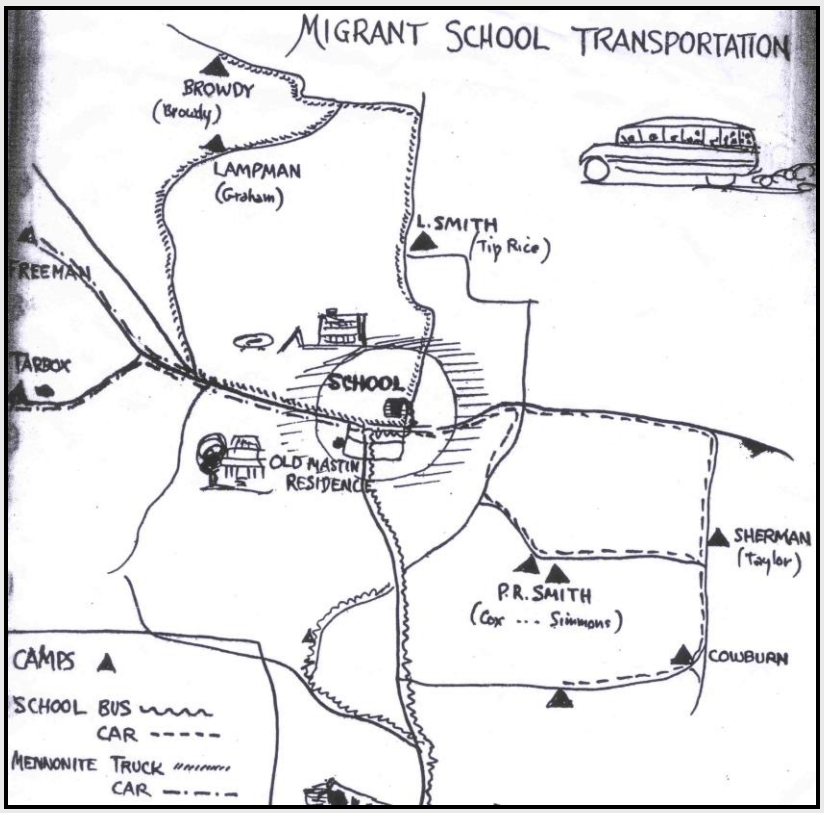


Basement barn converted for migrant housing, Potter County, 1950s. From Pennsylvania Governor's Committee on Migratory Labor. Report, 1953.



Concentrations of Migratory farm workers, 1957. From Pennsylvania Governor's Committee on Migratory Labor. Report, 1957.

As Southern migrants replaced workers from neighboring counties, improvisation continued. Lafayette College economist Morrison Handsaker documented instances of workers living in tenant houses and in converted barns (see photo above).[31] Besides these ad hoc provisions for small numbers, some purpose-built camps were constructed. 82 percent were constructed of frame. The map below suggests that these camps were built farm properties; note that the triangle symbols each are associated with a name, most likely that of a larger-scale producer.



Hand drawn map showing migrant camp locations near Ulysses, Potter County. From Joseph Alessandro, "School for Migrant Children," 1955, PSU Annex.

The 1954 Lafayette College consulting group visited 28 camps in Potter County. They found that "the housing conditions of these

camps were definitely inferior to the average of conditions found in all camps inspected. In fact, a majority of the county's camps were classified "poor"…[32] They scored especially badly, the group reported, in means of egress and refrigeration. The committee attributed this situation to the resistance of the county inspector; the lack of a separate budget for the sanitarian; and the already low value of farm land and buildings in the county.

Landscape Features, 1940-1960

Landscape features from this period would include many common throughout the Northern Tier: farm ponds, utility poles, improved roads, tree plantings, strip cropping, ornamental plantings, wood-and-wire fencing, treelines, farm lanes, pasture. Field work did not ascertain any specific landscape features that would relate to potato or cannery-crop agriculture. See the Northern Tier Grassland narrative for more discussion.

Property Types and Registration Requirements – Criterion A, Pennsylvania

This statement outlines considerations for Pennsylvania as a whole.

Farmstead

A farmstead is defined here as encompassing the farm dwelling[s]; barn; outbuildings; and the immediately surrounding land on which these buildings are situated. It normally excludes cropland, meadow, pasture, orchard, and woodland, but would include such landscape features as yards, windbreaks, ponds, gardens, ornamental trees, decorative fences, driveways, etc.

Farm

A farmstead plus crop fields, meadows, pastures, orchards, woodlots, etc., including landscape features such as fences, tree lines, contour strips, streams, etc. and circulation networks.

Historic Agricultural District

A group of farms which share common architectural and agricultural landscape features; are linked together by historic transportation corridors, including roads, railroads, paths, and/ or canals; and together express characteristic features of local historical agricultural patterns.

A. Criterion A, Agriculture

This section first outlines general consideration for Pennsylvania s a whole, with reference to considerations related to labor, gender, and tenure. These are followed by Criterion A requirements for each region and subregion.

General Considerations for Pennsylvania as a Whole

National Register eligibility with respect to agriculture in each Historic Agricultural Region of Pennsylvania will depend upon how well a given property reflects the historical farming system in that region. It is very important to remember that Criterion A significance should be assessed in relation to how a given property typifies a farming system, not in relation to whether a property is exceptional or unusual. A property should exemplify a farming system in all its aspects. The totality of a property's representation in the areas of production, labor patterns, land tenure, mechanization, and cultural traditions will determine its National Register eligibility.

Historic Patterns of Agricultural Production

A key characteristic of Pennsylvania agricultural production from settlement to about 1960 is diversification on small, family farms. Therefore, a farmstead, farm, or historic agricultural district must reflect diversified agriculture through a variety in historic buildings and landscape features. It is critical to note that diversified agricultural production involves two facets:

1) a mix of products. This mix varied with time, place, and culture. For each region, the narrative explains the prevalent mix.

-AND-

2) a variety in use for those products, ranging from direct household consumption, to animal consumption, barter exchange, and cash sale to local or distant markets. In general, as far as use is concerned, over time a larger proportion of products went to cash markets, and money figured more and more prominently as farm income. However, production for family consumption, animal consumption, and barter exchange continued to occupy a significant position well into the twentieth century, with a notable surge during the Depression years. Historic resources should reflect the variety of household and market strategies employed by farming families.

Social Organization of Agricultural Practice

Historic production patterns are necessary but not sufficient to determine eligibility. Social organization of agricultural practice had a profound influence on the landscape that must be recognized. Labor, land tenure, mechanization, and cultural practice should be considered. For example, in the Central Limestone Valleys, share tenancy was an important and enduring practice that significantly influenced the architecture and landscape of farmsteads, farms, and farm districts. In the Northern Tier, conversely, high rates of owner-occupation lent a different appearance to the landscape. The level of mechanization was related to labor practices, and also shaped the landscape through field patterns and architectural accommodation (or lack thereof) for machinery storage. Insofar as cultural factors influenced agricultural production or practice, they should be taken into account in determining the eligibility of farmsteads, farms, and farm districts. For example, Pennsylvania German food ways may have influenced agricultural production patterns and hence architectural forms; Yankee/Yorker families brought with them the English barn (which, because of its organization, shaped farming practice) and the penchant for classical revival styling.[33]

Issues of Chronology

To be determined significant with respect to Criterion A for agriculture, a farmstead should either:

1) possess a strong representation of typical buildings and landscape features from one chronological phase of the region's agricultural history,

-OR-

2) possess a strong representation of typical buildings and landscape features that shows important agricultural changes over time.

How to Measure a Property in its Regional Context

Whether it depicts one chronological period or change over time, a farmstead, farm, or historic agricultural district will normally be significant under Criterion A only if:

1) its individual production, for the period in question, reflects the average or above average levels for its township in the same period. (This can be determined by comparing the farm's manuscript agriculture figures to township figures.)

2) its built environment reflects that product mix. (The Narrative explains how different agricultural building types relate to agricultural production.)

3) its built environment reflects locally prevalent social organization of agriculture including a) levels of mechanization, b) labor organization (including gender patterns) and c) tenancy.

3a) levels of mechanization: in highly mechanized areas (relative to the state levels) we would normally expect an array of machine sheds, machinery bays integrally placed in barns, horse-power extensions, etc.[34] Conversely, in low-mechanization areas such as the Northern Tier, these facilities will likely be less visible.

3 b) labor organization: Patterns of collective neighborhood labor may be present; for example, a butcher house might be located near the road. For early phases of agricultural development, we would not expect to find overt architectural accommodation for hired laborers. But in the wage-labor era, those expressions would range from accommodations on the farm (rooms over springhouses, wings of houses) to purpose-built migrant housing. Mechanization could affect labor organization because it eliminates workers. Architectural and landscape elements that illustrate patterns of labor organization should be assessed for significance (with respect to agriculture) based on the level of clarity, intensity, and chronological consistency with which they show labor patterns. For example, if a c. 1850 farm house has a c.1880 workers' wing with back stair and no access to the family living area, that is both a clear and chronologically consistent illustration of shifts in hired labor's status.

Establishing significance for the gender organization of labor is more complex. We could think in terms of a continuum: from work almost always done by men—to work almost always equally shared by men and women – to work almost always done by women. In general, the farmstead and even the farm should be regarded as a mixed-gender workspace, because so much farm work was shared. However, there are a few cases where work was not only clearly associated with either men or women, but also had spatial and architectural manifestations to match. So we should focus on these cases when assessing significance with respect to gender patterns of agricultural labor. In the regions under discussion here, besides work done in the house (by women), several cases fit these criteria. On Northern Tier farms (1830–1900), men generally milked, and

women made butter; the former activity occurred in the barn, the latter either in a farmhouse ell or in a separate "dairy kitchen" sited between house and barn. Later, fluid milk sale (mainly organized and conducted by men) replaced home butter making. Some sort of facility for home dairying is a sine qua non; one that is sited and oriented efficiently with respect to house and work-yard would be of greater significance than one that was not. And, a farmstead that contained both an ell or kitchen and a milk house located by the barn would demonstrate the shift in gender patterns better than a farm with just one of each. Another important case is pre-1945 poultry raising, which was dominated by women. If a pre-1945 poultry house is located well within the house's orbit, it suggests that expresses more significance with respect to women's agricultural labor than a pre-1945 poultry house that sits on the edge of a field. And, if a farmstead has both a pre-1945, small poultry house located between house and barn, and a large, post-1945 poultry house sited far from the house, this illustrates changes in gender patterns better than a farmstead that has only one poultry house.

3 c) Tenancy: This aspect of social organization will be reflected most in historic agricultural districts (rather than on farmsteads or farms). A historic agricultural district should reflect prevalent levels of tenancy for its region. So, we would expect to see fewer documented tenant properties in Northern Tier districts than in a Central Limestone valleys district. Where individual farms or farmsteads are concerned, a farm or farmstead with a documented history of tenancy are significant for tenancy, but only in regions where tenancy rates were historically higher than the state average.

Cultural Patterns

If, in instances where a farm has a strong, documented connection to a particular ethnic group, its architecture and landscape should show evidence of that connection. [See Narrative for discussion]. Significance should be evaluated by the degree of clarity with which ethnic heritage is expressed (i.e. is it highly visible in more than one way, for example in both construction details and use?); and in cases of farmsteads, the extent to which multiple buildings and landscape features express ethnically derived agricultural practice.

In every case, even where all of these substantive requirements are met, there will be degrees of quality in representation. In other words, it is not just the presence of links to the region's agricultural history (i.e. the overall property's integrity) that makes a property outstanding, but also the quality and consistency of those links. Where possible, nominations should attempt to assess what we might call "intensity" or "layering" of representation. This intensity of representation may appear in the way the farm's component parts preserve historical relationships. For example, if a farmstead retains a springhouse near the main house and a milk house sited near the barn, that is an especially intense illustration of changes in the dairy industry. The idea of "layering" connotes the multiple meanings that can be contained in the siting, layout, and content of the architectural and landscape features. The farmstead and farm features together might, for instance, offer expressions that are simultaneously cultural and local, and also show how wider trends affected agriculture. For example, a Northern Basement Barn indicates cultural heritage (in placing an "English barn" above a basement) and agricultural change (in dairying-oriented basement level). Another example of "layering" could be if the economic and cultural importance of livestock is illustrated by several buildings and landscape features – not just one or two. And, there could be a variety of farm workspaces that testify to the diversified strategies historically pursued by farming families in the region.

When assessing agricultural change, remember to consider not only changes in barn, outbuildings, and landscape, but also in the farmhouse. For example, on a farm where large-scale production was accompanied by a shift in gender patterns of labor, look for changes in the farmhouse's interior work space; typically these might include smaller, more isolated kitchen spaces and more spaces devoted to display or leisure. Or, where dairy processing became centralized, dairy dependencies attached to a house might be converted to other uses. Rural electrification and the shift away from wood for fuel could also affect interior farmhouse organization. For example, with electrification, the summer kitchen's function often moved back inside the house.

Property Types and Registration Requirements – Criterion A, Potter County Potato and Cannery Crop Farming, 1850-1915

A. Properties that possess a strong representation of typical buildings and landscape features from one chronological phase of the region's agricultural history:
In all cases, a property should have a documented history of production that reflects average or above levels for its township, particularly where potatoes and/or cannery crops were concerned.

To represent the period 1850-1915, ("Diversified Home Dairying and Potato Production"):

A **farmstead** should include a farmhouse dating to and typical of the period, such as a Greek Revival influenced house with kitchen ell or detached dairy kitchen; have some kind of root cellar, either incorporated into the farmhouse or freestanding. It should show evidence of diverse production dating to this time period, i.e. a multipurpose barn (such as an English barn), small shed or multipurpose outbuilding. A **farm** should have the elements of a farmstead plus remnant woodlot, pasture, hay fields. A **historic agricultural district** should contain a cluster of farms with the requisite features, and which are contiguous or connected by roads, farm lanes, or paths.

To represent the period 1915-1940, ("Diversified Dairying Plus Potatoes):

A **farmstead** should have a house dating from or before the period; and evidence of storage facilities for potatoes, either in separate structure or within a larger barn, as evidenced by insulation, storage bins, ventilation systems. If it can be documented as a large diversified operation, then we should expect a basement barn or modified English barn, silo, and milk house, and one of poultry house, sheep barn, granary, or machine shed. A **farm** should have the requisites for a farmstead plus remnant woodlots, remnant pasture, hay fields, and traces of treelines, fencing, hedges, or ornamental plantings. A **historic agricultural district** should contain a cluster of farms with the requisite features, and which are contiguous or connected by roads, farm lanes, or paths. Not all farms in the district must necessarily possess evidence for potato cultivation, but many if not most should have such evidence. Otherwise, the district might be considered for

significance with respect to the Northern Tier Grassland Historic Agricultural Region.

To represent 1940-1960, ("Diversified General Farming Plus Potatoes and Vegetables"):

A **farmstead** should have, at a minimum, a farmhouse dating from or prior to the period; a barn (most likely a gambrel-roof basement barn typical of Northern Tier grassland dairying); poultry buildings; milkhouse; silo; and evidence of potato storage as detailed in the narrative. Evidence of migrant housing is also desirable. This can include agricultural buildings that were converted from other uses (evidence for conversion would include insertion of windows and doors, addition of exterior stairs and/or ramps; installation of running water and/or electricity in an existing barn or other outbuilding.) The second category of migrant housing would be purpose built "camps." The available evidence (especially the map of the migrant school bus route) suggests that these were located on a few large scale farms. These would consist of one-story, gable-roofed, multi-unit buildings, usually made of balloon framing though sometimes concrete block. The housing itself would not necessarily have plumbing in the individual units, or even cooking facilities. The third category would be tenant houses on the farm property. These would be hard to recognize except in that as secondary residences they would likely lack the main house's architectural trim, size, and scale. For this period, a **farm** should retain the characteristics of the farmstead, plus remnant woodlots, remnant pasture, hay fields, and traces of treelines, fencing, hedges, or ornamental plantings; and at least one of a farm pond, contour stripping, planted woodlot. A **historic agricultural district** should include a cluster of farms that is contiguous or connected by roads, farm lanes, or paths, and at least one of which possesses documented migrant housing.

B. Properties may possess a range of buildings and landscape features that illustrate change over time in the region's agricultural history:

Properties may offer a strong illustration of change over time. Most rural historic properties have evolved over time; therefore most are likely to fit into this category. In general, to qualify for significance under this rubric, a property ought to illustrate the changes in production, farming methods, and labor systems (including gender patterns and farm tenancy) outlined in the narrative above. The possibilities are quite varied and no list can encompass them all. It should be noted that in illustrating change over time, a farmstead, farm, or historic agricultural district may contain resources from the period of settlement. Please

note that the settlement era (to c1830) has been treated for the entire study area in a single document. Please refer to that document to determine the nature of resources from this period.

Rather than list all the many ways in which change over time could be illustrated, below are some examples. A **farmstead** could establish significance over the period 1850-1960 by showing change over time – perhaps the presence of a small root cellar from the early period, and a larger, later storage building, plus as appropriate buildings showing diversification. For example, a farmstead could have a house with root cellar and kitchen ell; Basement Barn converted for migrant housing; milk house; potato barn.

A **farm** could show change over time by showing the farmstead changes as indicated above, plus combined remnant pasture, treeline, and contour strips, and farm pond.

A **historic agricultural district** could show change over time either by containing farmsteads or farms representing different time periods; or by having a group of farms each of which shows the changes outlined above. A historic agricultural district for this context should have purpose-built migrant housing on at least one property.

Property Types and Registration Requirements – Criterion B, Association with the lives of Significant Persons

To be eligible under Criterion B, a farmstead, farm, or historic agricultural district must establish a documented link to an individual who had a sustained and influential leadership role which resulted in a verifiable impact on local, state, or national agricultural practices, trends, or thought. A "sustained" leadership role would mean long-term involvement in important agricultural organizations such as the Grange, Dairymen's League, rural electric cooperative, and so on. Impact should be demonstrated, not asserted. An agrarian figure who achieved a higher than usual degree of productivity or prosperity in farming would not normally meet this standard, nor would one who was an early adopter of new agricultural methods or technologies. But, an individual who influenced others to adopt new practices could. For example, Robert Rodale clearly played a foundational role in the rise of the organic farming movement nationally. On a

more local level, a hatchery owner who initiated a new industry in an area, thus creating a shift in production patterns on many farms, might qualify.

Property Types and Registration Requirements – Criterion C, Design and Construction

Typical examples are encouraged to satisfy Criterion A for agriculture, but average or ordinary examples are not likely to qualify under Criterion C for Design and Construction. A farm or farmstead will not be eligible under Criterion C simply because it has farm buildings that retain integrity. Under Criterion C, to be eligible as property must exhibit the "distinctive characteristics of a type, period, or method of construction or that represent the work of a master, of that posses high artistic values, or, as a rural historic district, that represent a significant and distinguishable entity whose components lack individual distinction".[35]

This MPDF follows the evaluation models established by the 1992 MPDF *Farms in Berks County* and the 1994 MPDF *Historic Farming Resources of Lancaster County*, which defines standards for architectural significance of farm buildings as "a rare or intact example of a period, style or type" or as a "noteworthy example of a particular building type ...".[36] To be eligible under Criterion C for Architecture, a farm building, farmstead, farm, or historic agricultural district must possess physical characteristics that specifically reflect aesthetic, cultural, craftsmanship, or production values associated with regional agriculture and rural life. Farm buildings and structures must exhibit qualities of design, workmanship, and artistic merit that are tied to the period of construction.

This document explains the specific Criterion C issues that apply to farm buildings and structures. Criterion C relates to significance primarily for Architecture, Art, and Engineering. While most farm structures will not be evaluated individually, structures notable for their construction technology or design may factor into the Criterion C significance of a property.

Evaluation conventions for the architectural style of dwellings are well established so they are not covered here. However, what constitutes architectural significance for farm dwellings and agricultural buildings and structures in the area of Agriculture is less widely defined.[37] This section lays out some considerations for how to assess

architectural significance for farm buildings and structures based on their engineering and design characteristics related to agriculture.

As with any other architecturally significant building type, resources must conform closely to the seven aspects of integrity. Significance must be demonstrated, not merely asserted.

What does qualify as a significant design?
A barn might qualify if its design reflected essential characteristics of specific barn types, such as Pennsylvania bank barn, Stable barn, English Barn etc. (The salient architectural features of each type are defined within the narratives that accompany this MPDF.) The significant elements of barn layout (location of threshing floors, hay mows, stables, granaries; typical interior organization for a given type; vertical work-flow arrangement where relevant) should retain integrity. The same would be true for outbuildings, for example if a granary or spring house retained essential characteristics of its type. A house, barn, or outbuilding that has been altered or modified to accommodate changing maintenance habits, popular taste, or the convenience of the farmer would not be considered significant unless the new features are demonstrably tied to regional patterns in agricultural buildings and the built environment for the period of significance. For instance, a mid-19th century vernacular farmhouse that was Colonial Revivalized in the early 20th century might be significant for its stylistic features outside this MPDF but would not be architecturally significant under this MPDF because the alterations are not associated with the needs and priorities of farm life. But a farmhouse modified to reflect important transitions in the relationships of farm family members to each other, labor, or the market could be considered significant (such as the addition or removal of quarters for hired hands, cooking facilities for feeding threshing crews, social spaces separated from spaces devoted farm matters, etc). Changes reflecting access to modern amenities and willingness to adopt modern amenities could also be considered significant, such as the addition of a bathroom, running water, a heating plant, or electrification. However, the design features reflecting these changes must be demonstrated to be part of a local or regional pattern of construction; individual, personalized or idiosyncratic alterations that lack design features not adopted elsewhere in the community would not be considered significant under Criterion C, but would support significance under Criterion A for their association with labor and production patterns. In the post World War 2 era, many farmhouses have undergone dramatic changes in ways that make them indistinguishable from contemporary suburban residences in their materials, styles, amenities, and use. Thus it will be difficult to evaluate the Criterion C significance of post war farmhouses without further study.

Design includes massing, proportion, fenestration, and ornament. Ornamentation will be very important in determining Criterion C eligibility. It could include decorative ironwork (hinges especially); roof-ridge cupolas; gable-end "stars"; painted or trimmed louvers; datestones; painted decorations; cutout designs; cornice detailing; brick-end patterns; and bracketing.

Design could include examples of marked visual relationship of buildings to one another through such qualities as colors (historically), siting, proportions, and materials. Thus significant design can potentially apply to a farmstead or even a historic agricultural district.

Design also includes overall layout of the farmstead or farm, for instance if buildings are arranged in a recognized, regionally typical pattern in orientation and layout, such as linear organization of eastern and central Pennsylvania (as described by Henry Glassie, Joseph Glass, and others); or; farmsteads bisected by a road as is common in the Northern Tier (as described by Trewartha).

What qualifies as significant workmanship?
Workmanship is evidenced in quality of masonry, timber framing, durable construction, including evidence of skilled workmanship in details such as hardware or even nails. Masonry, for example, might exhibit carefully cut stone rather than fieldstone. Another facet of workmanship would be cases where there is a good quality example of particular construction method such as log, *blockstanderbau*, plank, timber frame, Shawver Truss, etc. Workmanship applies primarily to individual buildings.

What qualifies as significant "artistic merit"?
This is the most hard to define category of the three. It connotes skill in achieving desired aesthetic qualities. For example, careful proportions, sensitive siting, and originality of design are important components of aesthetic merit. Again, ornament is where aesthetic merit shows most clearly, for example in locally characteristic designs for hardware, weathervanes, bracketing, and the like.

Examples

Example 1: Hodge Barn, Centre County, c. 1870. This is a double-decker Pennsylvania barn with decorative ornament, double bankside bridges, and struts under the forebay, located in Centre County. This barn would qualify under Architecture because of its design features (double decker with multiple mows and floors), its workmanship (technical mastery represented in bridges, struts, and interior framing), and its artistic merit (decorative ornament).

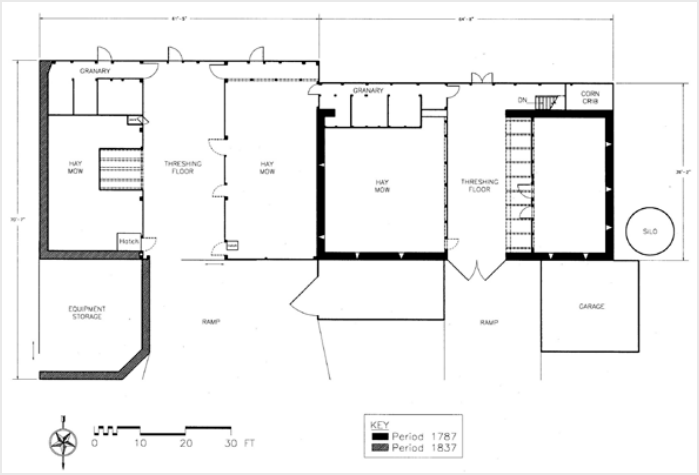
Ornament on Hodge Barn, Centre County

Hodge Barn, Centre County, struts under forebay

Hodge Barn, Centre County, struts under forebay

Example 2. The Bertolet Barn in the Oley Valley of Berks County, 1787 and 1839. This barn shows the evolution of the Pennsylvania Barn. The 1787, stone portion has a Germanic *liegender stuhl* framing system; forebay granary with bins; two mows flanking a threshing floor; and intact stable level. It is significant because of its design (the multi-level system was worked out to perfection), workmanship (the masonry and the timber framing) and artistic merit (in its proportions, materials, etc). The 1787 date is inscribed over the bankside door. The 1839 portion (also dated, thus affording a rare chronological benchmark) is significant for different reasons: it shows adaptations of framing systems, but still assembled with a high degree of skilled workmanship; it shows continuity of design and artistic merit from the earlier portion.

Bertolet Barn, Oley Valley, 1787 and 1839.



Bertolet Barn, Oley Valley, Berks County, floor plan of upper level. University of Delaware Center for Historic Architecture and Design.

Example 3: the Plank Barn in Cumberland County. This brick-end barn was built in 1853. It is significant for its design, workmanship, and artistic merit. Its significant design features clearly include attention to simple proportions. Its workmanship is important in the significant masonry technique needed to create the openwork patterns in the gable ends. Its artistic merit is represented in the diamond motifs. The datestone helps to establish chronological frameworks for these barns. The owner manufactured a local plow and the barn is evidence that he was consolidating his wealth.


Plank Barn, Cumberland County, 1853

Example 4. Smokehouse, Tulpehocken Manor, Lebanon County, late 18th century. Most examples of architectural significance will likely be larger buildings such as barns, but this smokehouse (in Lebanon County) is an example of a smaller building which might qualify because of its masonry (which qualifies both under workmanship and design, because its decorative corner quoins are clearly ornamental) and the hand-wrought ironwork, which includes a bar against thieves which is inscribed with the owner's name and date. The building clearly exhibits all the characteristics of its type.


Smokehouse, Tulpehocken Manor, Lebanon County, late 18th century

Example 5: Chicken house at Landis Valley Museum, Lancaster County, early twentieth century. Although in poor condition, this chicken house, located in what is now the Landis Valley Farm Museum, embodies the character-defining features of "modern" housing recommended by the extension services and growers associations for optimum management of large flocks. The massing, proportion, and fenestration, as well as the interior arrangement maximize efficient work flow and healthy stock management.

Chicken house at Landis Valley Museum, Lancaster County, early 20th century.

Example 6: Joel Dreibelbis Farm in Berks County. Properties can be significant under Criterion C for reasons other than their architecture. The farm plan with the siting of the buildings in relation to each other and to the surrounding fields make up a carefully planned complex. The spatial organization of the buildings and the land use patterns, which include a wet meadow, reflect traditional German labor and conservation ethics.

Joel Dreibelbis Farm, Berks County, farm lane, fields, outbuildings. Pennsylvania Historic Preservation Bureau file photo.

Property Types and Registration Requirements – Criterion D, Archaeology

The examples below are not meant to be an exhaustive list of ways in which a farm or farmstead site could be eligible under Criterion D in Agriculture; instead, they are meant to provide a limited overview of current research into the archaeology of farms or farmsteads and of data that these excavations have yielded. Other datasets could yield significant information about agriculture. In addition, many of these research topics pertain equally well to both demolished and extant farms or farmsteads. In addition, keep in mind that archaeology can be used to support evaluation under any Criterion or area of significance.

To be eligible under Criterion D, a property must "have yielded or…be likely to yield information important in prehistory or history." For Agriculture, although farms and farmsteads may contribute other (or various types of) information to the study of Pennsylvania history important information on archaeological farm properties in Pennsylvania is information that contributes to the understanding of the major themes identified in this context either for the state or for the individual agricultural regions or for both. To recap, these themes include representation of agriculture of one time period or representation of agricultural change over time; representation of typical production, in terms of both production and use; and representation of labor patterns, land tenure, mechanization, and cultural traditions. These requirements should not be considered in a vacuum; they must be examined in the context of the cultural milieu of the historic agricultural regions developed elsewhere in this MPDF.

Based on current research in historical archaeology, the registration requirements for archaeological properties that are farmsteads in Pennsylvania are that the site provide important information on changes to landscape and the built environment over time; on the use of agricultural products; on labor and land tenure; and on cultural patterns. To be eligible under these registration requirements, a site must provide important information on the topics listed below and must also demonstrate integrity. For archaeology, integrity should be measured in light of the current state of archaeological knowledge for that region, the research questions being addressed, and the unit of analysis. For example, the standards of integrity for a region without a robust archaeological record would be less stringent than for an area that is well-documented archaeologically. In addition, a site where the significance lies in its ability to provide information about change over time

should have discrete deposits that can be directly associated with different time periods. The above are only two general examples to guide assessments of integrity.

Change Over Time

Agricultural resources may yield important information about modifications to the landscape to accommodate both farming and changes in farming. The creation of a farm obviously involves alteration of the landscape; archaeology can document this alteration. For example, Mary Beaudry (2001-2002: 137-138), working at Milton Farm in Scotland, was able to document how the landscape was altered to accommodate the creation of a farm dedicated to raising sheep. Excavations revealed the massive drainage efforts that were undertaken to turn the land from marsh into productive pastureland. Therefore, important information would document how farmers modified the landscape to begin farming as well as to keep up with changing agricultural practices in their region.

Archaeology can also provide important information on the evolution of the built environment. "The rendering of a farmstead on an atlas dating to the middle of the 19th century does not mean the site sprang from the ground full blown… (Catts 2001-2002: 145)." Often, buildings were moved or reused over time (Beaudry 2001-2002: 130). In some cases, buildings were never even documented in the historical record or the documentation is contradictory (Garrison 1996: 24, 32). These data can provide important information on how farmers responded to the larger movements and innovations in agricultural practice for their regions, documenting both the degree to which farmers followed the latest prescriptions, and the amount of time it took for these ideas to diffuse from other areas (Beaudry 2001-2002: 130; Catts 2001-2002: 145). Archaeology can also provide important information on how changing patterns of refuse disposal illustrate larger changes in farming practice. For example, archaeologists were able to tie modernization theory into their study of South Carolina farmsteads by examining refuse disposal at these sites (Cabak, Groover, and Inkrot 1999: 35). Comparing the density of artifacts at both "modern" and "traditional" farmsteads, archaeologists were able to document the ways that disposal patterns reflected modernization. In addition, useful features may be filled with refuse later on. Mary Beaudry (1986: 39) documents the filling in of water-related features, pointing out that that process can be related to "…an ongoing series of changes made in response to technological innovations, economic and social pressures…" etc. Catts (2001-2002: 148) also documents a trend of refuse disposal in specific dumping areas away from the farmstead. The timing and reasons for this change could provide important information on the evolution of agricultural practice, as well as on the degree with which innovations diffused from other areas.

Agricultural Production

In terms of production, archaeology can provide important information on agricultural production for a market economy. One of the most fruitful lines of evidence, faunal analysis, has the potential to reveal a great deal of important information regarding how market forces shaped production patterns on farms. By comparing faunal remains from both rural and urban sites in Massachusetts, archaeologists were able to document changes in rural production to meet urban demand (Bowen 1998). The percentage of calves in urban assemblages was much higher than in rural assemblages; therefore, it appears that increased production of milk for urban areas also led to increased production of veal for those same areas. Rather than spend precious resources on animals that were useless for dairying, farmers would sell male calves to urban consumers (Bowen 1998: 143).

Examination of faunal disposal patterns is most profitable when done in conjunction with oral historical or other information (Whittaker 1999: 53-54). In Iowa, for instance, archaeologists found that, in general animals that were slaughtered for farm consumption were generally either burned or discarded; rarely, they were buried. The existence of a large, rapidly filled pit, filled with more remains than would be necessary for a farm family, therefore, pointed out that slaughter for market was taking place at this site (Whittaker 1999: 53-54). These types of data could provide important information on the degree to which individual farms participated in the market system.

Labor and Land Tenure

In terms of labor and land tenure, archaeology can produce important information on the interplay between land tenure and changes over time. For example, archaeologists in Massachusetts were able to correlate changes to the landscape with specific changes in ownership in Estabrook Woods (Garman et al. 1997: 65-66). One owner clearly modified the yard to create better drainage. In addition, as ownership changed, the field layout also changed: earlier field features (mounds for corn cultivation) were incorporated into later field patterns. This type of information could be especially useful if different owners represented different ethnic groups. For example, archaeology could provide important information on the changes wrought when a Welsh family purchased a farm from a Pennsylvania German family, and how those changes are manifested in the archaeological record.

Aside from providing important information on individual farms and individual ownership, archaeology can provide important information on the effects of larger events

on the farming culture. For example, during the Napoleonic Wars in Europe, European demand for American goods (including agricultural products) rose dramatically. With this in mind, archaeology can document the effects of this heightened demand on agricultural production and practice in each agricultural region in Pennsylvania (Garman et al. 1985: 73). In addition, the Civil War was another event that had a dramatic impact on agricultural society. Besides raids, forage, and simply the movement of large bodies of troops across the agricultural landscape, this event occasioned a tremendous loss of life and shortage of manpower after the war. In the southern United States, this loss of manpower hastened the mechanization of many farms. Archaeology could demonstrate how this loss of manpower was manifested in the landscape and material culture of Pennsylvania's agricultural regions (Catts 2001-2002: 149).

Labor and land tenure also ties into several major research themes within historical archaeology, including status (e.g. Miller 1980), class (e.g. McGuire and Walker 1999), and ethnicity (e.g. Stine 1990). In terms of status, the archaeology of Pennsylvania farms can provide important information about the ways in which farmers displayed their status. For instance, investigations in New Jersey suggest that farmers chose to display their status by improving their agricultural holdings, as opposed to participating in the consumer culture (Friedlander 1991: 27). Ceramic and glass artifacts indicated a status position that was not in keeping with the farmer's status as derived from the historic record. Tenant farmers, on the other hand, may have more fully embraced consumer culture since there was little use in improving structures and land that they did not own (Rotman and Nassaney 1997: 56). Archaeology within Pennsylvania's agricultural regions could provide important information on the general applicability of these findings.

Status, in combination with ethnicity and role (owner, tenant, etc.), has the potential to yield important information on the social hierarchy of agriculture. For example, statistical analyses in North Carolina found that the material remains of African American landowners were more similar to those of white tenants than to those of either African American tenants, or white owners (Stine 1990: 40). African American and white tenants, on the other hand, were nearly impossible to distinguish. Overall, ethnicity played a role in the ranking of landholding farmers; however, economics appears to have played a more important role than ethnicity in the rank of tenant farmers. Investigations in Pennsylvania could test this model across regional lines.

Closely related to the above themes of ethnicity, status, and role, is the concept of class. Class has variously been defined as "the relationship of a social group to the means of

production" (McGwire and Walker 1999: 160), as a description of a fixed position in society, and as a relative measure of the relationships between different social groups (Wurst and Fitts 1999: 1). According to some archaeologists, however, regardless of the definition of class, its role has not been sufficiently examined in the archaeological record; the historical archaeology of class has been "meager." (Wurst and Fitts, 1999). Therefore, this concept may yield important information for the study of Pennsylvania agriculture. For example, in New York state, archaeologists examined the manifestations of class between servants and their employers in Binghamton and found that artifact types and locations can represent different classes within the same property and that mixed assemblages may be the result of different class structures on the same property (Wurst 1999: 17). In agricultural regions of Pennsylvania where migrant labor was important, this type of study could produce important information on the differences between the owners and the workers. In addition, Wurst (1999: 13) demonstrated how, at a rural tannery, the owners minimized the material cultural differences between themselves and the workers.

Cultural Patterns

In terms of cultural patterns, archaeology can provide important information about the degree of cultural exchange that took place in agricultural communities (i.e. assimilation and acculturation). In some areas of New Jersey, for example, English and Scottish farmers borrowed certain architectural elements from their Dutch neighbors; archaeology may be able to document this exchange in other areas, such as land use and other material culture. In addition, the historical record indicates that the Dutch maintained many of their ethnic ties, including language; however, other aspects of material culture, such as ceramics, indicate that some cultural exchange was taking place (Scharfenberger and Veit 2001-2002: 68). For Pennsylvania, archaeology can provide important information on assimilation within the cultural milieu of the agricultural regions discussed within this MPDF.

Archaeology can also provide important information about cultural patterns, as manifested in religion and religious practice. For example, in Arkansas, archaeology, in conjunction with the documentary record, was able to document the degree to which one family maintained its Jewish heritage, despite being isolated from any large Jewish congregation. The faunal assemblage demonstrated that this family did not observe kosher law; however, the documentary record points out that the family was active in establishing a synagogue in New Orleans and was still a participant in the larger Jewish world. It appears, therefore, that the family's location in an isolated, non-Jewish area led to certain changes (e.g. not keeping Kosher law), but did not break all of their ties to the

Jewish community (Stewart-Abernathy and Ruff 1989: 97 and 105). In Pennsylvania, archaeological investigations at a Quaker-owned farmstead in Chester County were able to provide important information on the interplay (and contradictions) between Quaker belief and Quaker participation in the larger market system (Bailey et al. 2004:131).

Faunal Studies

Although not one of the overarching themes in Pennsylvania agriculture, faunal analyses have the potential to provide a great deal of important information about the above themes. For example, past archaeological studies have used faunal analyses to examine the use of the landscape and change over time, as well as status. By combining oral history with faunal analysis, archaeologists in Missouri were able to provide information on different processing methods and disposal of fauna (Price 1985: 46-47). For example, smaller animals, such as squirrels, would have been processed in the yard, leaving some bones there. Other bones, however, would have been discarded at the margins of the yard after the meal. Larger animals, such as pigs, would have been slaughtered near the smokehouse (Price 1985: 48). In areas without standing remains, or where spatial relationships are not clear, this data could provide important information on the layout of agricultural properties through time. Also, the use of wild animals in the diet can point out the status of the site's inhabitants. Both higher status and lower status farmers would likely have a larger percentage of wild animals in their diet, either through conscious choice, or due to economics (Scharfenberger and Veit 2001-2002: 64).

Conclusion

The registration requirements for archaeological properties that are farmsteads in Pennsylvania are that they must provide important information on the themes developed in this MPDF. It is important that the important information relate not only to the themes, but also to the themes as they are manifested in each agricultural region. Broadly, these themes are change over time, agricultural production, labor and land tenure, and cultural patterns. In addition, a separate category, faunal analysis, has the potential to yield important information on several of the themes identified in the MPDF. Aside from significance, as represented by the potential to yield important information, farmsteads must also display integrity. The assessment of integrity should be based on the archaeological record of a particular region, as well as the research questions and the unit of analysis.

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Integrity

This Statement of Integrity discusses the seven categories of integrity as defined by the National Register, for each of the three Property Types (farmstead, farm, historic agricultural district) defined in this context.

Location:

Integrity of Location refers to the requirement that buildings and landscape elements remain in their original location. Normally, a building loses eligibility if it has been moved. However, where a farmstead is concerned, farm buildings present a challenge to the normally straightforward rule. Historically it has been very common to move and reuse farm buildings. Some, like poultry houses, were actually designed to be easily moved. Other types of smaller farm buildings were frequently rearranged. The New England Connected Farm complex, for example, resulted from moving buildings. Therefore, if an agricultural building has been moved, and the change in location can be interpreted as a reflection of changing agricultural patterns, integrity of location has not been compromised. If a farm building has been moved or reused after the period it is supposed to represent, integrity of location is not present.

Integrity of Location for a farm is well defined by the SR 30 context, which says "an agricultural property must be located either where it was constructed or where important trends or patterns in agriculture occurred…. Siting with respect to natural features and topography, use of local and indigenous materials, relationship to roadways, the presence of native species… and other responses to the natural environment all add to integrity of location."[38]

Integrity of Location by definition is present in a historic agricultural district, as it is unlikely that an entire area would be relocated.

Design:
To quote the Georgia agricultural context, design is the "combination of natural and cultural elements that create the form, plan, style, and spatial organization of a property."[39]

For individual farmstead buildings, design includes such elements as siting, orientation, form, massing, proportion, fenestration, location of doors, roof types, and ornament. Integrity of Design applies to both exterior and interior elements. For houses, interior integrity is well established elsewhere; for barns and outbuildings, interior integrity of design refers to the presence of significant plan elements characteristic of a given barn type. So, for example, an English Barn should retain the characteristic one-level, three-bay layout with mow, threshing floor, and stables arranged crosswise to the roof ridge. A Pennsylvania Barn should exhibit the characteristic multi-level work-flow arrangement, and the diagnostic features of the type (forebay, banked construction, and so forth.) Another aspect of interior design would be framing systems; while these are covered under Workmanship, they also fall under Design because often they were assembled to permit hay tracks, expand storage space, and delineate spatial divisions both vertically and horizontally. Barn and outbuilding interior alterations that show significant agricultural changes in a region do not compromise integrity, because they can contribute to significance based on change over time. However, if they postdate the period of significance and/or obliterate historical fabric, then integrity is not present. For example, a Pennsylvania Barn whose lower level was cemented and fitted with stanchions for dairy cows in the 1930s could retain integrity because it illustrates changes within a period of sigificance, but if its entire lower level was gutted, expanded, cemented, with new partitions in the 1980s, it would likely not retain integrity.
Farmstead layout and the relationship of buildings to topography are important elements in Integrity of Design. Farm layout should retain integrity with respect to farm labor patterns for the period of significance in the region where the farmstead is located. In most cases, this means spatial organization to facilitate family and neighborhood labor. So, for most pre-1930 farms, a poultry house, detached dairy house, or hog facility should show a siting relationship to both house and barn, usually being situated between house and barn, or in a clear relationship to the house's dooryard (as in the Yankee Northern Tier) or *vorhof* (more common in German Pennsylvania), or in an arrangement where all buildings are closely clustered. Integrity of farmstead design also can apply to characteristic cultural or regional patterns. In the Northern Tier, for example, it was common for a road to bisect the farmstead, whereas in German Pennsylvania, a linear or court-yard organization was more prevalent.

For farmstead landscape elements, Integrity of Design applies to whether the farmstead retains traces of the fabric and location of boundaries, lawns, fences, ponds, circulation elements (paths, drives), gardens, farm lanes, orchards, and ornamental plantings. It would be rare for these to survive in their entirety, but some vestiges should be present.

Integrity of Design also applies to the collection of buildings on a farmstead. Most farmsteads will contain a mix of contributing and noncontributing buildings and structures. A determination must be made as to whether there is too high a presence of noncontributing elements. In such cases, it is important that the farmstead adequately reflect the composite patterns of the relevant agricultural region and period. For example, a farmstead might have an early wood-stave silo, a c. 1940 concrete stave silo, and a c. 1975 Harvestore silo all clustered together, next to a barn complex that includes a c. 1900 Northern Basement barn, a milk house, and a c. 1950 cow shed. In this context, the noncontributing Harvestore silo does not detract from Integrity of Design, because its scale and siting relate to the historical fabric. On the other hand, a farmstead may have a Pennsylvania Barn surrounded by a 1990s livestock loafing shed twice its size, and a 1980s manure lagoon. If modern livestock-handling facilities dwarf the historic building in scale, or if they are sited so close as to overshadow the historic fabric, then Integrity of Design is doubtful. However, it should be noted that in many cases, modern livestock handling facilities are sited away from older buildings, and in these cases (especially if the modern facilities are all concentrated in one place), Integrity of Design may still be present. Scale and location should be considered in determining Integrity of Design in cases like these.

At the farm scale, Integrity of Design is present only when a significant proportion of acreage remains. It is desirable, though not an absolute requirement, if continuity of use is present – ie crop production, pasture, livestock raising, and so on. In addition, a farm's Integrity of Design depends on the extent to which it retains traces of field divisions, fields (such as small fields or historic strip cropping) property boundaries, treelines, hedgerows, fencing, woodlots, circulation paths, and the like. If continuity of use is present, it is unlikely that all historic landscape features will have survived intact, because of the needs of modern farming; but at least some traces should be evident. If large-scale monocropping resulted in the removal of field boundaries, woodlots, treelines, fencing, and circulation paths in the 1990s, Integrity of Design may have been lost.

A historic agricultural district retains Integrity of Design when its consituent farms have an acceptable level of integrity collectively. Since contributing resources are counted

individually (so, each resource, even within a farmstead, would be counted), this must be determined with respect to whether and how the sum total of contributing resources creates a coherent whole. For example, there may be cases in which one or two farms are included because they have one outstanding building, even though its other resources are not exceptional. But overall, there should be a consistent presence of contributing resources on farms that make up the district. Also, elements of the historic transportation routes, waterways, etc. that connected the farms in the district should remain.

A historic agricultural district's integrity of design depends very much upon landscape features. Intact historic field patterns, treelines, ponds, disposition of pasture and woodlot, etc. should count heavily in an assessment of integrity in a district. Consider also that since farm fields, waterways, and woodlots are such crucial components of an agricultural district, their integrity should weigh equally with architectural integrity of buildings. So for example, a district might contain buildings where there has been some impairment to integrity, but if many landscape features are clearly intact, the overall district's integrity would still meet National Register standards. Another example would be a situation where small patches of modern development are interspersed within the boundaries of a historic agricultural district. In a case like this, the total number of noncontributing resources might be relatively high, but overall integrity would still meet National Register standards because the land area occupied by the intrusions would be minimal compared with the total area taken up by the district.

Setting:

Integrity of Setting with respect to a farmstead has two dimensions. Integrity of Setting can be present with respect to the farmstead's interior organization, for example if it retains its original relationships among buildings, natural features, and landscape elements that make up the farmstead. Integrity of Setting also applies to the farmstead's surroundings, so at least part of a farmstead (one or two sides at least) should border on open space, woodland, or agricultural land. If a literal spatial buffer is not present, Integrity of Setting may still be present if the farmstead retains visual buffers. For example, what if a farmstead lacks much original acreage, and abuts on a modern subdivision? It may retain Integrity of Setting if it is visually set off from the subdivision through such means as topographical features. However, if not, the farmstead probably does not retain Integrity of Setting.

Integrity of Setting with respect to a farm normally involves continuity of use. There may, however, be cases where continued farming with modern methods has all but wiped out historic farm landscape elements such as patterns of crop rotation and field

organization, hedgerows, treelines, shade trees, rock piles, fencelines, fences, and the like. In extreme instances, Integrity of Setting may be compromised by continuous farming. An example would be if 1930s aerial photographs showed all of these features, and a present-day site visit showed that a large monocropped field had supplanted these earlier farm landscape features. Integrity of Setting for a farm is also present if a farm abuts open land, woodland, and/or historic transportation corridors.
Integrity of Setting with respect to a historic agricultural district can be reckoned with respect to internal relationships among buildings, landscapes, natural features, and transportation corridors. So for example a district along a historic canal corridor should include canal features like locks, masonry lining, and the like; a district in a sharecropping region should include a number of farms that were historically and thus architecturally interrelated. A historic agricultural district possesses Integrity of Setting if its external surroundings continue to reflect general historic patterns and use.

Materials:
Integrity of Materials refers to the presence of "key exterior materials from the period of significance"[40] Integrity of Materials is well covered for houses elsewhere. For the other buildings of the farmstead, barns and outbuildings often are constructed, or reconstructed, of recycled materials, and integrity of materials is present as long as the recycling can be interpreted as contributing to significance for agriculture. On a farm property, some materials may be organic – such as a fenceline made of rubble, trees, and spontaneous growth. (However, the original vegetative material of crops, or the original fence, does not need to be present.). A historic agricultural district retains Integrity of Materials if its constituent properties possess Integrity of Materials collectively. As well, in districts Integrity of Materials can refer to the presence of key materials across property boundaries, or along shared property boundaries. Remnants of irrigation systems would be an example.

Workmanship:
Integrity of Workmanship refers to the retention of traditional or historic craftsmanship. These include such familiar skills as wood joinery (log, plank, post and beam framing), masonry (stone and brick), but also skills more closely related to agriculture such as fence building, contour plowing, windbreak planting, crop rotation, garden construction, farm pond construction, or farm planning. Workmanship can also refer to the skilled use of technologies that are not necessarily hand-tool derived. For example, the Shawver Truss, a barn framing system popular c. 1900, combined artisan skill with industrial technologies. Evidence of recycling or reuse may contribute, as long as it is part of a pattern or historic trend. Integrity of Workmanship applies mainly to the farmstead

buildings and landscape features. However, collectively Workmanship could conceivably have an impact on the overall appearance of a historic agricultural district in some instances, for example, if in a district a group of farms collectively exhibits particularly adroit arrangement of contour strips.

Feeling:

Integrity of Feeling refers to the "Ability to evoke the aesthetic sense of a particular time and place."[41] This is an intangible quality, which depends to some extent on integrity of design, setting, materials, and workmanship. If the farmstead, farm, historic agricultural district, or the general area continues under agricultural use, integrity of feeling is enhanced. Integrity of Feeling also is present if a property retains a sense of scale characteristic for its period; the interrelationship of the human and natural that is so important in agriculture; if there are many vantage points from which agricultural activity or evidence of agricultural activity are vividly apparent.

Association:

Integrity of Association refers to the "direct link between the property and the… events and persons that shaped it."[42] For significance with respect to agriculture, a farmstead or farm must have contributed to a working farm for its period of significance. The presence of historic landscape features related to agriculture is a key aspect of Integrity of Association. Close attention should be paid to identifying intact or remnant features. For example, are crop field size, scale, shape, and patterns are retained from the pre-contour stripping era? Are there remnants of early woodlots or sugar bushes? Is there evidence of land use such as pasturing? A majority of farms in a historic agricultural district should have a continued association with agriculture for the period of significance. To ensure Integrity of Association, the inevitable "intrusions" should be kept to a minimum. However, a historic agricultural district could conceivably have a high percentage of noncontributing properties relative to an urban district. For example, a concentrated 25-acre subdivision with 50 noncontributing houses might be contained within a 1,000-acre historic agricultural district with fifty contributing farms. Even though technically, the subdivision elevates the percentage of noncontributing properties, it does not reduce Integrity of Association, because it is such a small percentage relative to the continuously farmed (and contributing) acreage in the remainder of the district land area.

Notes

1. Emil Rauchenstein and F. P. Weaver, "Types of Farming in Pennsylvania," Pennsylvania Agricultural Experiment Station Bulletin # 305, April 1934.
2. "Types of Farming in Pennsylvania," Pennsylvania Agricultural Experiment Station Bulletin # 479, May 1946, 6-7.
3. Commonwealth of Pennsylvania, Department of Conservation and Natural Resources, Bureau of Topographic and Geologic Survey, Map 13 (n.d.); Rufus Barret Stone, *McKean: The Governor's County* ,New York: Lewis Historical Publishing Co., 1926, 191, map of "Pennsylvania Highlands, Table Land Classified Area" called "The Big Level."
4. Quoted in "The Ole Bull Colony in Potter County 1852," Hundredth Anniversary Pamphlet, PSU Special Collections.
5. The Potter County Historical Society's CD, "Pictorial Tour of Potter County," 2004, reflects this well.
6. Potter County Agricultural Extension Annual Report, 1919. PSU Special Collections.
7. Potter County Agricultural Extension Annual Report, 1920. PSU Special Collections.
8. Potter County Agricultural Extension Annual Report, 1919. PSU Special Collections.
9. Roguing is eliminating plants with undesirable characteristics before they mature, so that they do not taint the genetic pool of plants. The language of the county agent reflected Progressive era scientific and eugenic thinking when he declared that roguing promoted a "uniform appearance of fields" through elimination of "degenerate diseases." Potter County Agricultural Extension Annual Report, 1922, PSU Special Collections.
10. "Historical Notes In the Development of Potter County," n. p., 1949, 22.
11. Potter County Agricultural Extension Annual Report, 1939. PSU Special Collections.
12. Though little appears concerning sheep raising.
13. Potter County Agricultural Extension Annual Report, 1922. PSU Special Collections.
14. The agent reported this, but did not specifically say what the causes of loss were.
15. Potter County Agricultural Extension Annual Report, 1924. PSU Special Collections.
16. Potter County Agricultural Extension Annual Report, 1940 and 1941. PSU Special Collections.
17. Johnson, George Fiske, "Agriculture in Pennsylvania, A Study of Trends, County and State, since 1840," Pa. Department of Agricultural General Bulletin # 484, p. 89.

18. There was a freezer plant in Centre County, and there were canneries in the North Branch/Susquehanna region. The location of plants outside of Potter County reflects several circumstances. The labor force for canneries usually consisted of local residents rather than migrant workers, and Potter County did not have a large local population. Centrally located plants were also near other vegetable-producing areas especially in Northumberland and Columbia counties. Second, there was probably more capital in the central part of the state, for investment in canning and freezing equipment. Finally, the central region had greater access to highway outlets for marketing.
19. Potter County Agricultural Extension annual report, 1947. PSU Special Collections.
20. Morrison Handsaker, *Seasonal Farm Labor in Pennsylvania,* Lafayette College: Easton, PA, 1953, 34.
21. Walter Michael Whitlock, "Educational Opportunities for Migratory farm children: New York counties of Steuben and Yates, and the Pennsylvania county of Potter," Ed.D thesis, Educational Administration, Pennsylvania State University, 1961, 102.
22. Potter County Agricultural Extension Annual Report, 1943, PSU Special Collections. Page 5.
23. This may have been the first Southern migrant crew, because in 1948 the county agent reported that "some crew leaders have been in the county for three successive years."
24. Potter County Agricultural Extension Annual Report, 1946, "1946 Farm Labor Narrative," 9a, 9b, 9c, PSU Special Collections.
25. Pennsylvania. Governor's Committee on Migratory Labor. Report. 1952, 23; Handsaker, 44.
26. Pennsylvania. Governor's Committee on Migratory Labor. Report. 1958, 19.
27. Cindy Hahamovitch, *The Fruits of Their Labor: Atlantic Coast Farmworkers and the Making of Migrant Poverty, 1870-1945,* University of North Carolina Press, 1997, chapter 5. The American Friends Service Committee sponsored a report in 1976, "Pennsylvania Farm Labor Plan," that was critical of employment practices in Pennsylvania.
28. "Migratory Farm Labor in Pennsylvania, Report of the Lafayette College Consulting Group to the Governor's Interdepartmental Committee on Migratory Labor, Commonwealth of Pennsylvania," Easton, Pennsylvania, December 31, 1954. David Bishop Skillman Library, Lafayette College. See especially page 6 in which a Potter

County inspector stated "openly, 'we do not believe in prosecutions in Potter County.'"

29. Joseph Alessandro, "School for Migrant Children in Potter County at Ulysses, PA, Summer 1955…" pamphlet, 1955, PSU Special Collections.
30. Potter County agricultural extension annual report, "1946 Farm Labor Narrative"
31. See Handsaker, *Seasonal Farm Labor in Pennsylvania.*
32. "Migratory Farm Labor in Pennsylvania, Report of the Lafayette College Consulting Group to the Governor's Interdepartmental Committee on Migratory Labor, Commonwealth of Pennsylvania," 48-52.
33. Note that while the *buildings* represent an identifiable cultural tradition, the *owners or occupants* may not have necessarily share the same cultural heritage over the entire history of the property. People borrowed, reused, and adapted. For example, an "English" farmer in southeastern Pennsylvania may have built a Sweitzer barn because it best suited the diversified farming of the region.
34. In some places, only some farmers owned machinery, and it was shared around, so some farms would have lots of machinery buildings and others would have few. This was not true in the regions researched for this context.
35. NR Bulletin *How to Apply the National Register Criteria for Evaluation*, p 17.
36. *Historic Farming Resources of Lancaster County*, MPDF, 1994.
37. In addition see the discussion of the regional architecture of farm buildings in the MPDFs *Farms in Berks County* (1992) and *Historic Farming Resources of Lancaster County* (1994).
38. "Corridor Improvement Study, Reconnaissance Survey and Historic Contexts Report.. SR 0030, Section S01, East Lampeter, Leacock, Strasburg, Paradise, Salisbury, and Sadsbury Townships, Lancaster Couty., Pennsylvania." 2 Volumes. Prepared by A.D. Marble Company; 2004, Volume I, page 175. The SR 30 study involved an exhaustive survey of all resources in the multi-township area of Lancaster County and preparation of contexts for agriculture, industry, and several other themes. For agriculture the study identified character-defining features for both English and Plain Sect farms.
39. "Tilling the Earth: Georgia's Historic Agricultural Heritage, A Context." Prepared for the Georgia Department of Natural Resources, Historic Preservation Division, by Denise P. Messick, J. W. Joseph, and Natalie P. Adams, New South Associates, Inc. 2001. http://hpd.dnr.state.ga.us/assets/documents/tilling_the_earth.pdf
40. Ibid.
41. Ibid.
42. Ibid.

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