
Agricultural Resources of Pennsylvania, c. 1700-1960

**York-Adams County Diversified Field Crops,
Cannery Crops, and Livestock, 1750-1960**

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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.

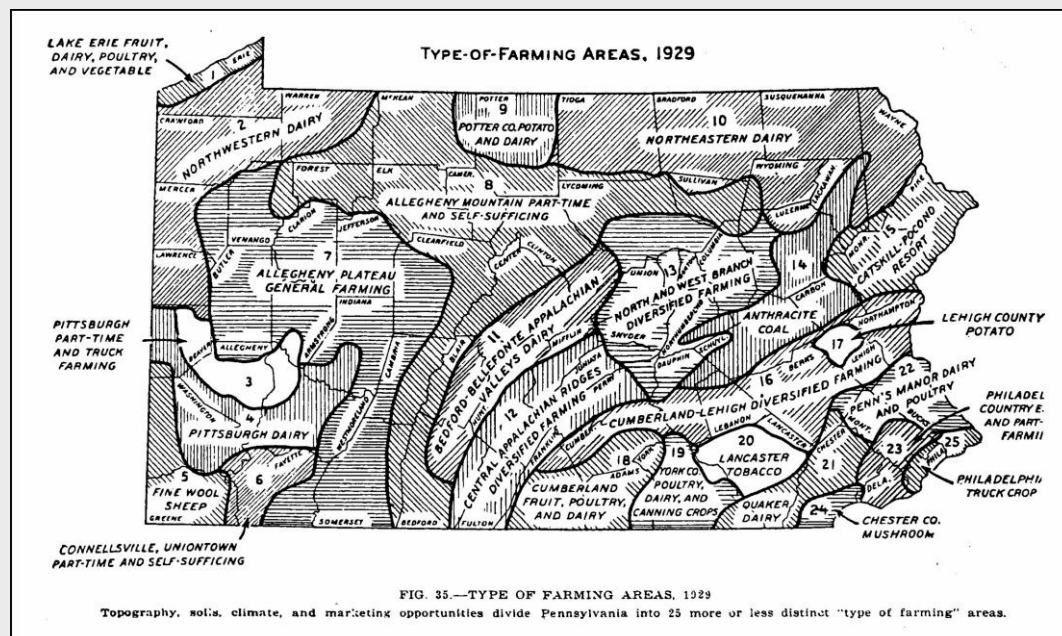
Acknowledging the historic diversity of Pennsylvania farm productions helps to clarify much, but it also raises a fundamental challenge for conceptualizing an approach that will faithfully convey Pennsylvania’s agricultural history, and make

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.

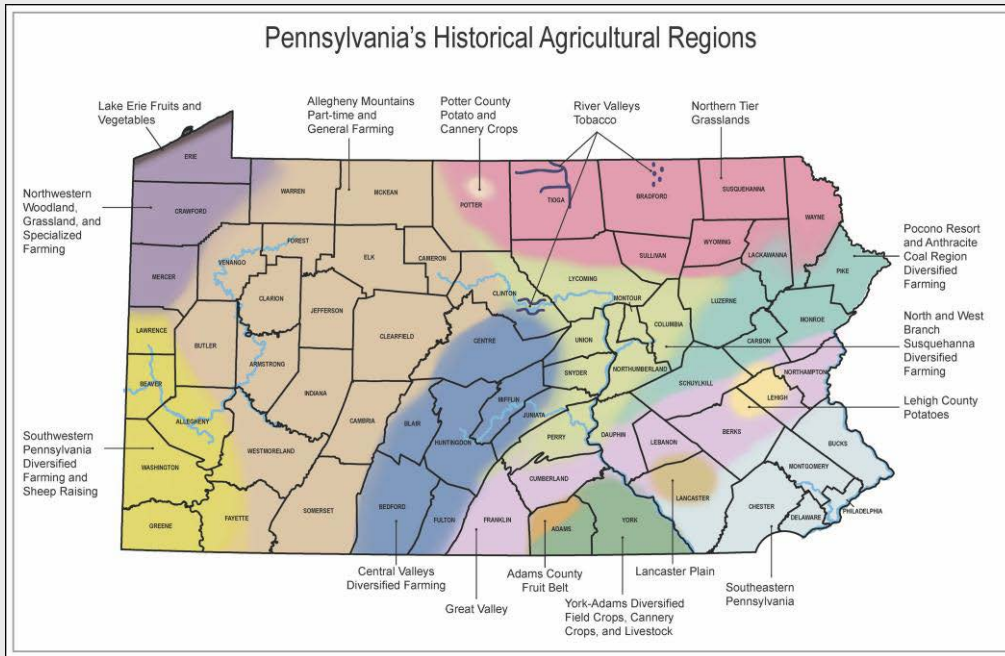
The idea of a “farming system” opens the way to a more comprehensive and accurate interpretation of the historic rural Pennsylvania landscape. For example, because the notion of a “farming system” includes land tenure and mechanization levels, we can identify a distinctive region in the heart of the 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

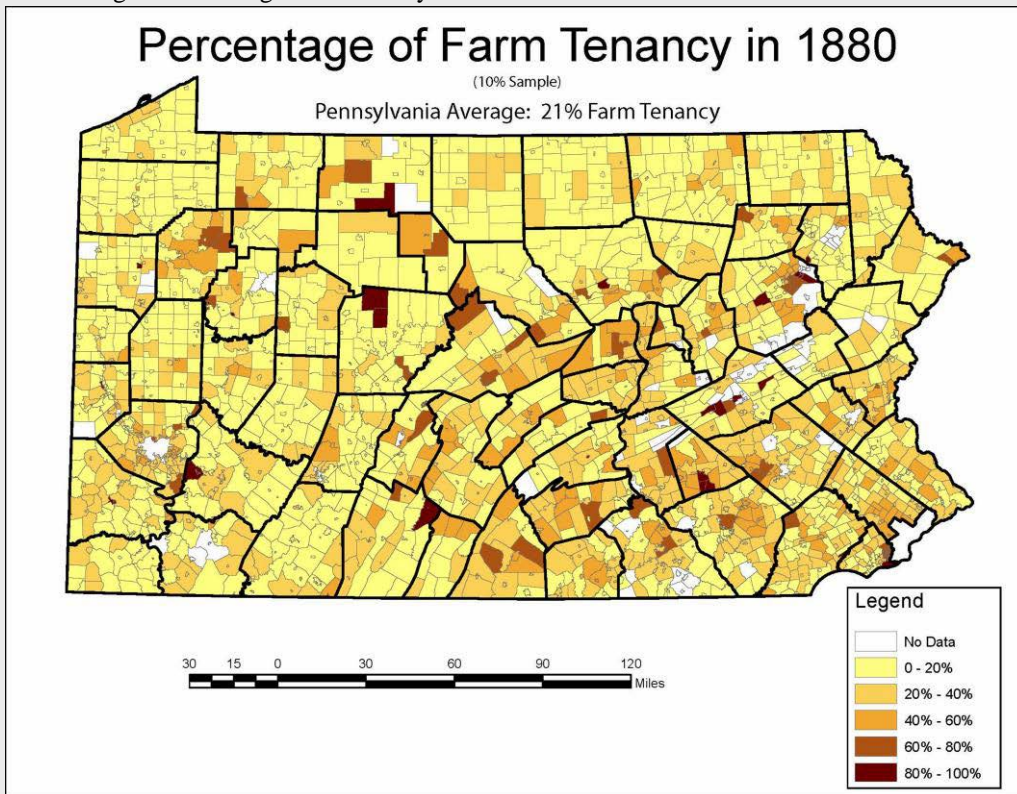
Mapping done by agricultural economists in the early 20th century identified “Types of Farming” areas based on soil types, topography, markets, climate, and production. These helped to establish clear regional boundaries to the extent that topography, climate, and soil types set basic conditions for 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.



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



Historic Agricultural Regions of Pennsylvania.



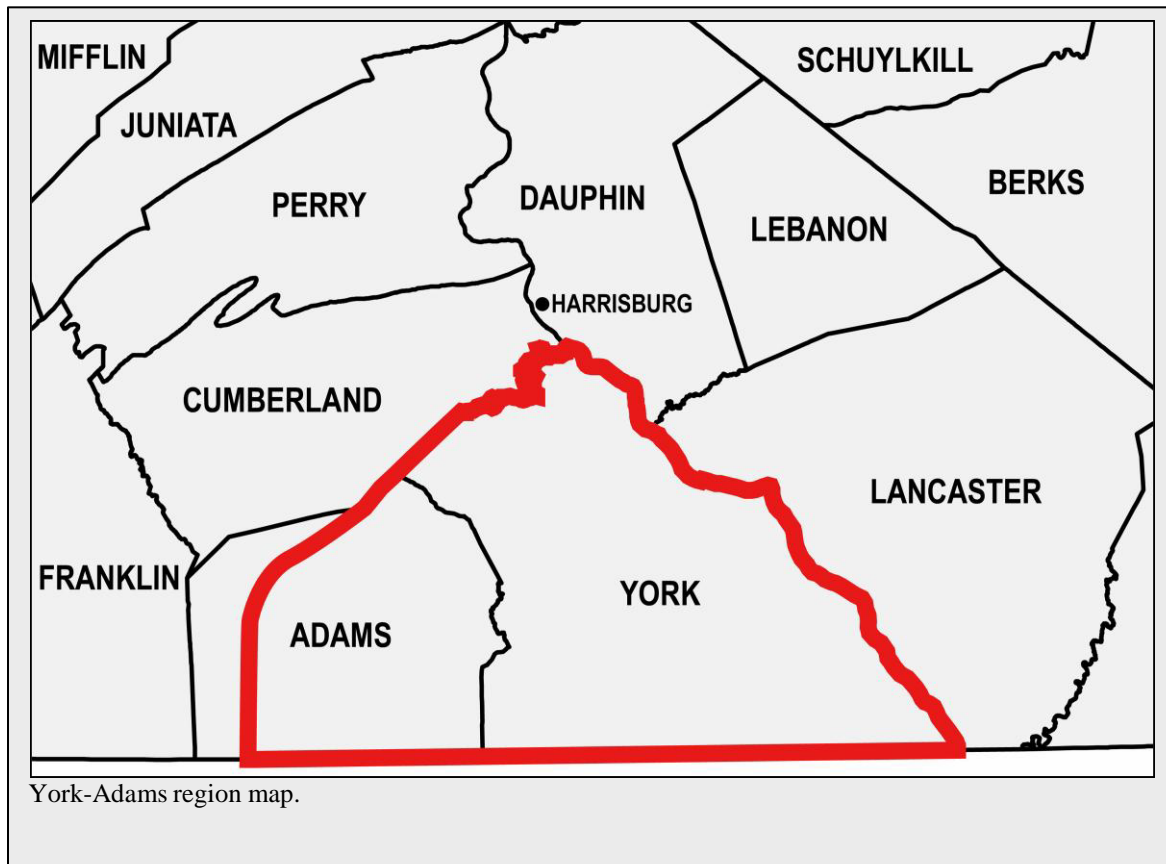
Share Tenants as a percentage of all farmers, 1880.

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.

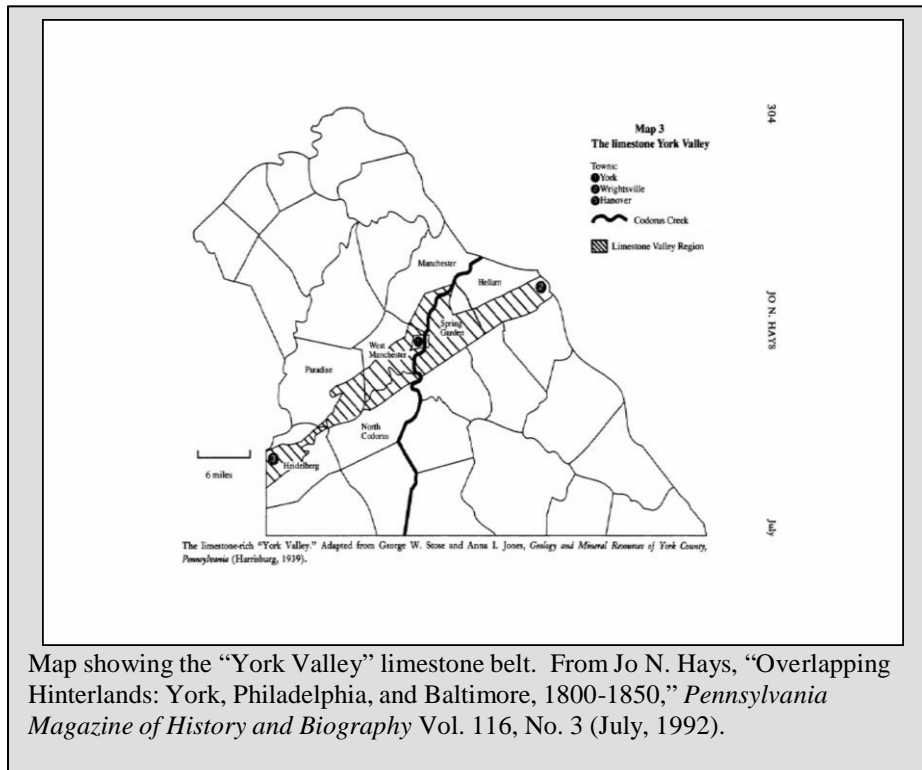
Location

The region consists of the eastern townships of Adams County – primarily Reading, Straban, Cumberland, Mount Joy, Germany, Union, Mount Pleasant, Oxford, Conewago, Berwick, and Hamilton Townships -- and all of York County.



Climate, Soils, and Topography

The region falls within the “southeast” climate region as designated by geographer Brent Yarnal. Precipitation averages about forty inches annually and the mean annual temperature is around 55 degrees Fahrenheit. Summers are relatively long for Pennsylvania and the growing season is typically around 160 days.



Map showing the “York Valley” limestone belt. From Jo N. Hays, “Overlapping Hinterlands: York, Philadelphia, and Baltimore, 1800-1850,” *Pennsylvania Magazine of History and Biography* Vol. 116, No. 3 (July, 1992).

The York-Adams region straddles the Piedmont and Ridge and Valley topographic regions. Terrain is rolling and ridged. The parent rock of the two regions is different – in the Triassic lowland it is “weak sedimentary” rock while in the Piedmont it is various metamorphic rocks and includes limestone. Soil types in the region vary considerably. All the dominant soils in the region are alfisols. Some important soil groups include Chester, Glenelg, Lewisberry-Steinsburg, and Edgemont. A narrow strip of limestone soils runs from southwest to northeast across the center of the county. About a third of the farmland in York County is considered “prime.”¹

Historical Farming Systems

Four historical systems characterized farming in the region. After settlement came a period of diversified small scale production that lasted from the mid-eighteenth century until about 1830. Between about 1830 and 1885, highly mechanized small farms combined livestock and crop production for new, mainly local and regional markets. Between about 1885 and 1940, the system reoriented to emphasize cannery crops, orchard products, and poultry farming. Between 1940 and 1960, more specialized, capital intensive and larger scale farming was accompanied by rapid loss of farms and greater reliance on off-farm income.

Diversified Small Scale Production, c. 1750-1830

Products, c. 1750-1830

York County was created in 1749 and originally contained the county which in 1800 became Adams. European settlement took place between about 1730 and 1760, but even by 1790 population densities were significantly lower west of the Susquehanna than across the river to the east. Scots-Irish, English, and German speaking settlers mingled in the region, with the Scots-Irish predominating in Adams County and the Germans in the center of the region. Various religious groups came, including Quakers and Mennonites, but Episcopalian, Presbyterian, German Reformed, and Lutheran congregations were more numerous. Slowly Germans came to comprise a larger portion of the rural population. By the mid eighteenth century, towns such as Hanover, York, and Hunterstown were established, and by the late eighteenth century the two counties were tied by roads to Baltimore, Lancaster (thence to Philadelphia), and Carlisle.²

In the early nineteenth century, York had overlapping economic relationships with the major cities of Philadelphia and Baltimore. Historian Jo N. Hays has demonstrated that York supplied Baltimore with raw materials, and purchased finished goods from Philadelphia: "Money made in Baltimore bought Philadelphia goods." For a time, Baltimore was more accessible than was Philadelphia to York County farmers, and its rise was partly due to the wheat trade with the Pennsylvania and Maryland hinterlands. Yet over time Baltimore could not compete with Philadelphia's position as a manufacturing center and Atlantic port entrepot.³

Most scholarly analyses include York and Adams Counties in their discussion of southeastern Pennsylvania in the colonial and early national periods. Colonial southeastern Pennsylvania has attracted considerable attention from scholars, and a body of secondary work has accumulated which serves well to identify important agricultural trends for the colonial and revolutionary war period. The literature diverges somewhat in historiographical interpretation, with recent work modifying earlier conclusions. The following discussion draws from Pennsylvania Agricultural History Project narratives regarding the Lancaster Plain and southeastern Pennsylvania east of the Susquehanna. Though York County shared much with these two more developed regions, there were significant differences. Most important was that York County had a less developed transport infrastructure and was settled later. Whiskey, forest products, and highly

diversified products for local consumption were still prominent in York County, whereas the counties closer to Philadelphia had begun to raise more wheat for milling, and to produce more items for the Atlantic trade network.

Geographer James T. Lemon's account of *The Best Poor Man's Country* (1972) is still the place to begin for analysis of colonial southeastern Pennsylvania. Lemon's primary source base was vast, and included contemporary accounts, family papers, tax records, probate records, real estate records, and published materials. His account has held up quite well except for a few points which will be discussed below. He gave most of his attention to counties east of the Susquehanna, but did include York and Adams Counties in his overall analysis.

Agriculture in southeastern Pennsylvania took shape amid constant flux in population movement and makeup, land tenure arrangements, and economic development. Land prices rose, and the average size of land holdings dropped between 1730 and 1760. The tenant class grew. Most people were engaged in agriculture.

Farming in southeastern Pennsylvania was conducted along the lines of what Lemon called "general mixed farming and extensive use of the land." By "extensive," Lemon meant that land was cropped "superficially," without much in the way of fertilizer or sophisticated techniques. The cleared area was very small, but rather than husband it intensively to get the most from it, farmers simply cleared more to increase production. Fallow land, woodlot, and meadow (hay lands, often mown from whatever plants took root without deliberate seeding) took up a relatively large proportion of cleared land. Soil was "rested" through fallows rather than replenished through rotations, liming, and fertilizers. Scholars agree that in general, productivity was stagnant or even negative throughout the eighteenth century. Livestock were few and usually found their own forage, roaming unfenced. Orchard and gardens rounded out the typical farmstead land-use organization.⁴

Historians have often connected extensive farming with small-scale self-sufficing or non-market agriculture. However, colonial Pennsylvania's farms were rarely as self-sufficient as period observers such as Hector St. John de Crevecoeur claimed. Indeed, the often-made distinction between subsistence and market farming does not work well at all in the colonial Pennsylvania context. For one thing, likely the most self-sufficient farms were also the largest. More importantly, very early on, Pennsylvania farming families

participated in the global commodities trade. Around 1730, historian Brooke Hunter notes, in Europe population growth, war, and crop failures stimulated an “explosive growth in demand” for grain, and Pennsylvania farmers were well positioned to respond. They raised wheat to sell to Philadelphia millers, who in turn exported flour. Pennsylvania-produced foodstuffs were sent along the coastwise trade from New England to the Carolinas, and overseas as far as China. A network of roads, supplemented by waterways such as the Schuylkill, connected the rural hinterland to Philadelphia.⁵ York County farmers were within Philadelphia’s trading area as defined by scholar John Walzer, but they stood in a different relationship to the city than those areas east of the river. For one thing, goods had to be ferried across the river before the Wrightsville bridge was built in 1814. Some York County farm products made it to Philadelphia, but York County farm products also made their way to the Baltimore region. Flour was shipped there, and another important strategy was to convert wheat, rye, or corn to whiskey, a higher-priced concentrated product. Grist millers often had distilleries too. The U. S. Census tallied 559 distilleries in York and Adams Counties in 1810.⁶

There are few quantitative records to suggest what grains were raised in York County, and in what proportions. Farm sale advertisements in the Pennsylvania Gazette for the 1770-1790 period often contain references to good land for wheat and grain. York County folk artist Lewis Miller made reference to various small grains in his comical sketches. He depicted “old Mrs. Schreck laying in the Oats” after “drinking to [sic] much Rum.” He drew a picture of “the Old Brew house” and note that “the [sic] made Good Beer,” which would require barley. A local historian mentions wheat, barley, spelt, rye, buckwheat, millet, oats, and corn as colonial-era crops in York County. He thought that “spelt and barley held sway in York County” till around 1830 when they gave way to red or blue stem wheat.⁷

Grain contributed to economic development because it stimulated industry (mills and distilleries) and transport infrastructure. However, viewed from the perspective of the individual farm, grain was by no means the only farm product. Wheat yields were low (as little as 10 bushels per acre), and Lemon estimates that a 125-acre farm in 1760 would have only eight acres planted in wheat, and a few acres each in the other grains. Lemon uses evidence from wills, journals, travelers’ accounts, and other sources to show that besides wheat, crops included rye, barley, oats, buckwheat, Indian corn, potatoes, turnips, cabbage, apples, peaches, cherries, flax, flax seed, hemp, and hay. Thus grain production was but one element in most farm families’ diversified market and subsistence strategies.

Lewis Miller's wonderful early nineteenth sketch books offer a vivid picture of York County agricultural production in these years. Miller's images reveal a highly diversified system with a remarkable variety of crops, livestock, and processed products. Miller chronicled his enjoyment of sweet potatoes, watermelons, apples, potatoes, sauerkraut, peaches, "heart Cherrys," pumpkins, cucumbers, strawberries, and beans. Probably a more typical everyday meal consisted of "[corn]meal, mush and milk." Miller depicted Conrad Kissinger with his hands in the "Apple Butter pot's." He told a comical illustrated story of a dog devouring a sausage from a hot frying pan, and he showed cider making.⁸

Orchards were established soon after settlement; a 1783 ad in the Pennsylvania Gazette for a York County farm mentioned "a good apple and peach orchard, with many other kinds of fruit trees."⁹ Fiber plants were important, especially hemp and flax; according to local historian Prowell, flax succeeded hemp around 1830.¹⁰ Pork, beef, mutton, eggs, wool, and butter were typical animal products. Farm families raised small numbers of cattle, sheep, swine, horses, poultry, and bees. They gathered nuts and berries, and made maple sugar, lumber, cordwood, and potash from their woodlots.

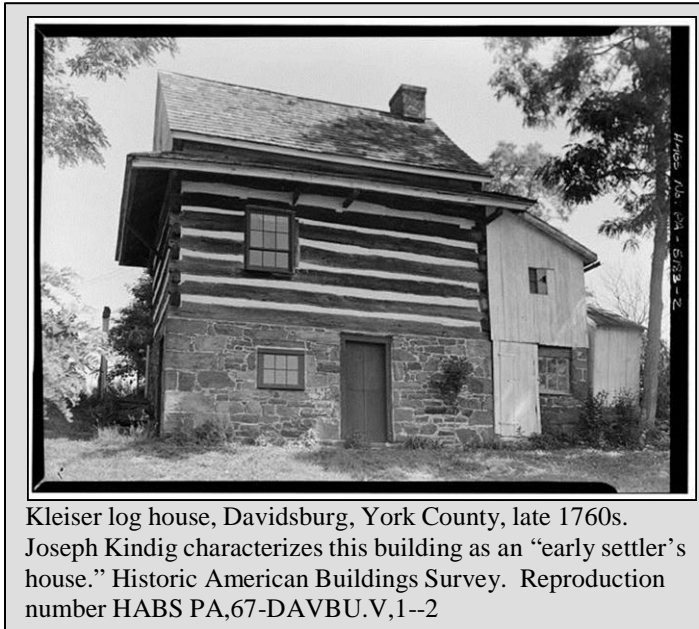
Animals mostly grazed freely in the early period, but by the late eighteenth century in York County, their grazing was being supplemented by hay deliberately cultivated from meadows which sometimes were irrigated with ditches. York County livestock included (in Lewis Miller's words) "Horses, cows, Sheep – hogs, chickens _And Turkeys." Miller in 1802 drew "old Mrs. Hausman Killing a Hog and a beef for me..." Large hogs were celebrated and much admired. Dairy cows were kept for milk and butter; Miller in 1812 shows Peter Hurtz "Giving his cow a bucket full of molasses..." Miller, ever fond of exposing his neighbors' foibles, drew a scene of the market master exposing fraudulently labeled butter. Fraud or not, he revealed a thriving market trade in butter. Geese were raised for feathers and other fowl for meat and eggs. Some farm people kept beehives for honey. Finally, another source of protein was fish from the river and its tributaries.¹¹ Baltimore and Philadelphia were important, but closer markets may have been still more so. Michael Kennedy, in a well-researched 2000 article, has modified some of Lemon's arguments about local markets in colonial Pennsylvania. Lemon, as a historical geographer, assumed that central places (i.e. towns) were necessary to the creation of local markets for farm produce; he was preoccupied with testing von Thünen's famous hypothesis about how distance from a central place determines the nature of agricultural production. Because of this perspective, Lemon's work left unanswered questions.

There were few such population centers in mid 18th century Pennsylvania; indeed, Lemon himself noted that the colonists preferred dispersed settlement. At the same time, the percentage of non-farmers – i.e. consumers -- was growing, and clearly farmers were marketing products. So, where did they sell their wares if not in towns? Kennedy has solved this puzzle convincingly; he shows that the central place function was served not by towns but by stores located at ironworks and mills. These stores were liberally and widely distributed, and virtually every southeastern Pennsylvania household was situated near at least one. Kennedy explains not only where the markets were located physically, but also links them to the growing population of landless consumers.

Kennedy also adds to the list of products marketed. Beans, onions, wood, veal, parsnips, venison, cucumbers, molasses, greens, peas, leather, limestone, tallow, wax, straw, hops, hides, and feathers were raw farm products mentioned in mill and ironwork store records. Others included processed items such as stockings, clothing, linen, baskets, soap, thread, cheese, vinegar, shingles, charcoal, and candles. In all, Kennedy enumerated 118 different farm products traded at these outlets. Kennedy concludes that “many more Pennsylvanians produced more crops for markets than previously assumed.” His work is persuasive because, unlike Lemon, he is able to document actual sales rather than needing to rely on extrapolation as Lemon often did. Kennedy also makes other important observations. His estimate for average farm acreage is significantly lower than Lemon’s (88 vs. about 125 across the region); and he contends that given their limited space, a typical farm family would have less diversified production than Lemon assumed. In other words, all southeastern Pennsylvania farms were diversified, but they didn’t all produce the same broad mix. It was the collective total that created the overall diversification.¹²

It is important to keep in mind Kennedy’s observation that even though colonial Pennsylvania farms collectively produced an astonishing variety of items, typically on an individual farm agriculture took place on a quite modest scale. In the first instance, clearing took a long while, and well into the eighteenth century most southeastern Pennsylvania farms still had large uncleared spaces. Farm families might actually be tilling perhaps only half of the total. Lemon estimates that on a farm of 125 acres, about 46 would be cleared and planted with small grains, fiber plants, vegetables, and fruit. Advertisements from the Pennsylvania Gazette describing York County farms for sale mentioned small acreages cleared. For example, an October 5, 1769 ad in the Pennsylvania Gazette listed a York County farm with “250 acres, 60 acres cleared.”¹³

Labor and Land Tenure, c. 1750-1830



Kleiser log house, Davidsburg, York County, late 1760s. Joseph Kindig characterizes this building as an “early settler’s house.” Historic American Buildings Survey. Reproduction number HABS PA,67-DAVBU.V,1--2

Labor and land tenure were intertwined during this period. Tenancy was a pervasive institution in southeastern Pennsylvania during the colonial period. Figures have not been separated out for York County, but tenancy was probably a factor in York County as elsewhere.¹⁴

Below the owners and tenants were others whose poverty and low status often meant they could not even belong to the ranks of “taxables.” Farm workers were often “bound” or “unfree” in some way: some were family members, and others were un-free redemptioners, indentured servants, cottager tenants, or (infrequently) slaves. In York County, for example, a 1773 ad in the *Pennsylvania Gazette* requested information leading to the capture of two indentured servant men in their early twenties, one from the north of England and the other Irish.¹⁵

Much farm work did not even involve raising crops or livestock at this early time. Early settlers took advantage of Indian clearances and “deer pastures,” but agrarian families and hired workers still had to apply much energy to clearing, plowing, and fencing before any planting could take place. Clearing generally involved felling massive trees and cutting them into logs, making potash or lumber, and pulling stumps – all done without major mechanical aids.¹⁶ Breaking land was done with rudimentary equipment as well. Early fencing laws required that crops be fenced in, and probably most fencing was the “worm” type, with split rails stacked in a zigzag pattern. Again, making the fence and erecting it was almost all done by hand. The clearing process continued long into the 19th century.

By the late eighteenth century, laborers were beginning to spend some time making meadows. A few York County advertisements referred to farm meadow acreage, both actual and potential. Robert Bucher, in an article on “Meadow Irrigation in Pennsylvania,” explained how this was done. Meadows occupied low lying areas along streams. Using the stream waters, farm people dug irrigation ditches, made dams, and cut outlets into the ditches at intervals. They diverted water from a stream along a ridge and let the water run back down along the slope by gravity. Bathing the grasses in water increased the productivity of these meadows and thus of the farm animals that ate the resultant hay. At haying time, the dam was shut and the meadow allowed to dry out before the hay was made. These works required large outlays of labor in initial construction, and then also they demanded continual maintenance. As well, often animals had to be fenced out of the meadow area.¹⁷

Once cultivating and livestock raising got underway, men and women worked together in complementary tasks. Michael Kennedy, Joan Jensen, and Lucy Simler have persuasively documented that women performed a very large portion of agricultural labor, not only in tasks traditionally associated with women (spinning, dairying, needlework, cooking, poultry keeping, gardening, food preservation, baking) but field work as well. At haying time, for example, the men cut the grass, while women followed and raked it. An 1828 document described “as many as a hundred reapers, both men and women, with the sickle, worked in one field as a gay, lively company” in West Manchester Township. Miller shows man and wife dividing piles of potatoes to peel, and the woman grating cabbage and the man stamping in their cellar. Women and men worked together in other tasks such as rye harvest, flax pulling, and apple gathering.¹⁸

As the accounts above suggest, not only did men and women work together, but neighbors exchanged work continually. Huskings, snitzing, apple butter making, butchering, haying, and many other tasks were accomplished communally.

Whatever the work, it was generally accomplished with simple hand tools. John Gibson’s *History of York County* characterizes the colonial period as an “era of experiment.” Oxen were the typical draft animals and equipment was minimal. Plow, scythe, hoe, and sickle were important hand tools. One county historian says the grain cradle replaced the German sickle around 1805, but that the German sickle continued to be used for cutting rye. Other jobs were facilitated by tools such as flax brakes, spinning

wheels, cider presses, and the like. By the early 19th century, farm technology was beginning to change; the cast-iron plow became more widely used, for example.¹⁹

Buildings and landscapes, c. 1750-1830

Houses, c.1750-1830

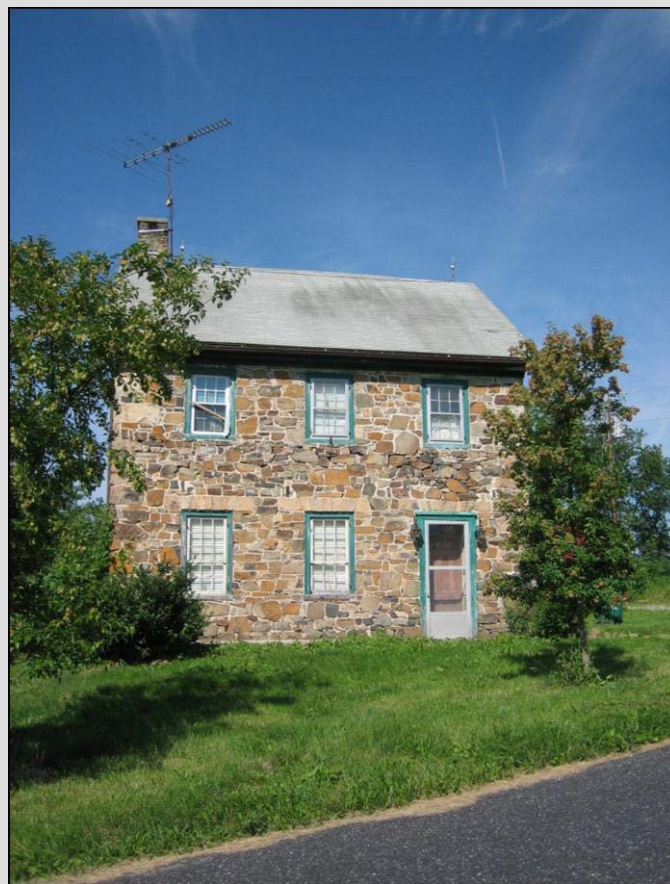
The earliest dwellings in the region would have been small, one or two room, single story log houses. Even as late as the 1798 Direct Tax, these small structures abounded, but were joined by more substantial log houses, and a few fine stone or brick farm houses. In Davidsburg, the Historic American Buildings Survey documented a modest stone and log house dating to the late 1760s. Lewis Miller's drawings depict several of these types, including the one-room log cabin and the center-chimney house, executed in log. Local architectural historian Joseph Kindig has described some early rural York County dwellings. These mainly Germanic style dwellings had signature architectural features: asymmetrical fenestration, double attic, roof "kick," two or three room ground floor plan, vaulted cellar, and five plate stove heating, and heavy, simple interior trim. A few *fachwerk*, or half-timbered, buildings survive. The larger dwellings have tended to survive disproportionately. The local historic district architectural survey notes what it calls "English" influenced, "Moravian" style, "Georgian" style houses, and Germanic three-room plan houses. By the late eighteenth century, fine "Georgian" five-bay, center hall two story houses were appearing. As time went on, architecture blended various cultural repertoires subtly.²⁰



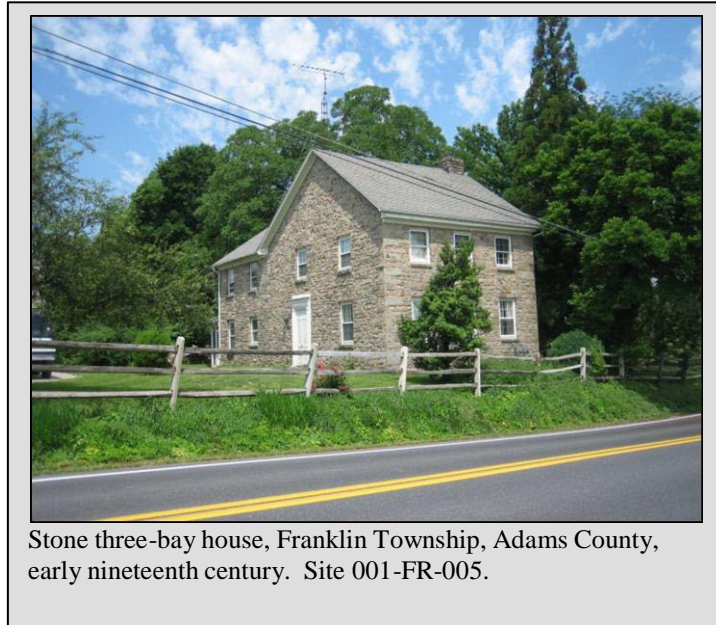
Stone five-bay house, Latimore Township, Adams County, c. 1815. Site 001-LA-005.



Stone banked house, Codorus Township, York County, c. 1830. Site 133-CO-001; also documented as the Jacob Meckley Farm, Pennsylvania Historic Resource Survey Form Key Number 094313.



Stone three-bay house, Huntington Township, Adams County, early nineteenth century. Site 001-HU-007. This house has evidence of a former pent roof across the front eaves.



Barns, c. 1750-1830

Farms in this period had relatively small cleared acreages, and the livestock grazed in forests and open pastures. Large barns were therefore uncommon. The 1798 Direct Tax enumerators made a special point of distinguishing the few “bank barns” from the “log barns,” suggesting that most barns were unbanked and built of log.²¹ Those that can be documented either in the field or through archival sources were small, usually built on one level, and most often built of log. Reflecting the varied cultural repertoires of settlers, early barns drew from different building traditions. The York County historic district survey, for example, identifies what they call an English style “tithing” barn of “T” configuration – a three-part barn with large entrance in the center eaves side. Other early barns in the county did have forebays, but were quite small. The classic Pennsylvania forebay barn began to be more common in York County in the early nineteenth century.²²



Ground barn, Dover, York County, date unknown, but possibly c. 1830. Historic American Buildings Survey. Reproduction Number: HABS PA,67-DOV,1--1

Outbuildings, c. 1750-1830

Outbuildings were not plentiful in this period, but the demands of the farm economy did result in the appearance of some types that would later become further developed.

Advertisements in the *Pennsylvania Gazette*, for example, mention “kitchen, barn and stable, a good stone springhouse, wash and meat house”; smoke house; “stabling and cow house,” and “smithshop.” Field study has documented a few extant outbuildings that may date from the period.



Log crib in a Pennsylvania forebay barn, Codorus Township, York County, c. 1820-40. Pierceville Run Historic Agricultural District.

Kitchen: In the Direct Tax records and into the early nineteenth century, a separate “kitchen” was sometimes mentioned. This small building would have been used for cooking, baking, and washing. The term “summer kitchen” had not come into common use, nor had the cookstove appeared along with its possibilities for an elaborated diet. So one basic difference between the colonial and early national “kitchen” and the later “summer kitchen” was the presence of a fireplace in the former. It seems that the earlier “kitchen” was more likely to have been used year-round than its 19th-century descendant.



Log kitchen, Codorus Township, York County,
c. 1820. Pennsylvania Historic Resource File
Key #094285.

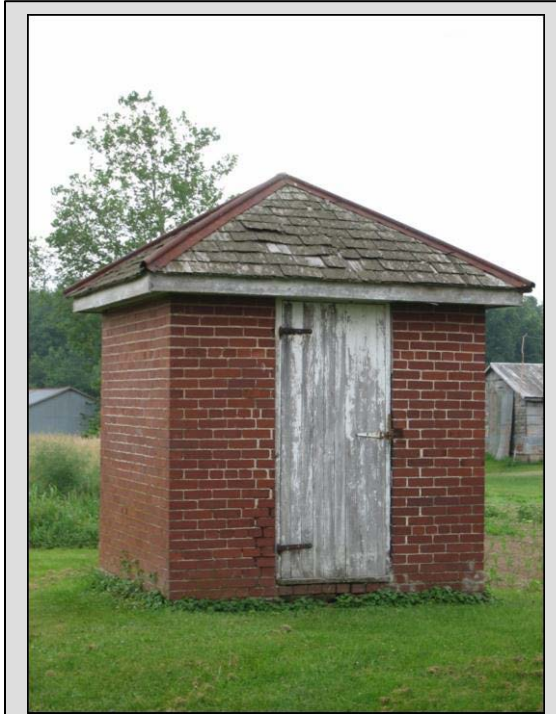
It may have supplemented kitchen facilities in large dwellings, or supplied primary kitchen facilities for small dwellings. Quite a few small dwellings listed in the 1798 Direct Tax were accompanied by kitchens.



Log kitchen, Latimore Township, Adams County, early 19th century. A large beehive oven protrudes from the end nearest the house. Site 001-LA-005.

Springhouse: The springhouse was a key site for dairy work. It was constructed of masonry or frame over a spring or over a running stream, and it was often banked. Springhouses could be a single story, but often had a second story that served for storage, dairy processing, or sometimes even residential quarters. The point of the springhouse was to provide a cool space and fresh water. Stone-lined channels or tanks were carefully engineered to take full advantage of running or spring water. These would enable the dairy-women to cool milk and other perishable food items. Shelves were arranged so that milk pans could be set on them, and cream could rise. Churning, salting, working of butter could also take place in or near the springhouse. Their location is often given away by willow trees.²³

Smokehouse: This small outbuilding was central to Pennsylvania German foodways, since it was the place where meat, mainly pork, was cured.



Smoke house, Butler Township, Adams County, c. 1840-60. Site 001-BU-006. This building probably falls a little outside the period, but it represents the type well.

Still house: Another building which appears occasionally in the Direct Tax lists is the distillery or still house. Historians have noted that many farms had stills between 1810 and 1840. No still houses were firmly documented in field survey work, but folklorist Amos Long noted that other buildings could be used for distilling. A source of running water and a heat source were needed. Architectural historian Nancy Van Dolsen documented two still houses in neighboring Cumberland County, both dating c. 1800-1825. They were banked, built of stone and were rectangular with a large length:width ratio, measuring about 12 by 20-24 feet. A stream ran through a channel in the lower level floor and there were stone troughs there also. On the upper level were "...a gable end door, just slit openings for light, and a fireplace."²⁴ Spring houses could be, and were, used for distilling. In particular, it would seem that springhouses with an upper level fireplace would be well suited to distilling.²⁵

Landscape features, c. 1750-1830

Advertisements for farms in this period demonstrate that cleared acreage was small and woodlots were large. Small farmsteads stood in the middle of small clearings, surrounded mainly by woodland. Fencing must have been minimal – perhaps some

paling around the house or “worm” fencing. Mainly, crops were fenced in, and livestock roamed freely. Except for the occasional property line marked with hedgerow or treeline, this landscape has largely disappeared.²⁶

Small farms, mechanization, and new markets, c. 1830-1885

Several important trends combined to reshape the region’s agricultural profile in these years. Farm size declined significantly, but cultivated acreage increased. New markets stimulated a new farm system focused on combining cash crops with livestock raising. Mechanization took off. Overall, the system in these years developed into a rich, elaborate, highly diverse and intricate mix which balanced cash trade, home production, and barter. The farm landscape evolved correspondingly, and many houses, barns, smoke houses, summer kitchens, and other buildings date from the nineteenth century.

After about 1830, the economic relationships among York County, Philadelphia, and Baltimore shifted. According to Jo N. Hays, transport innovations and the rapid industrialization of Philadelphia, combined with its access to British ports, solidified Philadelphia’s hold on the southeastern Pennsylvania hinterland. Baltimore declined as an economic factor in York and Adams Counties’ histories from this point (though strong cultural and social ties remained). Another important development was a mini-industrialization process in York city itself. Various iron manufacturing businesses, including locomotives and agricultural implements, were established there, thus creating non-farming markets and significant wealth.²⁷

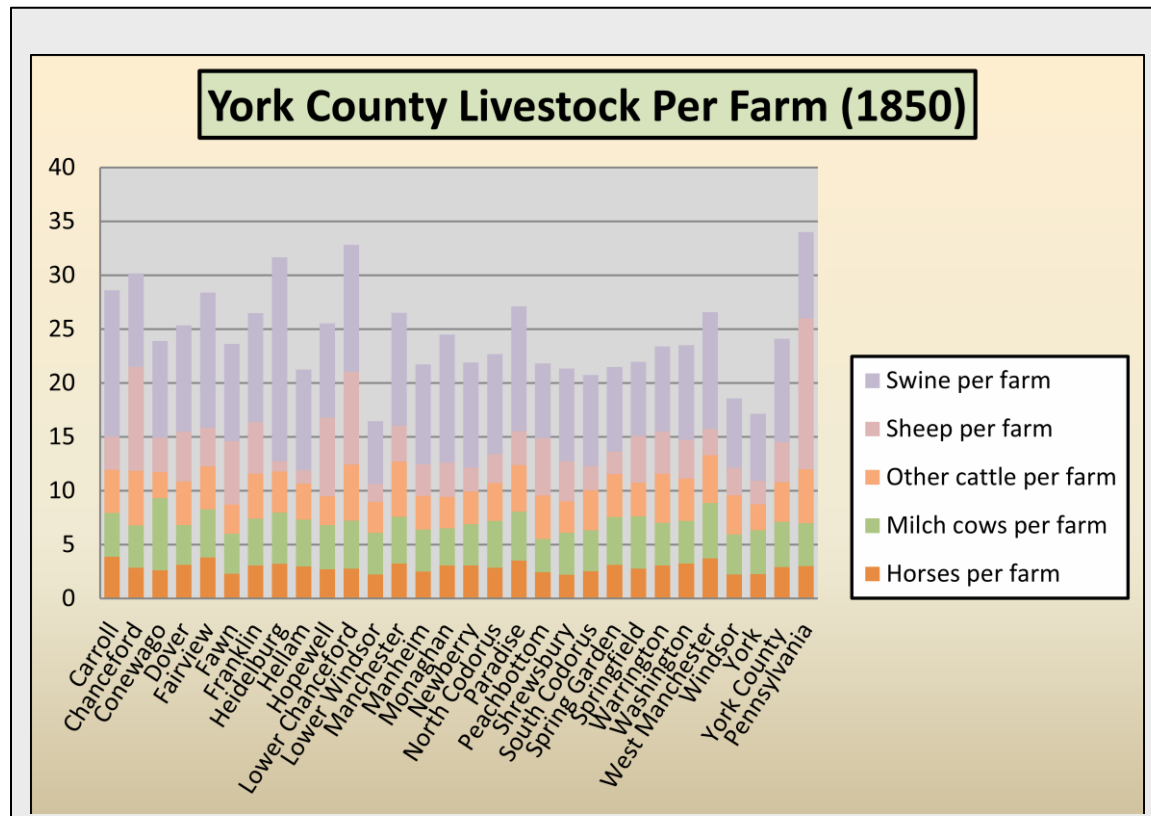
Products, c. 1830-1885

During the nineteenth century, the product mix in the region was shaped by several factors. Most notably, farm size in the region declined much faster than in Pennsylvania as a whole. Farm size everywhere in the state declined, but the drop occurred more drastically in some areas than in others. So, for example, in 1850 York County farms were seventeenth from the bottom in terms of average farm size; by 1880 they were seventh from the bottom (always excluding Philadelphia) at just around seventy acres. One plausible way to interpret this shift is to infer that farming families in the region were more apt than others to choose a strategy of subdividing farms and developing them, rather than moving on to seek fresh lands. This may be linked to Pennsylvania

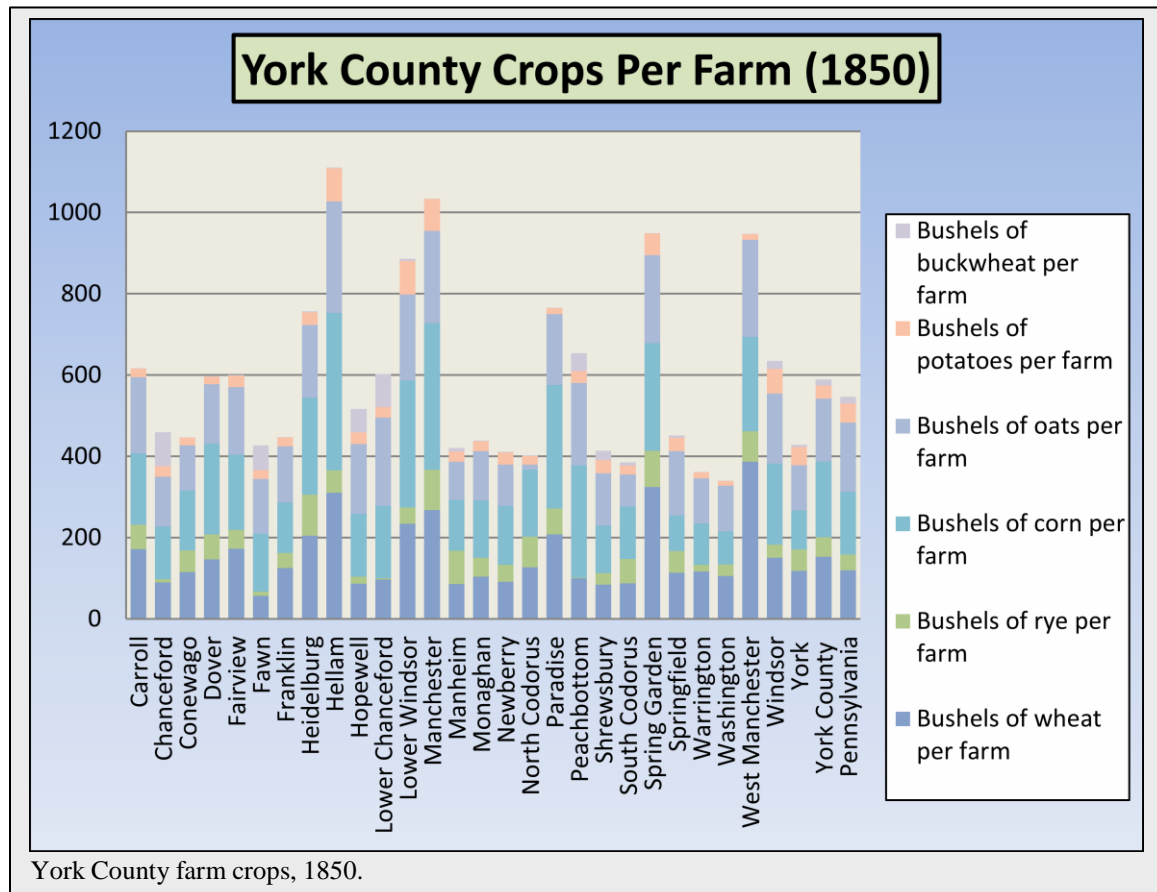
Germans’ cultural tendencies to value family ties and stability. However, the good soil quality and rising local markets also made it feasible to develop and subdivide, regardless of ethnic affinities. For even though farms in the region were small, their improved acreage exceeded or equaled the state average. In other words, a very high percentage of farmland was under cultivation rather than in wood or pasture.

A second important trend was the rise of domestic markets, and of transport links to those markets. A rail link between Baltimore and York opened in 1838. Soon afterward goods could be shipped by rail across the river towards Lancaster and Philadelphia, and in 1851 rail lines went north along the river to Carlisle and Harrisburg. Lines also extended into eastern Adams county, linking up with the major North-South line at York. These outlets allowed farming families to amplify the diversified product mix developed in the previous period. Crop farming still predominated, but it was now complemented by livestock raising, resulting in a varied mix of marketable products.²⁸

A typical York or eastern Adams County farm in 1850 produced at or above state levels in field crops. Generally, wheat, corn (maize), and hay outputs were higher than average, while oats were grown in rotations and for horse feed; and buckwheat, potatoes, and rye raised in small quantities. Fiber production (flax, wool, hemp) declined as cotton goods



became more widely available. Instead of going to the distillery, wheat and corn more often went either to flour mills, to urban markets, or to livestock feed. Hay content and quality changed. Timothy and other “tame” grasses were introduced, and upland meadows came to be favored over the labor intensive irrigated lowlands. These new grasses produced more nutritious feed.



Overall, while farms were getting smaller, crops got bigger. The increase was due to two factors. One was simply greater cultivated acreage obtained through clearing.²⁹ The second was rotations. Rather than allow land to recoup fertility through fallows, new practices involved careful rotation of grain and grass, augmented by manure and sometimes lime. Probably rotations helped at least to stabilize per-acre yields, if not improve them; and they also put more land under cultivation. According to “official sources,” York County ranked second only to Lancaster for wheat yield per acre, and fourth in the state for corn, in 1882.³⁰ Manure was obtained by confining livestock (as opposed to letting them graze freely in woods and pastures), and grain and hay in turn were fed to livestock, creating a self-sustaining cycle.

Tobacco appeared as a cash crop in York County around the mid 19th century. Poor quality tobacco had been grown for a while, but a local historian attributes the introduction of better quality strains to a York County man who brought in new seed around 1840. Tobacco was grown along the Susquehanna River shoreline, then it was packed in York, Wrightsville, and Columbia. About 1850 a York County merchant introduced Connecticut seed leaf and that took hold. Since 1865, said a local history, “it has been grown extensively in the shale soil in the southeastern section of the county... Fawn, Lower Chanceford, Chanceford and Windsor Townships...” By 1880, when U. S. Census of Agriculture published a special report on the crop, York County was second to Lancaster in Pennsylvania tobacco acreage, with 4,500, and in production, with 5.7 million pounds. Lancaster was far ahead with 29 million pounds, but the tobacco industry in York County was significant enough to stimulate cigar factories in Hanover, Red Lion, Dallastown, York, and other towns. York County tobacco production continued to increase until around 1910, but thereafter it dropped off steeply while Lancaster County production surged.³¹

In York and Adams Counties, typical farm livestock were found: horses, oxen, dairy cows, beef cattle, swine, and sheep. York and Adams had far fewer sheep than elsewhere, and significantly more swine. Otherwise, the numbers did not vary too much from state averages. In pockets, livestock specialties appear to have been important. One historian, for example, says that around 1870 fattening cattle became “a very important business. Thousands of them are sold annually in the town of Hanover and shipped to Baltimore and Philadelphia. In the fertile lands round York, and in many sections of the county, farmers find the fattening of cattle a profitable business.”³² It is quite possible that cattle feeding and tobacco farming went together. This was a prevalent strategy in Lancaster County, for the labor requirements and manure generated made cattle feeding a good ally for labor intensive, nutrient-hungry tobacco. However, stock farming was also popular in Adams County, though little tobacco was grown there. The Adams County atlas for 1872 contained a directory in which “Farmer and Stock Raiser” was a very common listing.³³

Poultry were kept for meat and eggs. Dairy production was somewhat lower than the state average, but even so, farms in the region normally produced a butter surplus for sale. Considering their small size, farms did well in dairy production.

As before, farms produced a great variety of items that often do not show formally in the farm census. The apple orchard typically had fifty to one hundred trees; in fact, the York Imperial apple, long a staple in the state, originated here.³⁴ The fruits went into apple butter, cider, schnitz, vinegar, and sauce. A large vegetable patch provided edibles like cabbage, carrots, greens, turnips, rutabagas, radishes, onions, squashes, peppers, corn, beans, beets, broccoli, cucumbers, tomatoes, and celery. These all had to be processed or stored in one way or another. Pears, cherries, and peaches were also grown. Raspberries, strawberries, gooseberries, asparagus, and rhubarb were also popular. The farm wife kept busy making pickles, sauerkraut, preserves, and jams, as well as drying beans, apples, and corn. In short, the family's dietary variety probably increased during the nineteenth century, and with it the work required to sustain it.

Also as before, nearly every farm product could have multiple uses and destinations. To be sure, cash markets were increasingly important, but most products could be sold or channeled to family sustenance, barter, or livestock feed. Hay and oats, for example, could be traded to neighbors, sold to urban markets, or fed on the farm. The wheat crop, taken to the miller, might be turned into flour, a portion of which was kept for the family and the remainder sold. Corn meal was still a popular human food, but corn was fed to animals and ultimately reached cash markets in the form of pork.

Labor and Land Tenure, c. 1830-1885

Family and neighbors still supplied the most labor. This meant everyone; observers continued to note that women and girls worked in the fields.³⁵ About the same time, the transition from bound to free labor was completed. Wage workers, hired in an open labor market, were more in evidence. These extra farmhands helped provide the labor that enabled farmers to put more of their acreage into production. In York County, male farm hands could command \$10-15 a month and board except during harvest and haying time, when they made a dollar a day. Female "domestics" made far less.³⁶

No hard quantitative figures on tenancy are available until 1880, when 27% of farms in York and Adams County were tenanted. This was slightly higher than the state average of 21%. Kinship-based share tenancy was likely the predominant form. Pennsylvania German families commonly practiced kinship-based share tenancy, which derived from an Old World custom called the "Altenteil," or "old people's part." Younger family

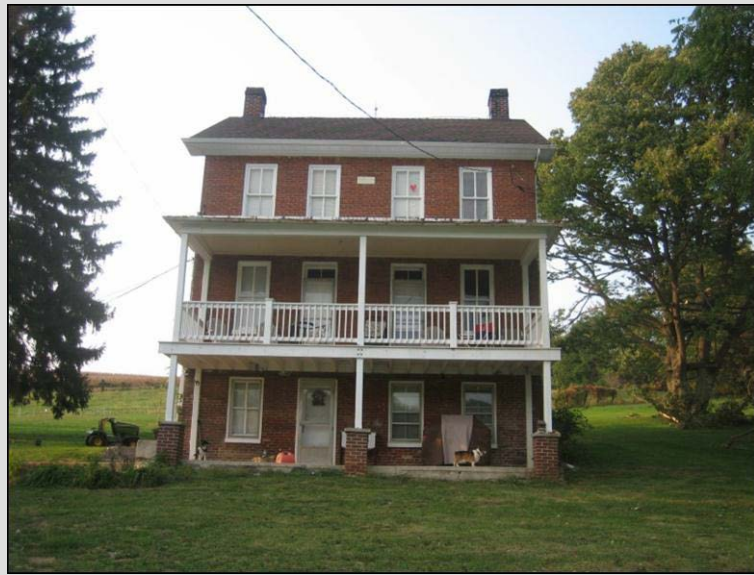
members worked land in return for a share of the crops, often splitting the shares with a widowed mother or with a father who had retired from active farming. Patriarchal control characterized the system: as father, uncle, or father-in-law, the landowner exerted considerable control over the tenant.³⁷

Industrialization affected farm labor patterns significantly during the nineteenth century. This was a period of farm mechanization which gradually reduced the demands on human power and released workers for nonagricultural pursuits. York City and Hanover were home to several important agricultural implement manufacturers, so mechanization in the countryside proceeded relatively early; despite their small size, both York and Adams Counties had mechanization levels well above the state average in 1850. Historians noted threshing machines, reapers, grain drills, and cast iron plows. These implements were mainly used in grain culture and harvest and so attracted attention.³⁸ However, many other machines appeared which saved labor, from hand cranked apple corer/peelers to fodder cutters to fanning machines. It is possible that in the aggregate, the impact of these smaller tools was as great as that of the reaper, which after all was used just a few weeks out of the year and on only one or two crops.

Buildings and landscapes, c. 1830-1885

Houses, c. 1830-1885

The 19th century saw a remarkable flowering of house construction in the region. Frame and brick tended to be the preferred materials. Period ornament appears sparingly and was often behind the times style-wise, but the important story lies in forms. For example, substantial two and a half or three-story banked houses became popular. These typically boasted a full walk-in lower level with large kitchen facilities. The lower two stories frequently were sheltered by a double-decked porch, which had its own formal front door which might or might not be accessible from outside. The three-bay house is a common form for the period. Generally smaller than average, it reflected the small scale of farming in York County.

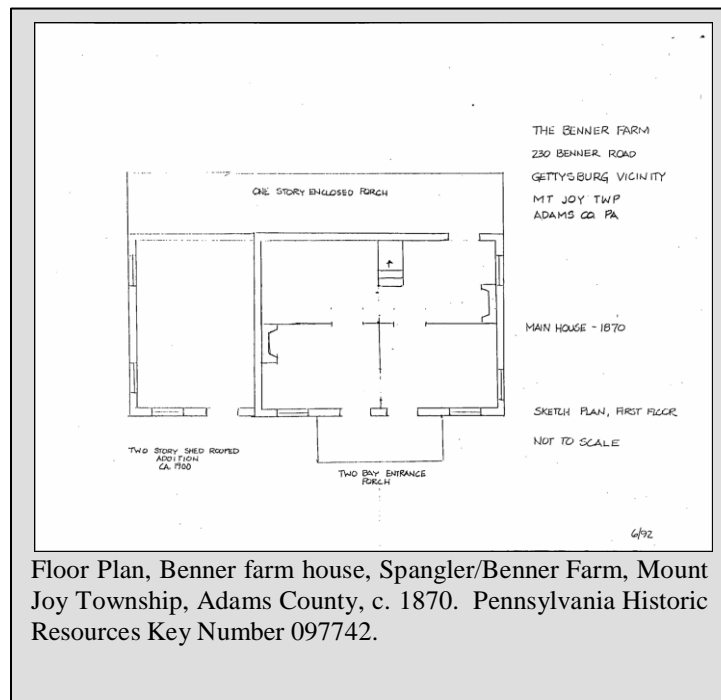


Three-level, four-bay, double pile house with off-center entry and double decked porch, Codorus Township, York County, 1882. Site 133-CO-001.



Four bay, three level house with walk in lower level and double decked porch, Codorus Township, York County, c. 1850. Site 133-CO-003.

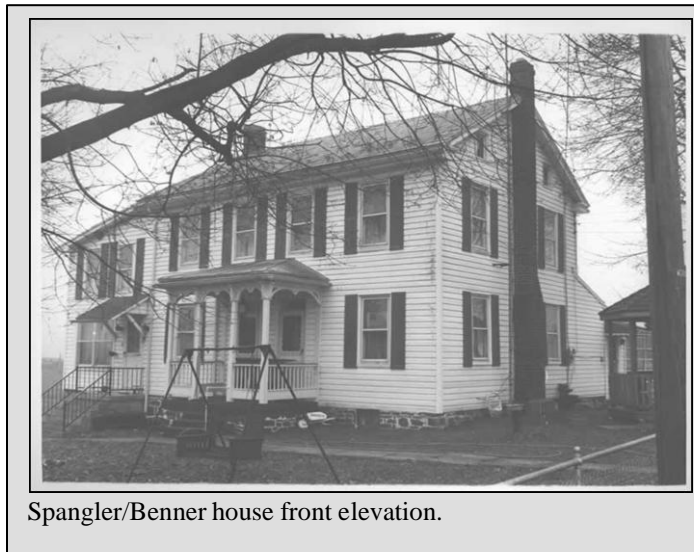
Probably more common was the form often called the “Pennsylvania farmhouse” -- the two-room deep, three-, four- or five-bay house of roughly square foot print, usually double-pile, and with an entry on the eaves side.³⁹ In the five-bay version, this entry was central, but in others it might be a side entry. The center chimney had given way to the gable end chimney. Many of these houses have date stones; see for example the house at site 133-CO-001.⁴⁰ The four-bay version is sometimes called a “four over four,” because it had four openings on each story, lined up.



Floor Plan, Benner farm house, Spangler/Benner Farm, Mount Joy Township, Adams County, c. 1870. Pennsylvania Historic Resources Key Number 097742.

The four-bay, two-door farm house was quite common in York and Adams Counties; in the Adams County township of Mount Joy, for example, in a survey of nearly 200 houses, about a third were four-bay houses, and of these, half had two doors. Some scholars have used the term “four-over-four” to describe this type.⁴¹ The Benner farm house in Adams County, c. 1870, exhibits a four-bay, two-door exterior eaves side. The floor plan shows that each door provides direct access to a front room. Two rooms are equipped with fireplaces, and two are not.⁴²

Barry Rauhauser's survey of four-bay houses in Manchester Township, York County, suggests that the façade is just as important as interior organization. He was not able to link the four-bay façade to any specific plan type. Rauhauser links the rise in the type's popularity to the historical context, particularly town-country interaction, industrialization, and nation building. The four-bay house both resembled and looked different from its predecessors. Rauhauser argues that the four-bay house was simultaneously ethnically neutral, innovative, and traditional.



The four-bay, two-door house is common, but not the only type to appear in the heavily Pennsylvania German areas. A superficially Georgian-style exterior, with center door flanked by two bays on either side, and with two windows on the gable end, was quite popular throughout the nineteenth century. As with the four-bay houses, however, the exterior may not always predict the interior.



Four-over four, double pile Pennsylvania Farmhouse with single off-center door, Reading Township, Adams County, c. 1850. Site 001-RE-005.

The “Pennsylvania Farmhouse” label applied to these dwellings is apt, for they were definitely sites of substantial farm production, especially the ones with large walk-in or basement kitchens or vaulted storage cellars. Many may have housed farm laborers as well.



Four over four house, Codorus Township, York County, c. 1850, modified c. 1875. Site 133-CO-007.



Three-bay, double pile house with center entrance, Tyrone Township, Adams County, c. 1850. Site 001-TY-003.



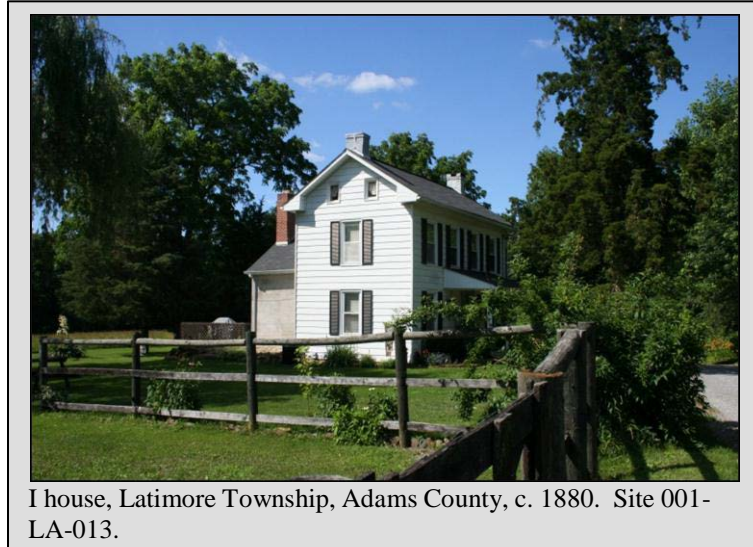
Four over four, double door house, Latimore Township, Adams County, c. 1850. Site 001-LA-006.

Another type documented in the region is the single-pile, three or four bay house with center door. These are members of the “I” folk house family and have affinities with types that are common further south.⁴³ They well suited the modest scale of agriculture in the region.

It should be noted that some farms had more than one house. The Sinking Springs National Register district in York County, for example, has a “manor” farm with several entire subsidiary farms, one of which had two houses built at different times. At least one site with two houses was documented in field study. (Site 133-LW-001) Farm tenancy and household structure probably explain this. Often multiple generations lived on a single farm, but they didn’t always share the same house.⁴⁴



Five-bay, center door house with Italianate trim, Mount Joy Township, Adams County, c. 1870. Site 001-MJ-003.



I house, Latimore Township, Adams County, c. 1880. Site 001-LA-013.

Barns, c. 1830-1885

During this period, the Pennsylvania Barn became common in York and Adams Counties. This famous type has as its main diagnostic feature the projecting 7-8 foot forebay, or overshoot. The barn is banked, and organized such that the upper level consists of central threshing floor(s), flanked by mows for hay, straw, or unthreshed grain; and one or more granaries (sometimes in the forebay, sometimes next to a mow on the bank side). The Pennsylvania Barn almost always has a gable roof. On the lower level, stable and stalls (organized crosswise to the roof ridge, separated by alleyways for humans) housed horses, milk cows, beef cattle, and sometimes sheep or hogs.

The Pennsylvania Barn was a highly flexible form. It ranged in size from just twenty feet long to over a hundred. It could also accommodate features such as an "outshoot" or "outshed" that would extend back from the bank side; multiple threshing floors and haymows; a root cellar; a corncrib/machinery shed extension; a machinery bay on the lower level; or a 'horse power' on the bank side, or sometimes in the basement. The forebay might project unsupported, or it might have supporting endwalls or posts. Nomenclature for these various features varies, too. But, it is important to remember that in order to be considered a Pennsylvania Barn, a barn must have these essential features: a projecting forebay and banked construction, almost invariably with the eaves side in the bank.



Pennsylvania forebay bank barn, Codorus Township, York County, c. 1875. Site 133-CO-005-002.



Pennsylvania forebay bank barn, Codorus Township, York County, c. 1875-1890. Site 133-CO-006.

The Pennsylvania Barn exemplified and facilitated the new grain-and-livestock agriculture. That is why it appeared when it did. Historian Steven Stoll has compared the Pennsylvania Barn to a cow – taking in raw materials and producing milk, meat, and manure. Indeed, the barn promoted productivity and its stable level and yard functioned to collect the valuable manure (generated with feed stored in the upper levels) and to combine it with straw to make it the perfect dressing for crop fields. A local historian wrote that “straw, grain, corn stalks, and refuse from the stables” were “trampled under the feet of fattening cattle during the winter. The barn-yards were cleaned once a year... and this refuse was spread over the fields and plowed under the soil.... the farmer who had a large barn-yard full of manure to haul out, after harvest, was looked upon as a model.”⁴⁵



Ground barn with forebay, Mount Pleasant Township, Adams County, c. 1875-1890. Site 001-MP-002.



Ground barn with partial forebay, Reading Township, Adams County, c. 1880-1900. Site 001-RE-006.



Pennsylvania forebay barn with ramp in the gable end, Reading Township, Adams County, c. 1875-1890. Site 001-RE-004.



Weikert barn, Gettysburg National Military Park, Adams County, c. 1798 with later alterations, photographed 1934. Historic American Buildings Survey, digital ID <http://hdl.loc.gov/loc.pnp/hhh.pa0020>.

With its rational, centralized organization and gravity-fed multi-level arrangement, the Pennsylvania Barn also represented a response to an increased need for labor efficiency. Provision for horses reflected mechanization.

The Pennsylvania Barn was definitely the most prominent type in the region, but it was not the only type. The barns preserved within the Gettysburg Battlefield National Park grounds in Adams County show a snapshot of barn variety in 1863. In addition to grand Pennsylvania forebay bank barns such as the Eisenhower Farm Two barn, there were “double log” (i.e. double crib log) barns at the Snyder and Bushman properties, neither of which conformed to standard Pennsylvania banked forebay form. The Lydia Leister

barn, c. 1848, was a log and frame “English” style threshing barn. Field survey work in 2009 and 2010 confirmed that forms other than the standard Pennsylvania bank barn were a significant minority in the region.

Tobacco Barn, c. 1830-1885

Tobacco was an important product in concentrated areas during this period, so a few tobacco barns survive. Atlas maps show tobacco sheds and directories from the 1870s list a few “tobacco farmers.”⁴⁶ The National Register-listed Bixler farmstead in East Manchester Township, York County, has a 19th century tobacco barn with vertical slats.

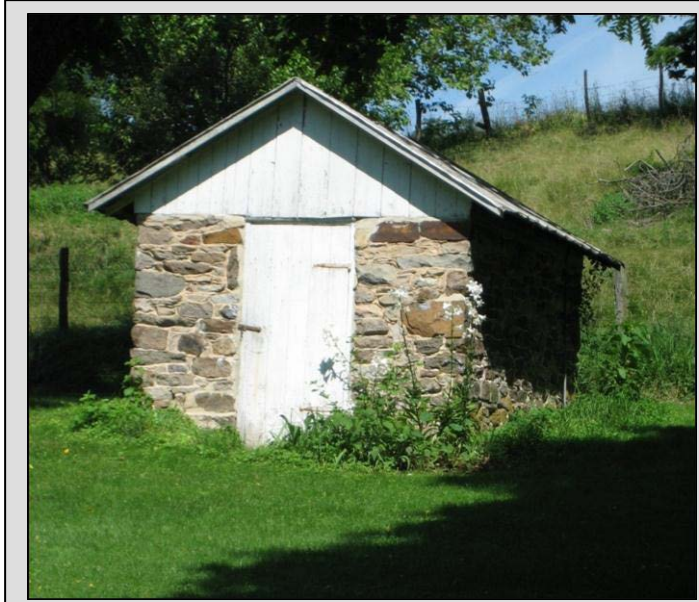


Gemmill tobacco barn, East Hopewell Township, York County, c. 1880. Photo-only site, no site number.

Springhouses, c. 1830-1885

Springhouses were quite common in the area. Springs often determined a farm site, and care was taken to protect the family’s water source. As well, springhouses provided work space for cooling milk and separating it, then for butter making and storage.

Springhouses often had two levels, sometimes appearing in combination with living quarters or a summer kitchen.

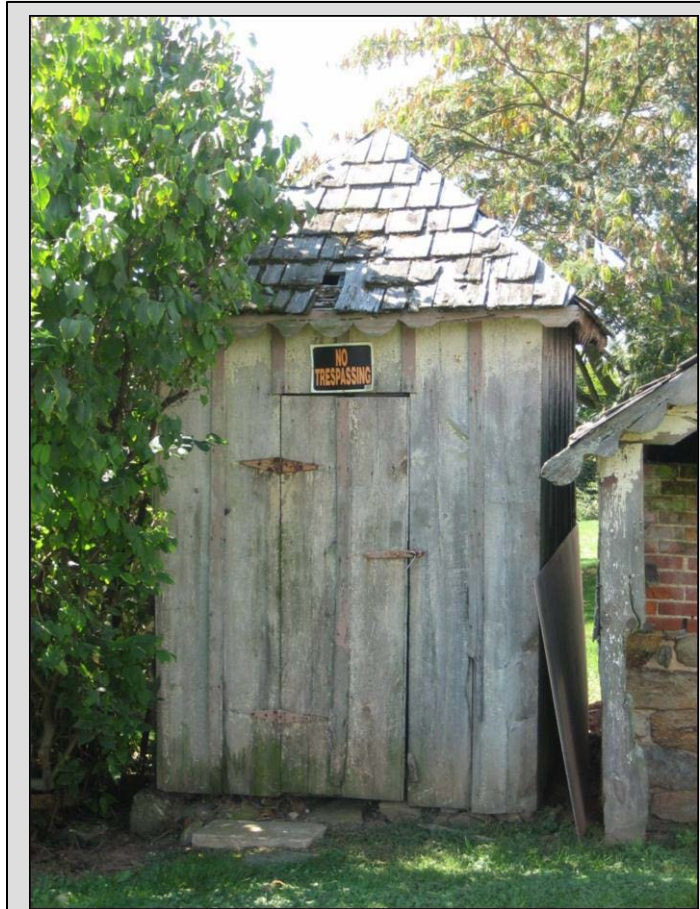


Stone spring house, Butler Township, Adams County, mid to late 19th century. Site 001-BU-004.

Smokehouses, c. 1830-1885

The hog was central to Pennsylvania German foodways. Not only was fresh pork relished, but smoked pork products, especially ham and bacon, appeared in many a Pennsylvania German dish. The smokehouse was therefore a common sight on York and Adams County farmsteads. It was usually located within the house's orbit.

Smokehouses could be frame, but probably more were brick or stone. The smokehouse was a small building with a roughly square footprint and gable or pyramid roof, and only a few small openings. Inside, hooks and nails provided a place to hang the meat, and charring confirms the building's purpose.



Board-and-batten smoke house with pyramid roof, Codorus Township, York County, late nineteenth century. Site 133-CO-003.

Summer Kitchen, c. 1830-1885

Throughout Pennsylvania in the late nineteenth century, farm families elaborated and diversified their diets. Of course rural people had long possessed numerous and subtle skills relating to food preparation and processing; but now newly available supplies and technologies reworked the possibilities. Orchards matured, garden patches expanded, products from far away became available, and to the old staples of corn mush, meat, and sauerkraut, farm families added more cakes, pies, preserves; made more poultry dishes; and slowly shifted away from pork to beef. There were several key ingredients to this change. One was the cookstove. Reliable, affordable coal-burning cookstoves were now far more widely available, just as the wood supply for traditional outdoor ovens diminished. As the cookstove replaced the open hearth and the outdoor bake oven, two important consequences followed. Cookstoves generated intense heat in the farm kitchen, so summertime cooking became difficult. Second, food preparation changed.

More separate dishes could be prepared simultaneously. Expectations rose for dietary variety.



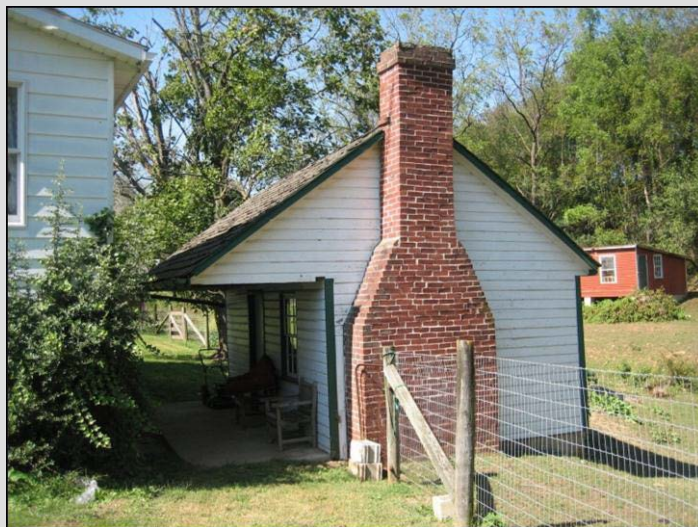
Frame summer kitchen, Reading Township, Adams County, mid to late nineteenth century. Site 001-RE-001.



Summer kitchen, Butler Township, Adams County, late nineteenth century. Site 001-BU-006.



Two story summer kitchen, Codorus Township, York County, c. 1890-1910. Site 133-CO-005.



Summer kitchen, Codorus Township, York County, c. 1860. Site 133-CO-006.

To accommodate the intensified subsistence activity, and to get the hot summertime cooking out of the house kitchen, more summer kitchens appeared. The free-standing kitchen was not a new building type, but it became more common in this period and its use was likely more seasonal than in the past. The typical York and Adams County summer kitchen would be a small detached building, usually gabled and made of frame. It would have ample windows for light, at least one door for access, a stove, and sometimes a set-kettle for heavy work. It was usually very close to the main kitchen. Sometimes a decorative cupola with dinner bell sat on the roof ridge. The summer kitchen facilitated increasingly complex and demanding women's productive work. The work was productive because it resulted in tangible articles to consume, sell, or trade. The summer kitchen's siting near the main house reflects its preeminence as primarily a women's space.

Granary, c. 1830-1885

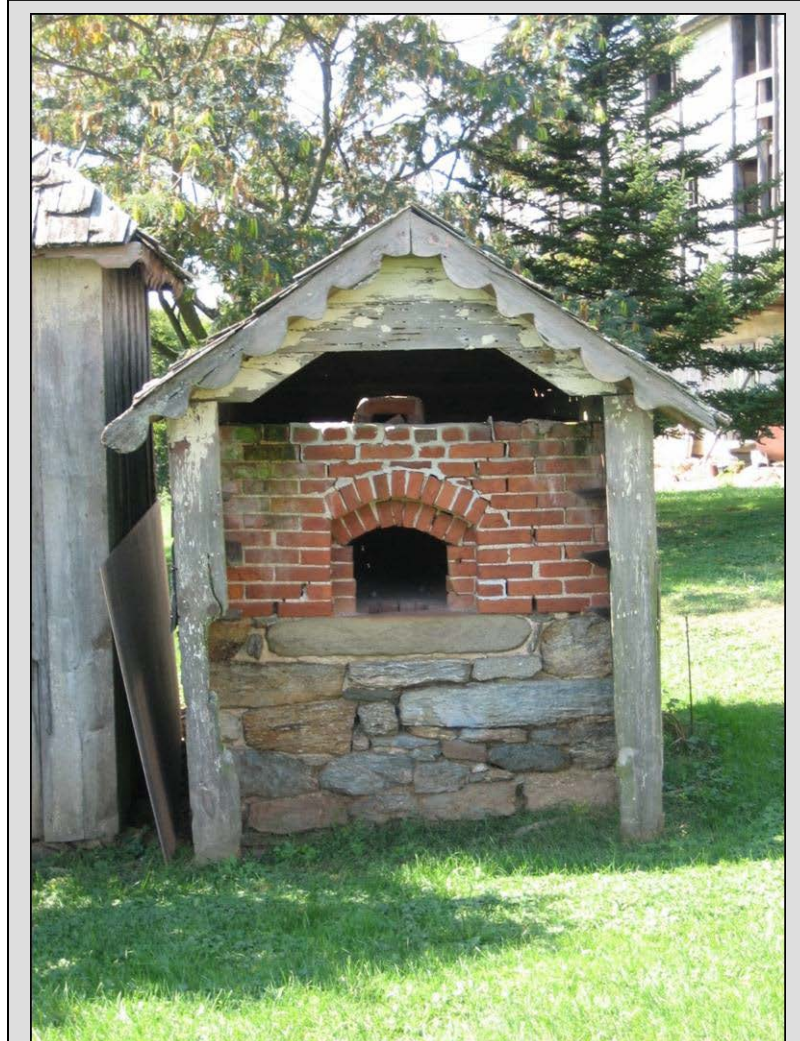
Since so many Pennsylvania forebay barns had interior granaries, freestanding granaries are not often seen in the field. However, since York and Adams Counties did produce large amounts of small grains, the occasional freestanding granary appears. These buildings are tightly clad, with no openings except for a pass door in the gable end; they are elevated above the ground for further protection against vermin; and they usually have interior bins.



Combination granary and poultry house, Reading Township, Adams County, late nineteenth century. Site 001-RE-001.

Bake House, c. 1830-1885

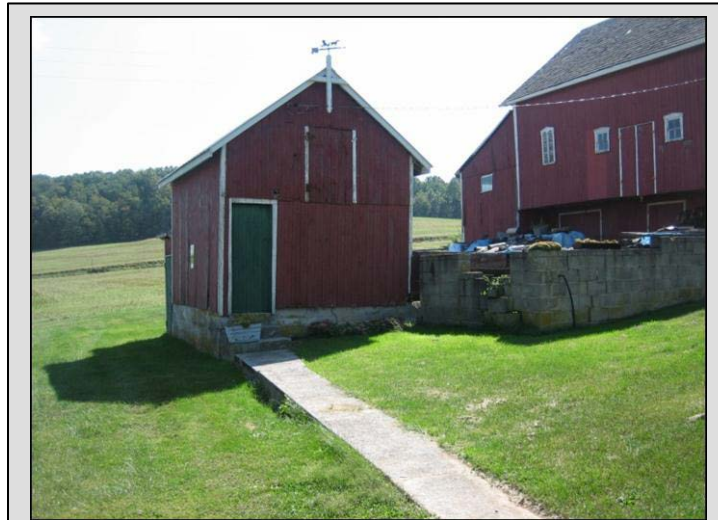
Several extant bake houses were documented in field study. Some were attached to summer kitchens and some were freestanding. These small buildings are reminders of the importance of subsistence activity well into the nineteenth century.



Outdoor bake oven, Codorus Township, York County, mid to late nineteenth century. Site 133-CO-003.

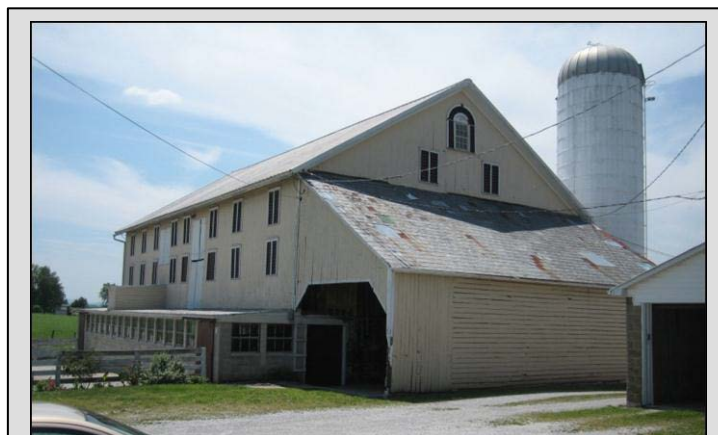
Pigsty, c. 1830-1885

Swine were very important in the livestock strategies of York and Adams County farms. Not only was pork important as a food, but hogs worked well as livestock on these small acreages. The family would slaughter a few and sell the remainder. So, pigsties are common outbuildings in the region. A few may date to the late nineteenth century, though most are younger.



Pigsty, Codorus Township, York County. This building may date as early as about 1890, though renovations have occurred that make it difficult to determine for sure. Site 133-CO-005.

Corn crib, c. 1830-1885

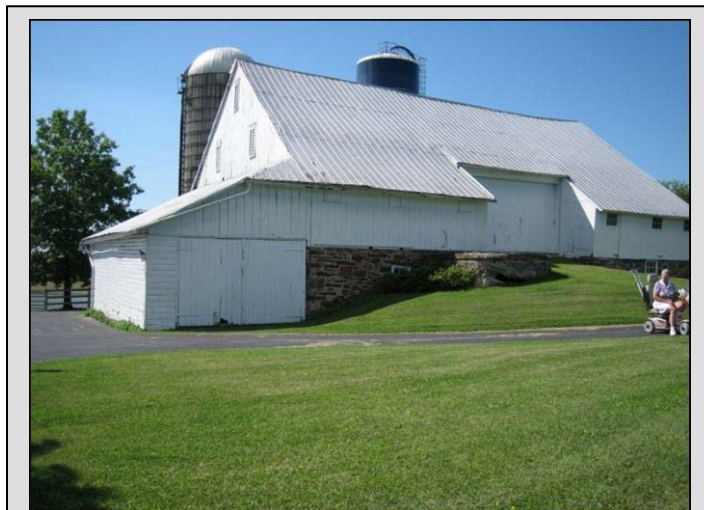


Pennsylvania forebay bank barn with shed roof machine shed/corn crib addition, Straban Township, Adams County, 1875. Site 001-ST-002.

freestanding corn cribs dating securely to the nineteenth century could be documented in field study. However, some nineteenth-century barns had a shed-roof machinery storage addition with integral corn crib.

Machine Shed, c. 1830-1885

Early machine sheds are similarly uncommon. Rising mechanization in the nineteenth century brought with it storage requirements. A Pennsylvania forebay bank barn often sufficed; machinery was stored on the threshing floor and under the forebay. Occasionally a dedicated machinery bay would appear, integrated into the barn fabric or added to a gable end.



Pennsylvania barn with shed-roof machine shed/corn crib, Tyrone Township, Adams County, c. 1870-90. Site 01-TY-001.

Landscape Features, c. 1830-1885

Little evidence remains today of nineteenth-century landscape features. We may infer that the typical farm landscape was shaped by many and small crop fields; some pasture; and small woodlots. Fencing would include “worm” fences, post and rail, and picket fencing, usually in a hierarchy as one moved closer in to the farmstead.⁴⁷



Pennsylvania forebay bank barn with integral machinery bay, Tyrone Township, Adams County, c. 1880. Site 001-TY-003.

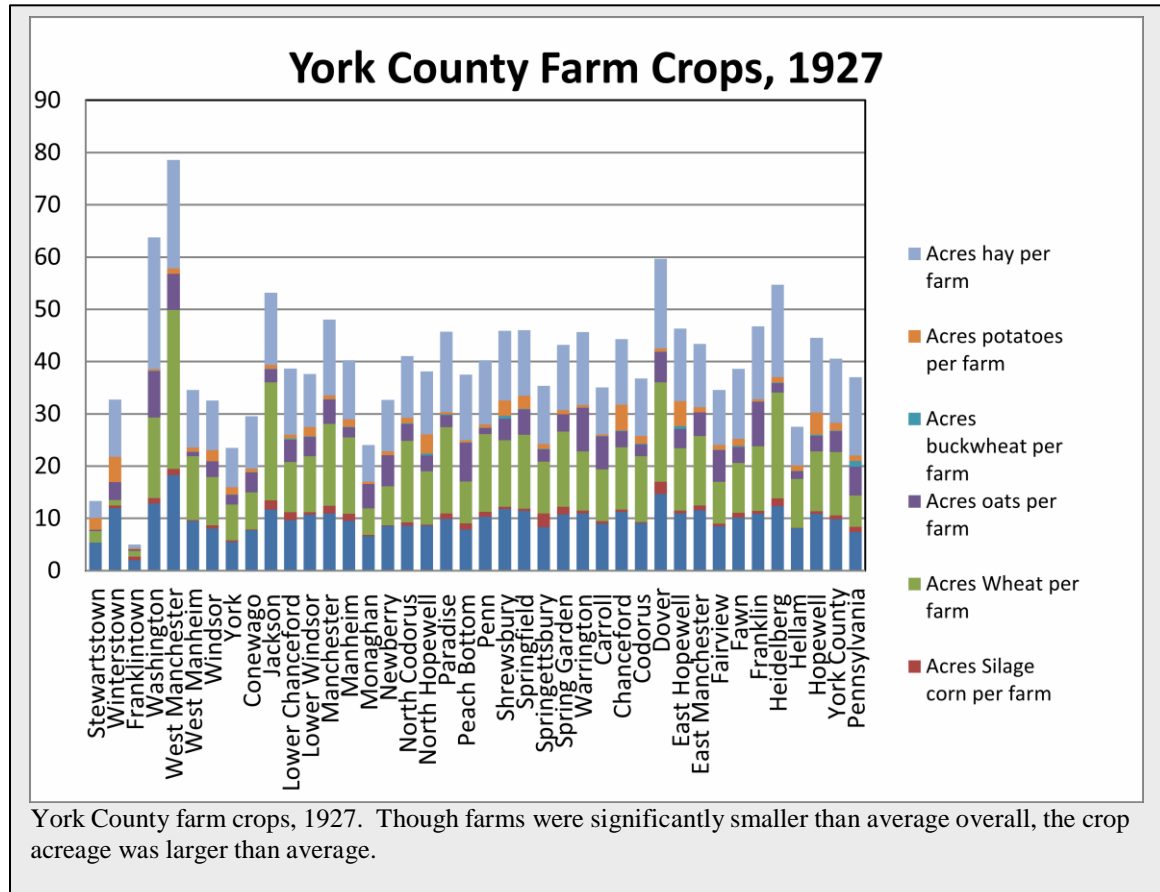
Diversified Small Scale Farming, Poultry Raising, and Cannery Crops, c. 1885-1940

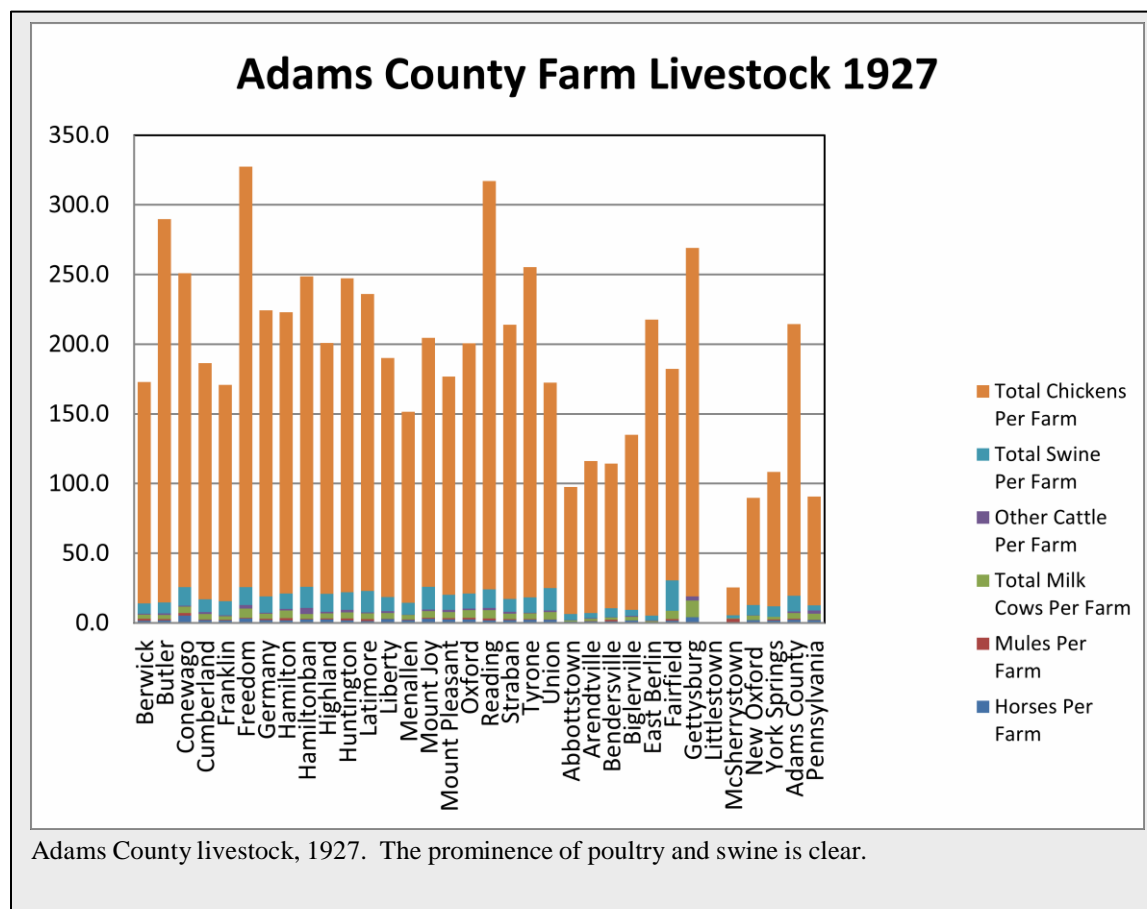
Rapid urbanization and industrialization presented challenges and opportunities for farmers in the region during this period. Both within and outside the region, markets developed along with the growth of cities. Towns in York and eastern Adams Counties became minor industrial centers, with diverse enterprises such as shoe manufacturing, food processing, and textile manufacture. These towns offered markets, and also off-farm employment. Farm size hit its low about 1910, around 63 acres, but rural population declines had begun even before that. Two agricultural depressions in the period – one in the late nineteenth century and the Great Depression of 1920-40 -- winnowed the number of farms and forced surviving farm families to make adjustments.

Products, c. 1885-1940

The 1924 Adams County agricultural extension report mentioned a display of "1700 different diversified products raised on the Lupp farm."⁴⁸ While it is hard to conceive quite this much diversification, farming in the region still was quite varied. During this period, Adams and York County farms continued with a small scale, diversified crop and livestock system. Subtle changes in proportions reflected new trends. For example, oats production declined as horses gave way to mechanized farm work. Yet more mules appeared; this interesting trend may have emerged because the auto replaced the horse for human transport, and the mule was regarded as a superior farm draft animal to the horse. The general trend in crop patterns was upward for corn and wheat acreage; flat for potato

acres; slightly downward for hay acreage; and showing more pronounced declines for oats, rye, and tobacco. Experiments with soybeans began in the 1920s, and acreage increased slightly. Wheat still went to local mills and beyond. Corn was mainly fed to animals, but there were some high producing commercial distilleries (for example Foust Distillery in Glen Rock) in the county up until Prohibition. Thus according to the 1910 agricultural census, York County farms were sixth in the state in total acreage of rye, and second in yield per acre (among large producers).⁴⁹

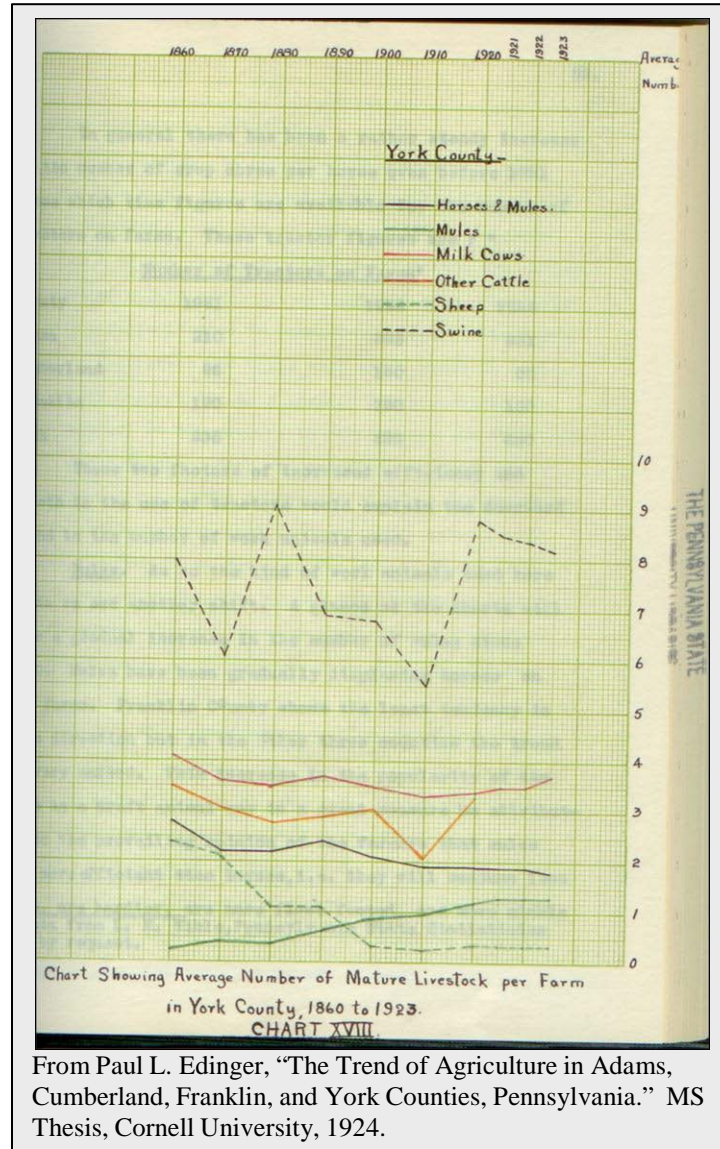




In crop production, the most important new development was the rise of truck farming and cannery crop production. Indeed, by the late 1920s agricultural economists used the label “York County poultry, dairy, and canning crops.” Canneries were among the rising industrial concerns located in the region. A 1915 Pennsylvania Department of Agriculture report listed over twenty-five establishments in York and Adams counties, mostly in small towns like Stewartstown, Delta, and East Berlin.⁵⁰ The 1930 federal census showed that vegetable crop acreage in York County alone had doubled since 1920, from 4,000 acres to over 8,000, second only to Bucks County. And the 1930 Adams County agricultural extension agent report noted that “the canning crop industry holds an important place in Adams County Agriculture [sic] as there are numerous canning plants distributed throughout the county.” Tomatoes, snap beans, sweet corn, cabbage, and other vegetables were grown for the canneries and some also sold fresh. Cannery crop acreage was distributed in different ways. Some of the canning companies owned extensive acreage and contracted for cannery crops to supply their businesses, sometimes distributing seeds or seedlings. In both counties, patches of cannery crops were grown on regular-sized farms; and in a few cases, very small farms had truck

patches.⁵¹ These crops were labor-intensive, but offered high per-acre returns. For example, a York County farm family, the Andersons, pursued a variation on the theme by growing and marketing small fruit plants and berries, principally strawberries and raspberries. Howard Anderson recalled that "jobbers, with their own conveyance, would call at the house to pick up berries to be taken to various markets." But better prices were obtained when family members took them to market at York or Harrisburg. As a boy Anderson went door to door in the city selling berries.⁵²

Livestock numbers show a more consistent pattern from the previous period than do crops. Swine continued to be important; the numbers fluctuated considerably but over time the per-farm output of swine was high. Swine keeping fit in well with corn culture; often the corn was "hogged off" in the fall. Farms kept fewer horses. The number of milk cows per farm stayed relatively steady, even declining slightly in Adams County. Beef cattle numbers were modest in both counties, though Adams experienced a slight rise in the early 1920s. The agricultural extension agent regarded beef cattle as important in Adams County; in 1931 he noted that "a large percentage of our farmers feed steers." Adams County farmers obtained their steers locally, sticking with "plain cattle... placed by local dealers."⁵³



From Paul L. Edinger, "The Trend of Agriculture in Adams, Cumberland, Franklin, and York Counties, Pennsylvania." MS Thesis, Cornell University, 1924.

Sheep, never important, disappeared altogether.

The big news in the livestock realm was the sharp increase in poultry numbers. From an average position in 1880, York County farms dramatically increased their poultry production, so that by 1927 York County farms on average kept about 200 hens, as opposed to 78 statewide. York was second only to Lancaster County in total poultry production in 1910, and by 1940 had moved into first place in the state. Adams, though a much smaller county, still ranked fairly high as well. Poultry housing figured prominently in the Adams County agricultural extension reports from the 1920s onward.

Poultry production fit well with conditions in the region. Farms were small and could sustain chicken pasture, housing, and feed needs. The burgeoning cities in the region and on the eastern seaboard were within increasingly easy reach, especially as the auto and truck and their road system appeared.

Dairying was certainly practiced in the region during this period, but it was on a small scale and in the larger context was relatively unimportant. According to the 1912 soil survey, it was carried on “almost entirely as an adjunct of general farming.”⁵⁴ The average farm in the region had only 3.5 milk cows, so even considering gains in productivity, there still wasn’t a lot of milk coming from farms in the region. The 1927 agricultural census manuscripts show that almost all farms kept milk cows, but that a small minority of farms had ten or more. Doubtless they accounted for most dairy production in the region. Fluid milk replaced farm-made butter production in this period, and the labor formerly used for buttermaking (mostly performed by women) was probably shifted over to poultry raising, washing milk equipment, and truck farming.

It is hard to tell how many farmers were using purchased fertilizers during this period, but advertisements in local directories were numerous. C. H. Dempwolf’s York Bone Mills in 1877 advertised “Pure Ground Bone, Pure Bone Super-Phosphates,” and “crushed oyster shells for poultry.” Perhaps the small numbers of cattle were insufficient to produce enough manure for the farm crops.⁵⁵

Orchards were quite important in the region. Of course, just to the west the Adams County fruit belt was taking off, but in York and eastern Adams, fruit production occupied a strong place, if not at the same specialized level. Apples, peaches, pears, and cherries were grown. An intensive pursuit that occupied relatively few acres, orcharding also fit well with small scale farming in this era before national competition forced small growers out.

Family subsistence production continued to play an important role in farm strategies. Most families (6,900 out of 7,650 in York County in 1930) still had a large garden, and put up food by canning, drying, pickling, root storage, smoking, and making preserves. The York County extension agent in 1933 noted that “a few [grape] vines are to be found on almost every farm...” Families usually butchered swine and a steer or two for home consumption. Howard Anderson’s family grew or raised nearly everything they ate.⁵⁶

Labor and Land Tenure, c. 1885-1940

By far farm labor continued to be drawn from family members and neighbors. Even vegetable growers used mainly family labor with a few day laborers at peak times.⁵⁷

York County resident Howard Anderson recalled of his youth in the 1920s: "the women fed the poultry and gathered the eggs. The men cleaned the stables and poultry houses as well as provided bedding and feed for the livestock. The women always did the milking... household chores for the women included soap making, rug hooking, butter churning, making shmierkase, quilting, and clothes making. They also made the most proficient berry pickers and often worked along with the men in the fields -- planting, caring for crops, and helping with the harvest."⁵⁸

"Part-time" farming attracted more attention during this period. Farm families had historically often practiced artisan trades or other skills along with agriculture, but the rise of industrial wage employment off the farm transformed the way they combined farming work with other work. It is not certain what percentage of Pennsylvania farms could be classified as "part-time," because those figures were not systematically tabulated until later. (By 1950, the US Census reported classified 15.5 percent of the state's farms as "part-time.") However, a 1936-8 study of "Part-Time Farming in Six Industrial Areas in Pennsylvania" included the York-Adams region in its survey. The study, undertaken by Pennsylvania State College researchers, identified and interviewed part-time farming families. The report presented some noteworthy findings. For example, three-quarters of the York-Adams part-time farmers commuted to their off-farm employment by car, travelling on average about five and a half miles. Those employed off the farm had held their present job, on average, for ten years, and had been farming for twelve. This suggests that part-time farming combined with industrial employment was not a temporary strategy but a long-term, settled way of life. The farms the interviewed subjects worked were small – only sixteen acres on average, two thirds of which was in crops. However, given the availability of off-farm employment and the fact that by 1950 over half of *all* farm operators in the county worked off the farm at some point in the year, it seems probable that part-time farming was not confined to people with small holdings but was a widespread practice among farm owners in the region.⁵⁹

The 1938 study examined the household division of labor on part-time farms, and found some significant results. York-Adams part-time farming families invested 262 days of labor a year in the farm; the father performed less than half of this work, while the

majority fell to the mother and children. The only area where women did significantly less than the male household head was in field crop production. The farming enterprise contributed significant cash income and also subsistence. Even so, the farm income accounted for less than twenty percent of family income.

The York-Adams part-time farm profiled in this study, despite their small size, did produce corn, potatoes, oats, wheat, and hay. Orchard products and small fruits were important. Just under forty percent had a cow or horse, while sixty percent fattened hogs. The most notable figure was the size of poultry flocks: even these tiny farms averaged 100 birds.

Farm tenancy in the region declined during this period. In York County, for example, the tenancy rate dropped from 29% in 1920 to 19% in 1930. Kinship-based share tenancy continued to be the dominant form of tenancy.

Buildings and landscapes, c. 1885-1940

Houses, c. 1885-1940

Few new houses were built during this period of economic stress. Farm families did begin to invest in improvements like electricity, running water, and heating. Even so, around 1930 just 40 percent of York County farms had telephones, less than a quarter had running water, and a third had electricity, so these improvements were slow in coming. In general both counties lagged behind the state regarding all farm improvements except the automobile, where they were ahead.

Barns, c. 1885-1940

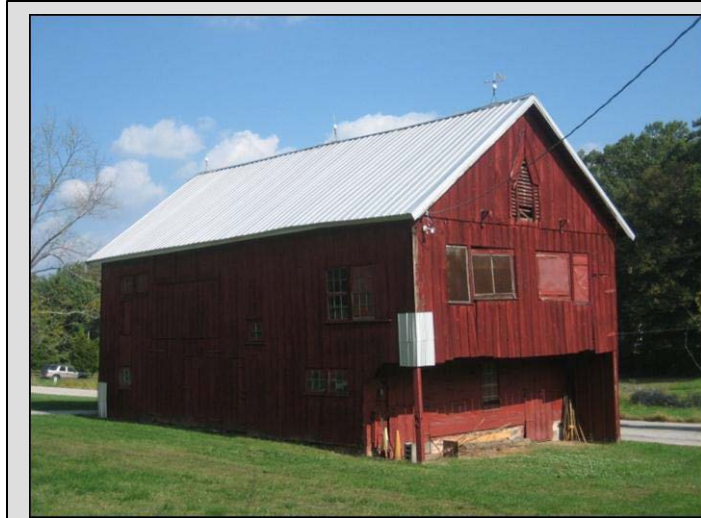
The Pennsylvania forebay bank barn continued to be popular in the region into the twentieth century. But farm people continued using other forms and also began to experiment with new types. As before, small barns and barns that were not banked seem to have been more common here than in other agricultural regions such as the Central Limestone



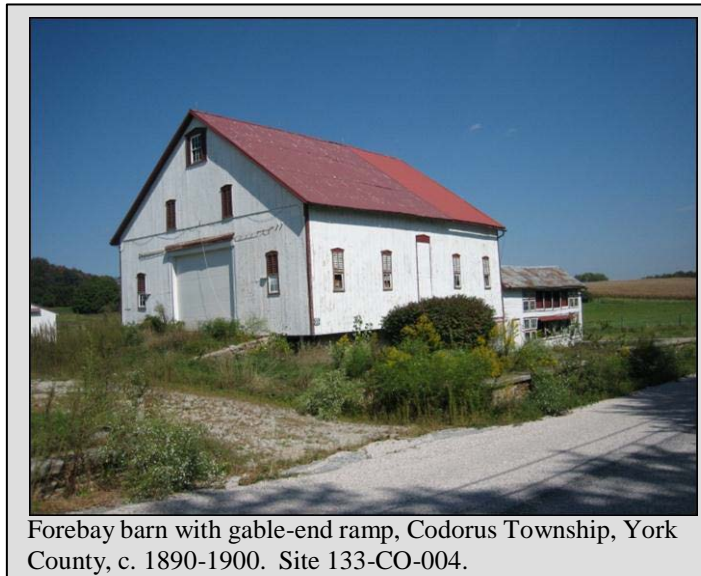
Ground barn, eastern Adams County, c. 1900. Photo-only site, no site number.



Farmstead complex, intersection of Buffalo Valley and Greenmount Church Roads, Codorus Township, York County. This complex nicely portrays the region's agricultural history. In the background is a substantial Pennsylvania forebay barn. A pigpen sits with its gable end facing. Three small poultry houses complete the assemblage. Photo-only site, no site number.



Small ground barn with forebay in the gable end, Codorus Township, York County, c. 1890. Site 133-CO-002.



Forebay barn with gable-end ramp, Codorus Township, York County, c. 1890-1900. Site 133-CO-004.

Valleys or the Lancaster Plain. A plausible explanation for this distinctive pattern is that farms in the York-Adams region were not only small (so were farms in the Lancaster Plain), but they had less optimal soil resources and topography. Moreover, crops took precedence over livestock farming in York-Adams. Thus the Pennsylvania forebay bank barn, which ideally suited a relatively large producing crop and livestock system, wasn't always the most appropriate choice in York-Adams. Small or large ground barns would fit well on these farms.

For example, the barn at site 133-CO-002 fit many functions into a small space. The gable end forebay protected doors for livestock entry. On the eaves side large sliding doors probably led to a threshing floor. Inside there were stables and a single hay mow,

as well as a loft area which also had poultry quarters. It is not known how large the farm when this barn was built, but we do know that by the mid 20th century the owner had a small acreage, raised cannery crops, and worked at a local feed mill. Another ground barn (see photo below) in eastern Adams County similarly packed a small forebay, machinery entrance, and hay loft into a small, unbanked barn.

At site 001-LA-012, a much larger ground barn probably dates to the late nineteenth or early twentieth century, with later alterations. An eaves side door leads directly from the road into the central floor. On either side, dairy stanchions were installed in the 1940s. Hay was stored in an upper loft. By the 1940s this farm was a small dairy.

Others experimented with variations on the standard Pennsylvania bank barn. For example, several barns were documented which had an eaves-side forebay, but the upper level ramp was built to the gable end rather than on the upper eaves side. Site 133-CO-004 is an example.



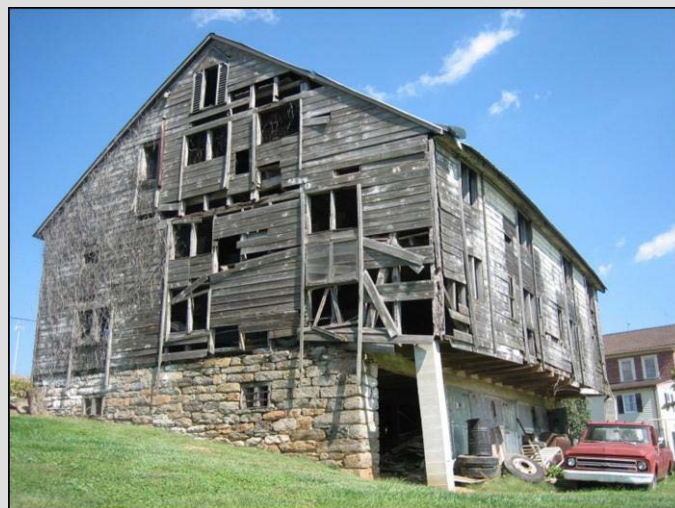
Large ground barn, Latimore Township, Adams County, c. 1890-1950. Site 001-LA-012.



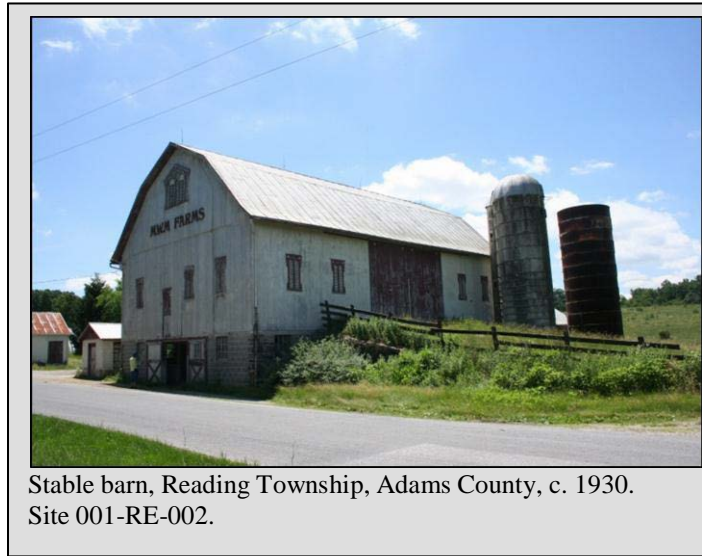
Pennsylvania forebay barn adapted for poultry housing, Codorus Township, York County, original construction c. 1860, altered for poultry in the twentieth century. Site 133-CO-008.

Topographical considerations do not appear to have played a role in the decision to situate the ramp on the gable end. Without access to the upper level, it is difficult to conjecture about the functional advantages a gable-end ramp might offer.

With the poultry boom, some barns were adapted for poultry housing. This is forcefully demonstrated at sites 133-CO-003 and 133-CO-008. In both cases, Pennsylvania bank barns were practically honeycombed with small openings.



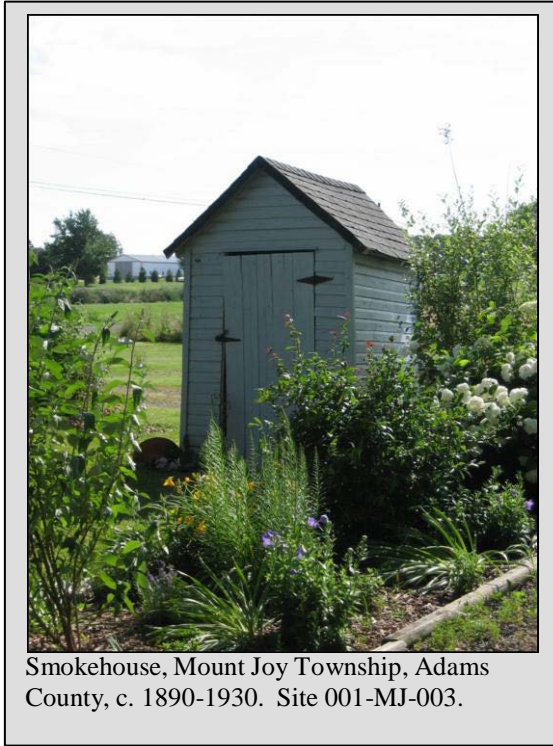
Pennsylvania forebay barn adapted for poultry housing, Codorus Township, York County, original construction c. 1850, altered in the twentieth century. Site 133-CO-003.



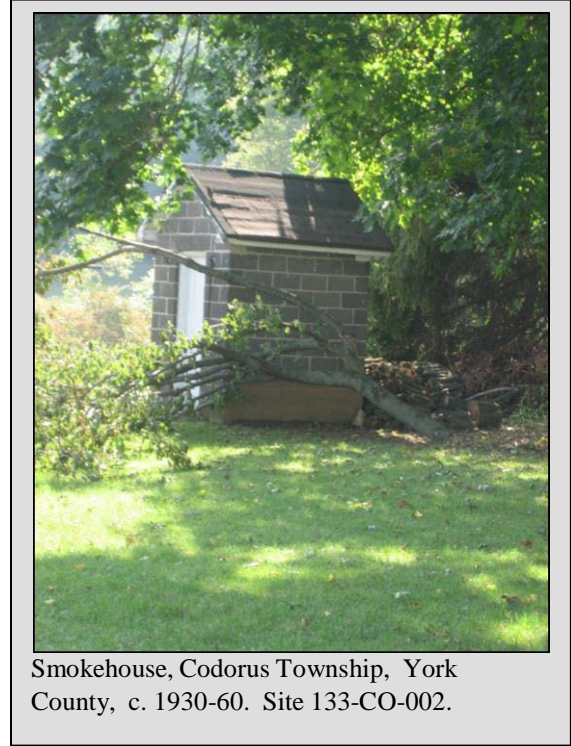
Finally, newer, modern forms appeared. For example, at site 001-RE-002 a barn had most features of the early twentieth century "stable barn." The barn had no forebay, and its basement level was constructed of rock face concrete block, pierced with many windows, and entered via a central gable end door, thus indicating a lengthwise central aisle. Probably dairy stanchions were arranged along this aisle. The barn also had a gambrel roof, affording extra hay space. The one holdover from the Pennsylvania barn form was the large eave-side ramp to the upper level.

Smokehouse, c. 1885-1940

Farm subsistence work continued to be very important, especially considering that for many of these years agricultural depression prevailed. New smokehouses continued to be built, sometimes with updated materials like concrete block.



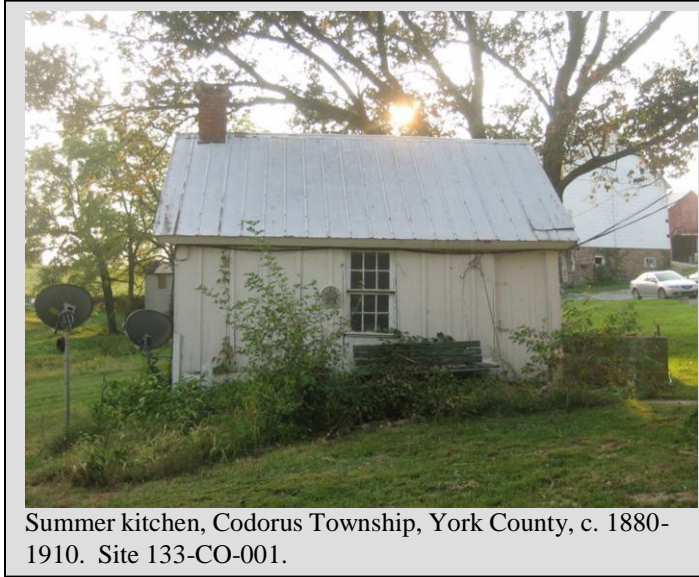
Smokehouse, Mount Joy Township, Adams County, c. 1890-1930. Site 001-MJ-003.



Smokehouse, Codorus Township, York County, c. 1930-60. Site 133-CO-002.

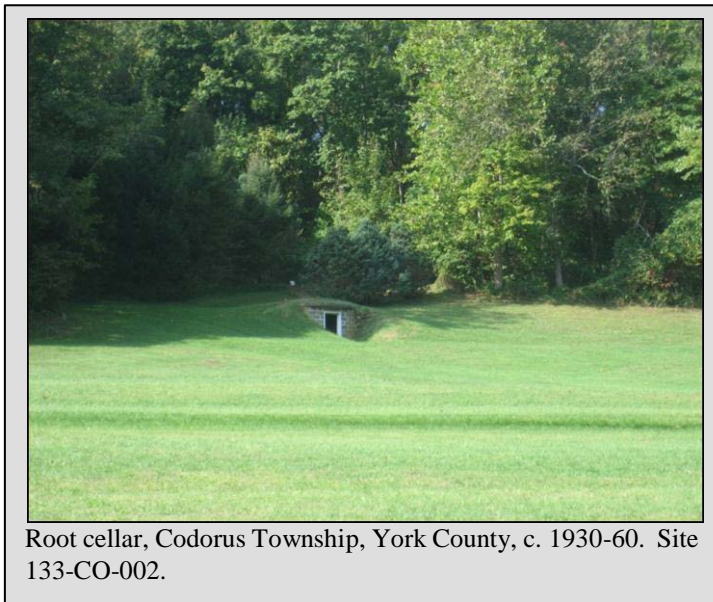
Summer Kitchen, c. 1885-1940

The same was true for summer kitchens as for smoke houses and other buildings that accommodated subsistence activity. Besides the general elaboration of rural people's subsistence base, another important change in the late nineteenth and early twentieth centuries was in the increased availability of cheap sugar, produced on Caribbean and Latin American sugar plantations, and later US possessions in Puerto Rico and the Philipines. Consumption rose and the repertoire of jams, jellies, preserves, cakes, and puddings expanded.⁶⁰ At least some of the processing, especially for items requiring cooking, would be done in the summer kitchen.



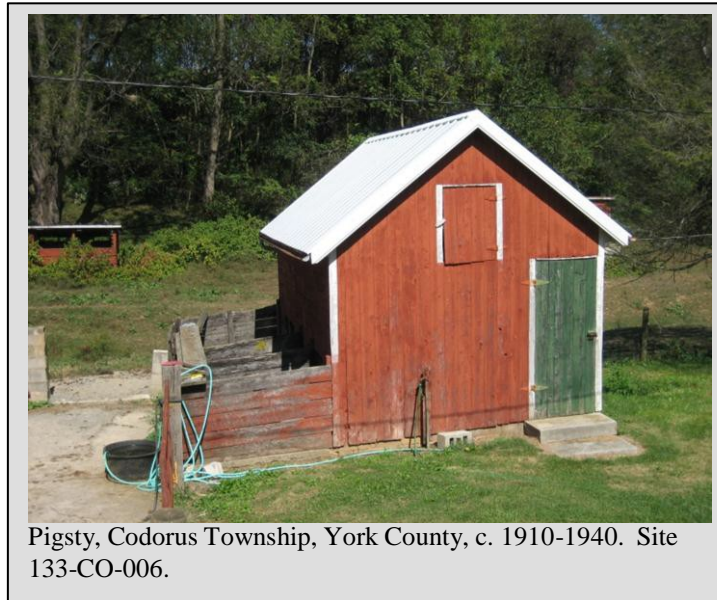
Root Cellar, c. 1885-1940

The root cellar was another important space. Here cabbages, carrots, and other crops could be stored in a constant 50-55 degrees.



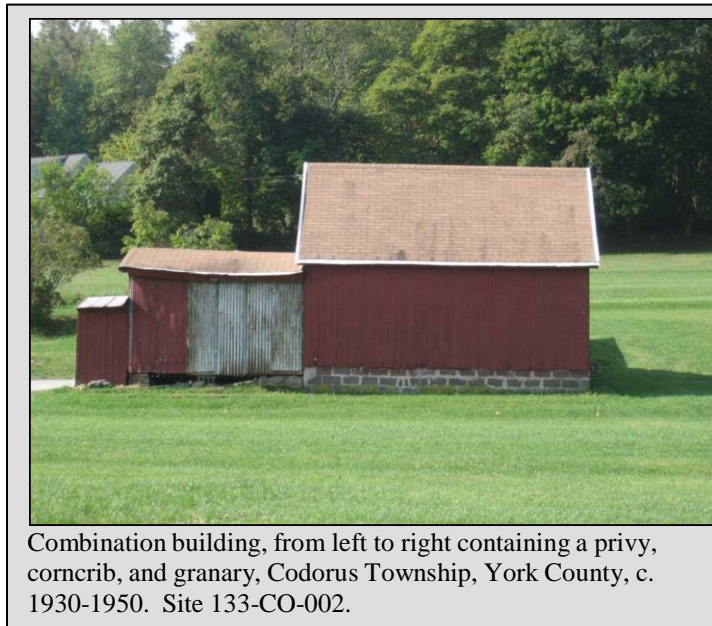
Pigsty, c. 1885-1940

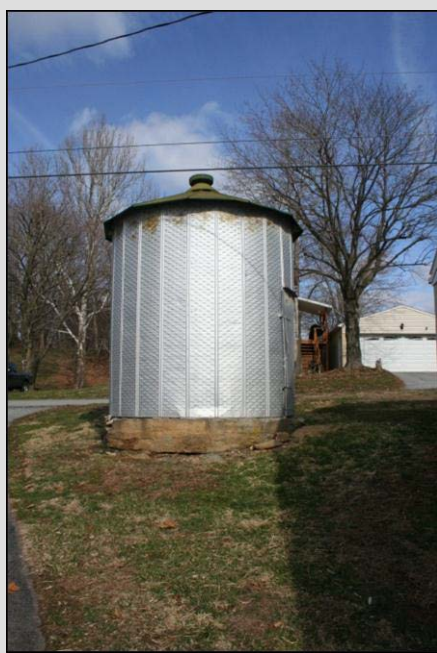
The region still emphasized hogs, so pigsties continued to be built. Hog farming did not expand in scale, so though the buildings were new, they were not necessarily large.



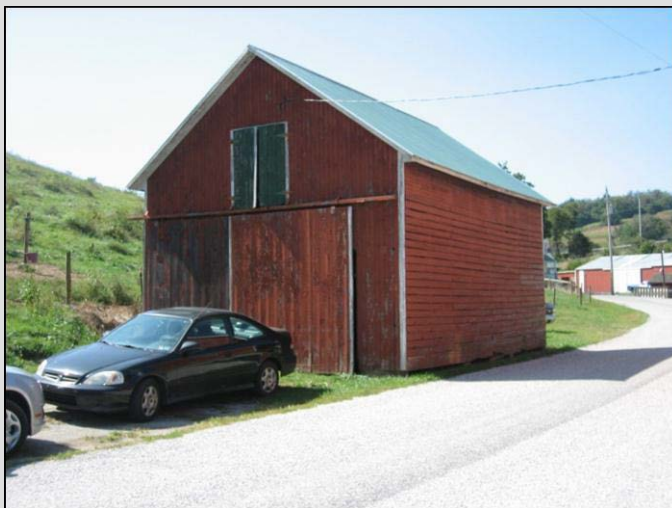
Corn Crib, c. 1885-1940

With the expansion of the corn crop came more dedicated storage facilities. Corn cribs documented from this period typically were not free standing, but instead were combined with other outbuildings, most often with a machine shed.





Metal Corncrib, "Buckeye" company,
Lower Windsor Township, York
County, c. 1915-40. Site 133-LW-003.



Combination machine shed and corncrib, Codorus Township,
York County, c. 1930-50. Site 133-CO-006.

Machine Shed, c. 1885-1940

As farming mechanized, the barn was inadequate for machine storage and so more machine sheds appeared. The most commonly documented machinery storage for this period was the drive-through corn crib, see above.

Granary, c. 1885-1940

As before, occasionally a freestanding granary appeared. The one below was on a farm whose barn was a very small ground barn, so it would not have had an interior granary.



Granary, Codorus Township, York County, c. 1940. Site 133-CO-007.

Privy, c. 1885-1940

As we have seen, few farms in the region had running water and therefore the outdoor privy was ubiquitous. One regionally distinctive practice was to combine pigsties with privies for humans.



Privy situated next to pigsty, Codorus Township, York County, c. 1930-1950. Site 133-CO-005.

Poultry House, c. 1885-1940

Two-story poultry house, Codorus Township, York County, c. 1940-1960. Site 133-CO-004.

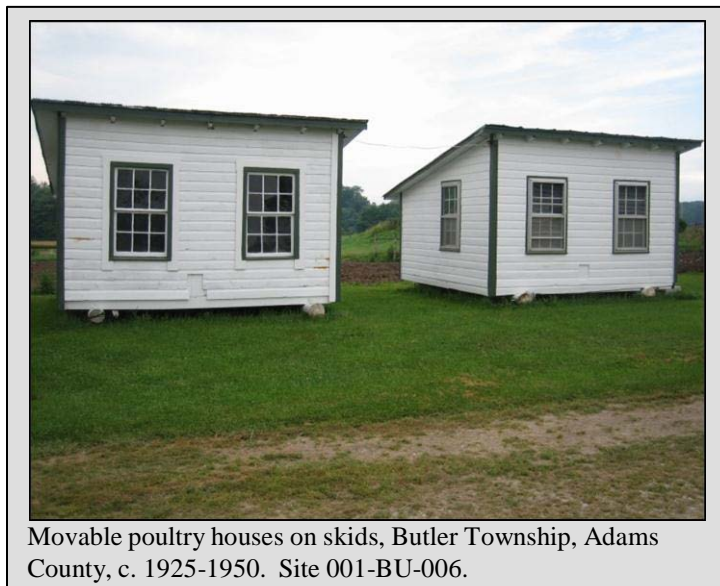


Shed roof poultry house, Codorus Township, York County, c. 1930-60. Site 133-CO-002.

The importance of poultry in this period is demonstrated through numerous poultry houses on York and Adams County farms. Though in the aggregate the two counties accounted for a huge output, the total was achieved through multiplicity of small-scale operations. So, while poultry houses for the period were substantial, they were not enormous buildings. Construction material would almost always be frame. Early 20th century poultry houses share some characteristic features. Usually they had either a shed roof or a gable roof. Windows across one eaves side afforded the light essential to chicken health. Small, hinged access doors, and ramps, allowed fowl to move in and out. Access doors for humans were placed either in the eaves side or in the gable

end. Siting was usually between house and barn, especially for earlier structures; over time, poultry housing moved further from the house as men became more involved in the poultry business. It is important to note that farm families often improvised poultry housing, most notably by converting other buildings, usually by adding levels for nesting and perching, and cutting windows into previously solid walls.

The type of housing depended on the purpose. From the exterior, it is hard to tell a house intended for laying hens (layer house) from one where the occupants were destined to become meat (broiler house), so here, both types are treated together as generic “poultry houses.” Inside, a layer house would have perches and nesting boxes, but a broiler house would dispense with the nesting boxes, and thus be able to crowd more birds in the same square foot area. In some cases, poultry housing was deliberately designed to be portable, so that the buildings could be rotated to clean sites periodically, thus reducing disease problems.



Movable poultry houses on skids, Butler Township, Adams County, c. 1925-1950. Site 001-BU-006.

Roadside Stand, c. 1885-1940

Georg Sheets’s book *Made in York* contains a photograph of a roadside stand owned by George A. Goodling of Loganville.⁶¹ The Goodlings first set up a stand in 1924 and replaced it during the Second World War.

Garage, c. 1885-1940

With the auto came the garage. Often existing buildings might be adapted, but a few were purpose-built.

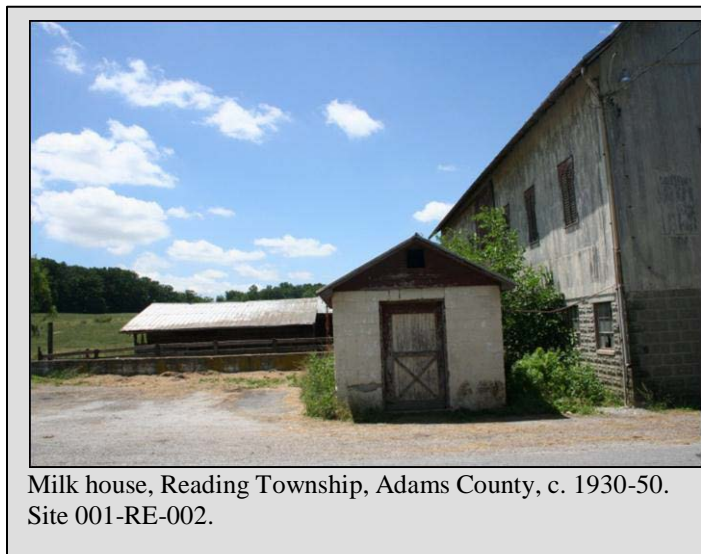


Garage, Straban Township, Adams County, c. 1930. Site 001-ST-002.

Milk House, c. 1885-1940

The milk house was a major new form on the early twentieth-century dairy farm. It wasn't a big building, but is an important reminder of the new role of the state and the agricultural establishment in agriculture. The state (meaning the government at any level) influenced the construction of milk houses in the first place, because during the Progressive and New Deal eras, legislatures and municipalities passed sanitary codes that required inspection not only of milk, but of dairy herds and milk production facilities.⁶² New York City pioneered in these efforts, and also seems to have been more effective at enforcement than other areas. In Pennsylvania, according to Stevenson Fletcher, a very few municipalities had inspection laws starting in the late 19th and early 20th centuries; however, enforcement was patchy. The first statewide dairy inspection law was passed in 1929, with a revision in 1933. This law provided for inspection of farm sanitary conditions, including facilities for sterilizing dairy equipment and milk houses for isolating milk.⁶³ It is not clear how well these were enforced. These regulations were a facet of the assault that was launched on bovine tuberculosis and other diseases in this period, aiming at ensuring a fresh, uncontaminated milk supply. In order to market milk, increasingly farm producers had to comply with regulations that required them to install

easily cleaned surfaces (like concrete) in barns, remove milk storage areas from dirt and odors (by building milk houses), cool milk, sterilize equipment, and the like. In Pennsylvania, these regulations took effect earliest in the Northern Tier, because New York City, where most milk went from there, passed quite stringent inspection standards by the 1920s. Other regions, including York-Adams, were affected later. The milk house was one product of the new laws. In turn, its form and construction were influenced significantly by the agricultural establishment (meaning the complex that included state departments of agriculture, the land-grant university and extension apparatus, and agribusinesses). This new element in the farm landscape, therefore, illustrates the growing influence of the “agricultural establishment” on everyday farming practices and landscapes. Agricultural extension agents regularly disseminated plans for milk houses. Likely, for every farmer who followed a plan exactly there were more who either copied his building, or who adapted the basic guidelines using available materials and expertise. The overall result was a new level of homogeneity and standardization.



Milk house, Reading Township, Adams County, c. 1930-50.
Site 001-RE-002.

Milk houses provided a place to store and cool fluid milk before it was transported to market; to store milk cans not in use; and to wash containers (and sometimes other equipment like separators). Plans offered by the USDA for farm milk houses typically gave dimensions ranging about 10 by 13 feet up to around 12 by 20 feet. Interior plans for a 10 by 13 milk house with ell (# 909, “capacity 20 to 30 head market milk”) show a two-room plan with door leading to a wash room; milk room to one side, which contained a cooling tank and led to raised loading/unloading platforms and sunning racks, mounted on the outside. The ell contained a boiler room⁶⁴ with its fuel supply, and back door. Larger milk houses had the same basic three spaces, only larger, and sometimes equipped with testers and separators. One (#1337) had a churn, butter worker, ripening vat, and

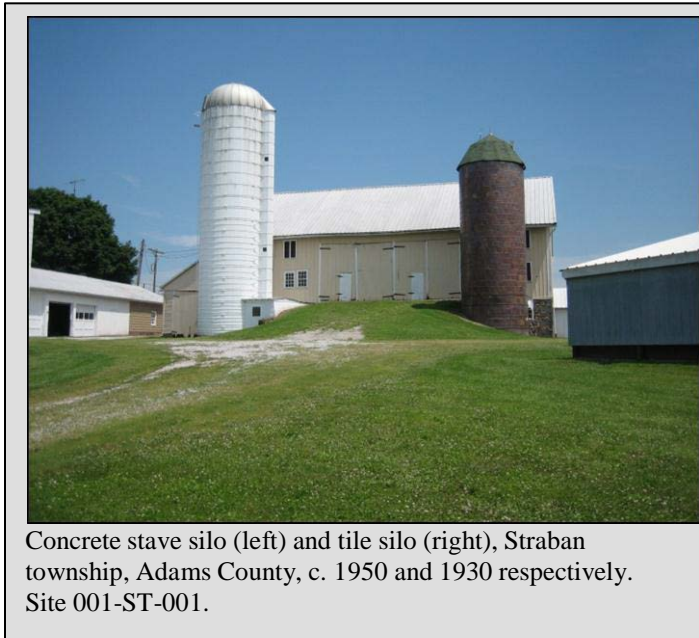
refrigerator, and another (#1339) had quarters for workers. Another small, 12 by 14, one-room milk house (#1341, see illustration) was designed for “butter making by hand” for 20 cows. It contained the same basic spaces, but not divided. The very smallest, at 7 by 9, had a concrete foundation with a sunken vat for cooling cans of milk. All of these plans had sloping floors with drains, and provision for ventilation and light.⁶⁵

In York and Adams Counties, milk houses are relatively rare, reflecting the less important position of dairying during this period. Those that were documented for the period tend to be small and accommodate the minimum requirements.

Silo, c. 1885-1940

Dairying was not followed on a wide or large scale in this region and so silos are relatively scarce. The 1927 census figures show that the ratio of silos to farms was only .14 in the two counties. In 1931, the York County agricultural extension agent noted that in a survey of farm accounting procedures, almost all the farms had dairy or beef cattle, but few of them had silos.⁶⁶

A silo is an airtight structure that holds fresh organic matter (moisture content 50-65 percent) destined for winter animal feed. It is filled with shredded or chopped grass, corn, or sometimes other plant material, which ferments into a highly nutritious feed. Silage feed resulted in significant productivity increases for dairy cows, and also permitted marginal farms to carry more animals. Ensilage was first publicized in the US in the late 19th century when the results of experiments in Europe became known. However, it did not become widespread until dairying was taken up more seriously.



Silos can be constructed horizontally in pits, or vertically. Most silos of the first half of the twentieth century were vertical. Early silos were sometimes placed inside the barn, rectangular in shape, and of wood construction. These were quickly supplanted by cylindrical vertical silos located outside the barn, usually in a spot that would permit efficient filling (usually from holes in the top) and unloading (either from a tier of successive doors from which silage was thrown down an exterior chute, which contained a ladder for access to the doors, or from the bottom). Early silos were unloaded by hand, from the top. The land-grant establishment published many “how-to” brochures aimed at helping farmers build their own silos of wood or concrete. Because masonry is more durable and cleaner, it became the norm. Commercial organizations marketed many types of silos too. Some sold special curved brick; others made tiles; still others advertised systems depending on interlocking rings of poured concrete. Cement staves became popular after about 1910. Galvanized iron was mentioned by Hall in 1929.⁶⁷ A 1918 Pennsylvania State College circular (# 72) mentioned wood stave, hollow tile block, poured concrete rings, concrete staves, concrete blocks, metal, and bricks as silo construction materials.⁶⁸

Landscape Features, c. 1885-1940

Farm lane, wood post and barbed wire fence, and treeline, Butler Township, Adams County. Site 001-BU-004.

Since farms were small and crops were dominant, the primary feature in the rural landscape would be a small patchwork of crop fields. Fencing, though not absent, would be less important than in areas where livestock took a more central role, and the same would be true for pasture. Barbed wire fencing appeared during this period and quickly became the favored type. Clearing had proceeded very thoroughly, so York and Adams County farm woodlots were relatively small. Orchards and truck farm patches appear clearly on aerial photographs but are mostly gone today. The 1912 soil survey pointed out that cherry and apple trees were often planted along a roadside or fencerow, “in order that greater space may be devoted to field crops.”⁶⁹ The farmhouse grounds landscaping often included specimen trees, hedges, or ornamental fencing.



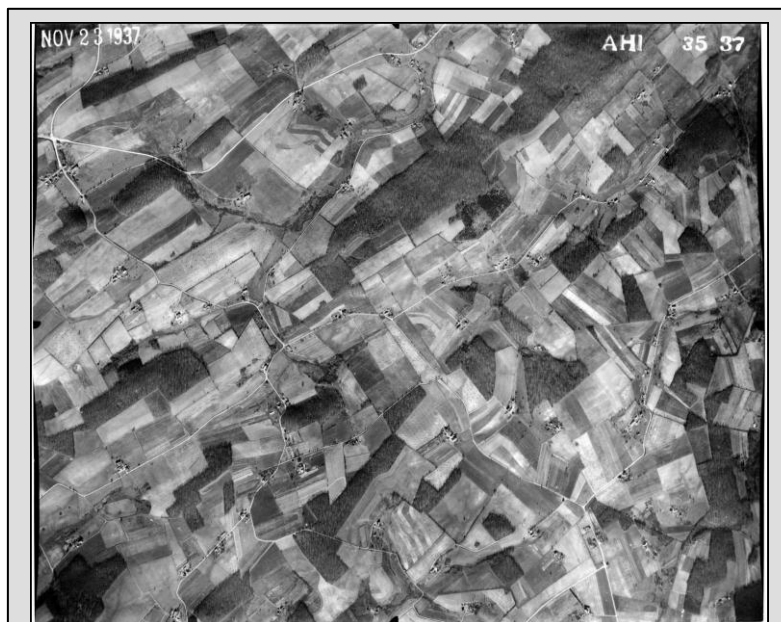
Crop field and treeline, Latimore Township, Adams County. Site 001-LA-012.



Farmstead with crop fields, treeline, and farm lane, Codorus Township, York County. Site 133-CO-005.



Abbotstown, York County vicinity, 1938. Penn Pilot. This aerial shows orchards and truck farming activity.



Aerial photograph, Sticks Road vicinity, York County, 1937. Penn Pilot.

The 1937 aerial shows many small irregularly shaped crop fields, and shocks of grain are visible because the photo was taken in late fall. Woodlots tend to be concentrated on ridges. In some instances treelines separate fields. A few contour strips are visible in the lower portion of the photograph.

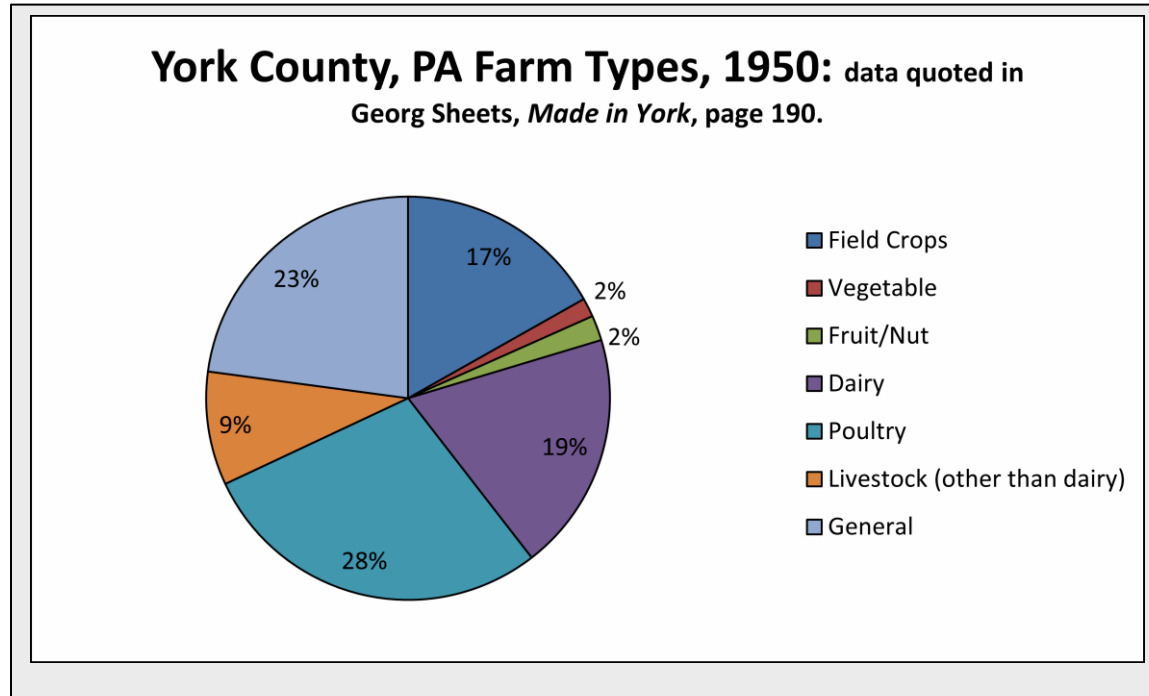
Poultry production, fossil fuel power, and off-farm labor, 1940-1960

During and after World War II, agriculture changed dramatically. York and Adams Counties experienced the same general trends that were occurring everywhere. Pressure to specialize and expand mounted as a vicious cost-price squeeze caught farmers between high costs and low prices for farm commodities. Capital inputs and costs rose rapidly, as the fossil-fuel revolution consolidated. Competition came from all over the nation and even the world. York-Adams farm families responded by moving into more specialized production and supporting the farm through off-farm employment.

Farm size began to creep up after hitting an early twentieth century low. Farm numbers dropped steadily as well. The entire food system assumed its modern shape during these years; industrialized production, irrigated farming in the far West, and nationwide distribution altered the competitive landscape for small farms. The so-called “agricultural establishment” – the complex of land-grant institutions, national farm organizations, and large agribusinesses -- exerted a large influence on agriculture, encouraging specialization, large capital investments, and large scale. Farming method, tools, buildings, and even landscapes became more standardized nationwide. These developments had a significant impact in Pennsylvania.

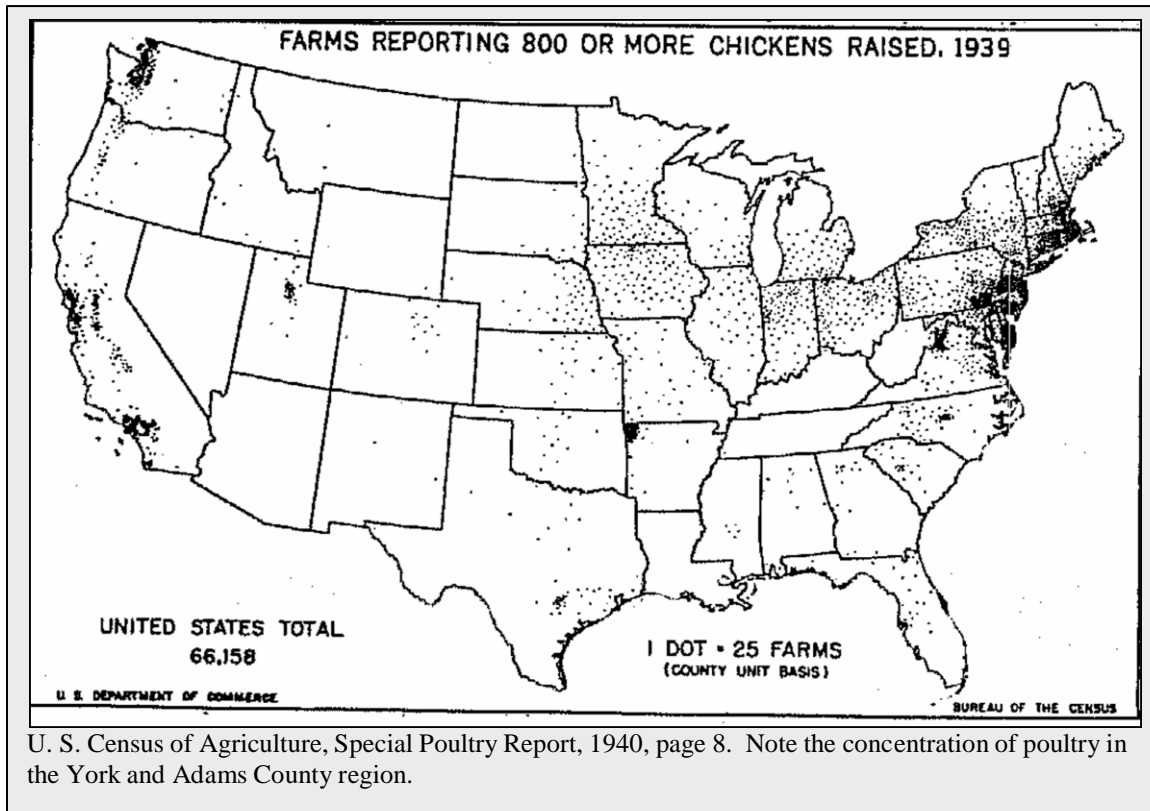
Products, 1940-1960

The York County agricultural extension agent in 1959 noted a definite trend toward specialization. Diversification, he said, characterized the county as a whole, but no longer “on every farm but diversified farm to farm...” Without the manuscript census returns, it is hard to tell how accurate his statement was, but aggregate figures, field observation, and general histories suggest that farm diversification did slowly give way to specialization.⁷⁰ For example, the 1950 census classified 23% of York County farms as “general” farms. While this was still a substantial proportion, the remaining 77% were specialized within the Census bureau’s definitions.



The traditional strength of crop farming continued. York County led the state in grain corn acreage in 1950 while Adams reported the second-highest per-acre yield. From the early 1940s onward the agricultural extension agents led the push for hybrid corn. Hybrids increased yields, but also increased costs and fostered dependence on suppliers. The two counties were also high in wheat acreage in 1950. New varieties of wheat were sought which wouldn't shatter under modern combine machinery. As oats acreage declined, corn and wheat took up the extra acreage. Hay continued to be a substantial crop in the region, though overall acreages were on the decline.

Livestock enterprises featured poultry and pigs, with beef and dairy cattle in a secondary position, relative to statewide trends. York was second to Lancaster in chickens and eggs in 1950, but Adams added over 500,000 chickens, so together the two counties comprised a very important poultry area. The Adams County agricultural extension agent declared in 1949: "income from the poultry industry effects [sic] more farms than any other farm enterprise in Adams County." He further noted that most flocks had fewer than 500 birds, and that poultry and eggs "are marketed to a large extent through hucksters who call at the farm at regular intervals." There was also one egg cooperative.⁷¹



York was # 1 in Pennsylvania in total numbers of swine in 1950, even surpassing Lancaster County (total numbers were steeply down from 1880, though). The traditional importance of the pig continued into the mid twentieth century.

The Adams County agricultural extension agent in 1954 wrote that the dairy "contributes a large share of the farm income of Adams County." Mostly milk went to the Philadelphia area. The city exerted pressure on methods and processes, as for example when distributors demanded farmer cooperation in eradicating brucellosis. Dairy output for the two counties was healthy in 1950 but not among the very top leaders statewide.⁷²

The Adams County agricultural extension agent in 1946 reported that "Beef cattle feeding is of primary importance here. This helps to utilize our pasture land and fits into the farm program well where the chief crops are potatoes, vegetable crops or fruit.... Most feeder stock is purchased through the Lancaster Stock Yards and marketed there when finished."⁷³ 1950 census figures do suggest that York and Adams farmers were fattening steers to some extent, because their total number of cattle was much larger than the number of milk cows.

York County was one of only four in the state with over 100,000 bearing apple trees in 1950, and Adams was first. So the two combined really anchored the state's apple producing capacity. In addition, York ranked fourth and Adams second in peach tree numbers. And as before, York County ranked high in value of vegetables produced.

The crop and livestock synthesis of the last century was now being challenged. Specialization disrupted the system in which crop rotations and livestock manures constituted a self-perpetuating cycle. Purchased feed increasingly substituted for farm-grown feed. Yields were high, but so were farm expenses, and nutrients were being imported from the Midwest and other regions. Soon, manure would not be an asset but rather a waste disposal problem. Groundwater quality and watershed health would become major environmental issues in the late twentieth century; some argue that changing agricultural practices played a major role in creating these problems. Machinery and equipment purchases soared during this period as well. Purchased fossil fuel based fertilizers and pesticides also helped to increase yields, but they too threatened soil health and contributed to environmental problems. Interestingly, some of these issues were even anticipated by the York County agricultural extension agent as early as the 1950s. In 1959 he raised concerns about pesticides and hormones with respect to the milk supply.⁷⁴

Subsistence activity probably declined during this period. Gardening was still popular, and many families still did their own butchering. However, events and trends militated against the old ways. The rise of the supermarket, off-farm employment for women, refrigerators and freezers – all these factors contributed to a decline in traditional food growing and preservation.

Labor and Land Tenure, 1940-1960

Labor was a burning problem. Wartime mobilization brought serious labor shortages; the agricultural extension agent reports are filled with accounts of how the agents scrambled to figure out how to meet farm labor needs. Not only was the military taking young men, but, the agent complained, nearby war industries offered “abnormal” wages even for the unskilled, and drew workers away from the farms. York and Adams County officials used a combination of strategies to meet the need. Agricultural draft deferments succeeded for a while, but they became more difficult to arrange. Then farm organizers turned to migrant labor, prisoners of war, conscientious objectors, women, and children. The War Food Administration set up several camps for Jamaican laborers harvesting cannery crops. “Colored” workers conflicted with locals, and eventually segregated groups were created.⁷⁵

After the war, industrial employment still drew labor off the farm. Wages were high and farm operators responded by mechanizing and streamlining their farms.

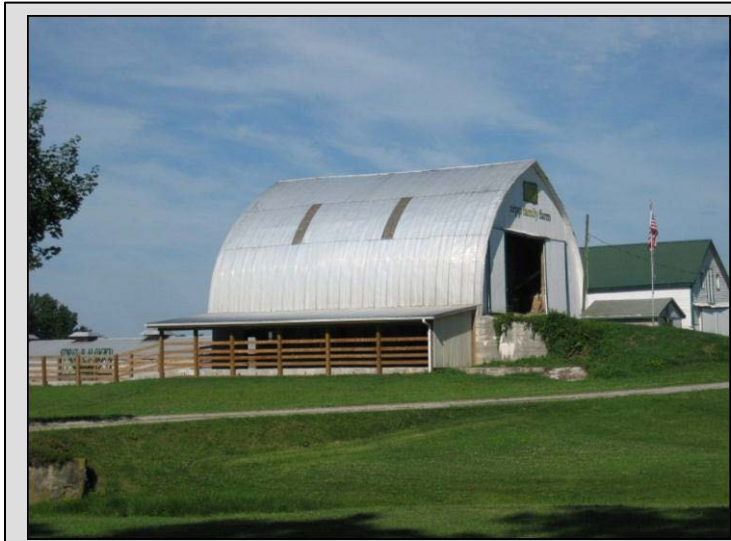
A very important aspect of the rural economy during this period was off-farm labor. In 1950 nearly half of farm operators in York-Adams worked off the farm, and many of those worked more than one hundred days per year. Moreover, for a third of all farm households, off-farm income exceeded farm income. These statistics may under-count the impact of off-farm labor, because they tally employment by farm *operators*, and usually this means the male household head. Yet, women’s employment was increasing during the postwar years and ultimately would come to play a very big role in supporting household income. All in all, there was an unmistakable trend for households to supplement farm income with off-farm employment. The figures were almost exactly at state averages, so York-Adams wasn’t exceptional in this regard. It was just one more way in which the wider economy began to exert a bigger impact on farming patterns.

Buildings and landscapes, 1940-1960

The general trend in farmstead buildings was away from very small subsistence structures such as smokehouses. Building trends in this period included new standardized forms built with industrially produced materials and sometimes to published plans; alterations to barns to accommodate more animals and to meet legislative requirements; and new storage space for machinery, crops, and vehicles.

Barn, 1940-1960

Not many new barns appeared during this period. Those that were newly built tended to break from tradition, drawing from plans and designs distributed through the agricultural establishment. The stable barn at site 001-HU-006 is a good example. Its “rainbow” style roof was accomplished with new techniques of laminating and bending wood. The large upper-level space was unobstructed, allowing for much greater hay storage volume than with older style framing and roofing systems. The large doors also admitted larger equipment.



Rainbow roof barn, Huntington Township, Adams County, c. 1960. Site 001-HU-006.

Below, a stable area served only to house cattle. The siding also was mass-produced wood paneling. At site 001-LA-006, a gambrel roof stable barn had a full ground floor made of concrete block, with ample windows (required by dairy regulations) and center aisle. On the upper level the gambrel roof offered extra hay storage volume.



Stable barn, Latimore Township, Adams County, c. 1960.
Site 001-LA-006.



Rainbow roof stable barn, Gerbrick Road, York County, c. 1960. Photo-only site, no site number.

A large stable barn in York County on Gerbrick Road has an eaves-side hay door with hood. This was a popular device for hay loading and storage.

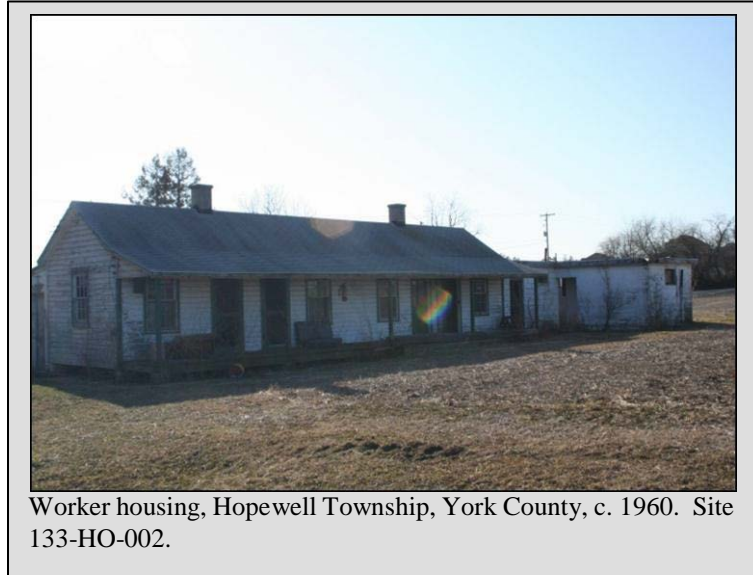


Pennsylvania forebay bank barn with forebay side extended and enclosed to accommodate more dairy cattle, Straban Township, Adams County, built 1875, altered c. 1950. Site 001-ST-002.

Alterations to existing barns included such strategies as enclosing and/or extending the forebay and adding free-stall accommodations. Free stall shelters came into favor after research showed that cattle actually did better overall when they were able to move about within a large, open-sided space that did not have a concrete floor. Not coincidentally, these buildings were much less expensive than a conventional barn.



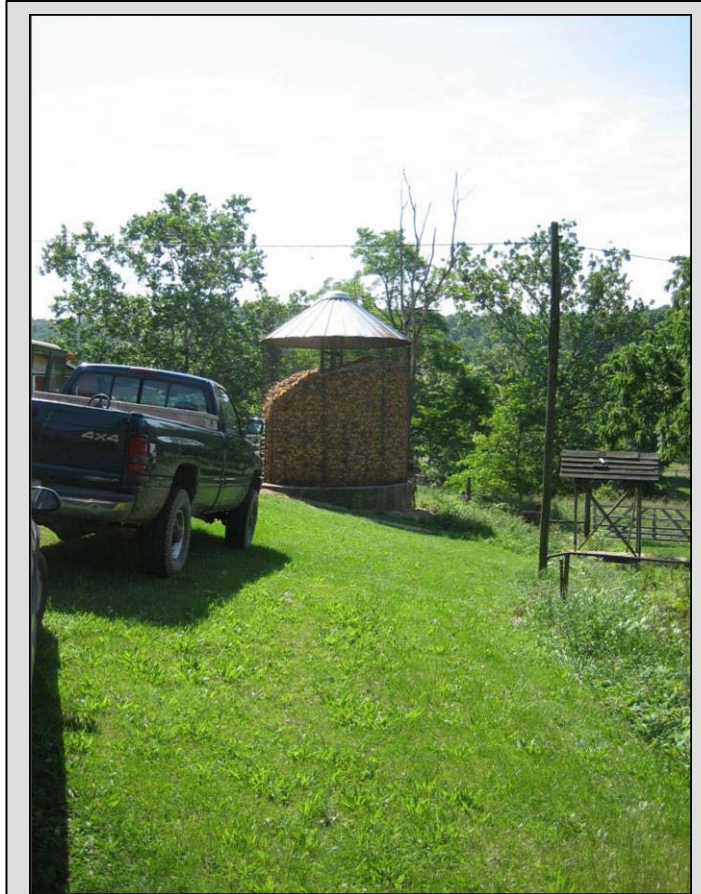
Barn with ell addition, several free stall shed additions, and two independent free stall barns. The newer free stall barns (left) are recent, but the shed roof shelter in the ell may fall within the period before 1960. Adams County, photo-only site, no site number.

Worker Housing, 1940-1960

Worker housing, Hopewell Township, York County, c. 1960. Site 133-HO-002.

Corn Crib, 1940-1960

Postwar corn cribs followed both traditional and newer forms. At site 001-BU-004, for example, a newer type appeared: the wire mesh cylinder with metal conical roof. These were mass manufactured. At site 001-BU-006 a drive-through machine shed with flanking corn cribs followed a much older form, but its side slats are much more uniformly manufactured, suggesting a mid or even late twentieth century date. At site 001-MJ-003, a popular twentieth century type of corn crib is shown. This one is quite long and narrow, with a shed roof; it is elevated above ground level. Again, its mass manufactured, narrow and regular slats suggest a mid twentieth century date. And finally at site 133-CO-004 there is an unusual example – a corn crib combined with a shallow pitched rainbow-roof drive-through machine shed.



Corn crib, Butler Township, Adams County, c. 1960. Site 001-BU-004.



Shed roof wood slatted corn crib, Mount Joy Township, Adams County. Site 001-MJ-003.



Drive-through machinery shed and corn cribs, Butler Township, Adams County. Site 001-BU-006.



Drive through machine shed and corn crib, Codorus Township, York County. Site 133-CO-004.

Silo, 1940-1960

Most silos in the region probably were erected after 1940. The most common type is the concrete stave silo. Poured concrete was also popular. At site 001-LA-012 an unusual above-ground horizontal silo was built around 1950.



Concrete stave silos, Huntington Township, Adams County, c. 1940-1970. Site 001-HU-005.



Horizontal silo, Latimore Township, Adams County, c. 1955. Site 001-LA-012.

Poultry Housing, 1940-1960

The immense aggregate poultry production in the two counties was achieved, it seems, through many modestly scaled individual farm operations. The massive, long, low chicken houses that today characterize the poultry business had not yet appeared in the region. More typical was one- or two-story housing. Often a farm would have several of these small to medium sized poultry houses. Almost all the housing was for chickens, but at site 133-CO-006, there was a shed-roof turkey house.



Turkey house, Codorus Township, York County, c. 1950-70. Site 133-CO-006.

The other four examples shown all were chicken houses. They show variations on the two-story poultry house executed in frame and concrete block.

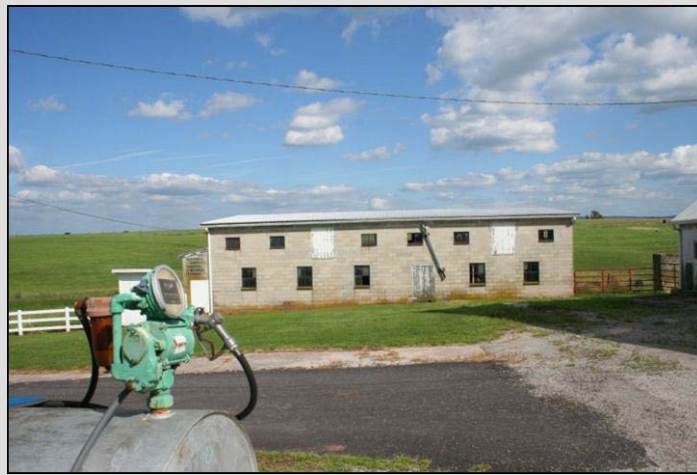


Poultry housing, Straban Township, Adams County, c. 1945-60. Site 001-ST-002.

One, at site 001-TY-001, has an integral corncrib built with special hollow concrete block. Siting varied for these buildings. Two were sited on farm ponds. Two were on the edge of the farm barn yard, and one was next to the vegetable garden.



Poultry house with hollow concrete block corncrib at one end, Tyrone Township, Adams County, c. 1960. Site 001-TY-001.



Poultry housing, Reading Township, Adams County, c. 1960.
Site 001-RE-005.



Poultry housing, Reading Township, Adams County, c. 1960.
Site 001-RE-001.



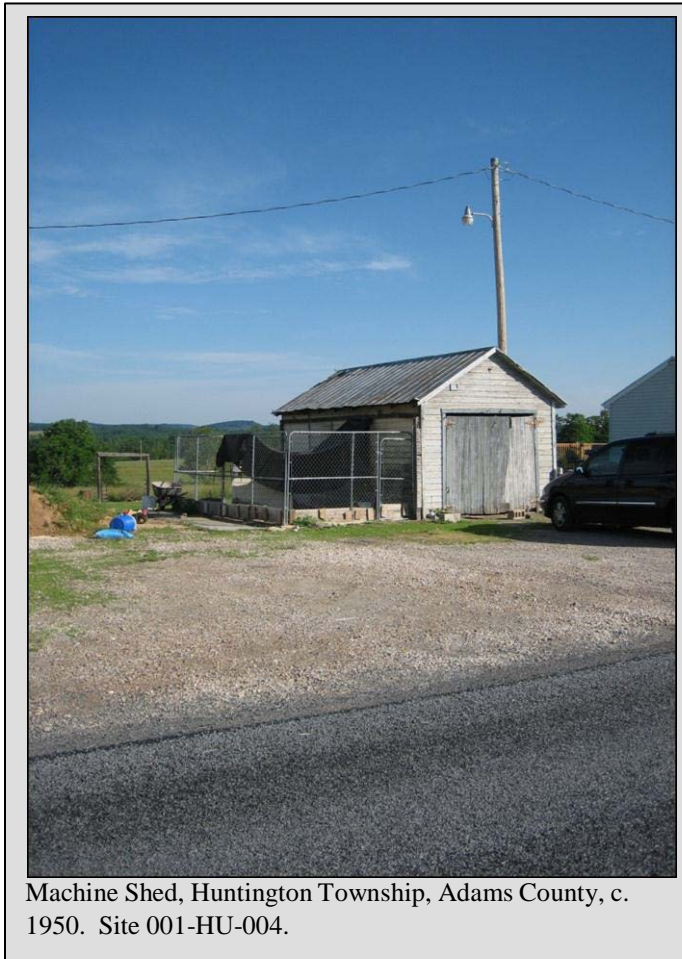
Poultry housing, Straban Township, Adams County, c. 1940-60.
Site 001-ST-003.

Machine Shed, 1940-1960

Machinery storage became more common. The advent of pole construction made it inexpensive to erect open-sided metal pole barns for machinery, but frame machine sheds continued to be popular.

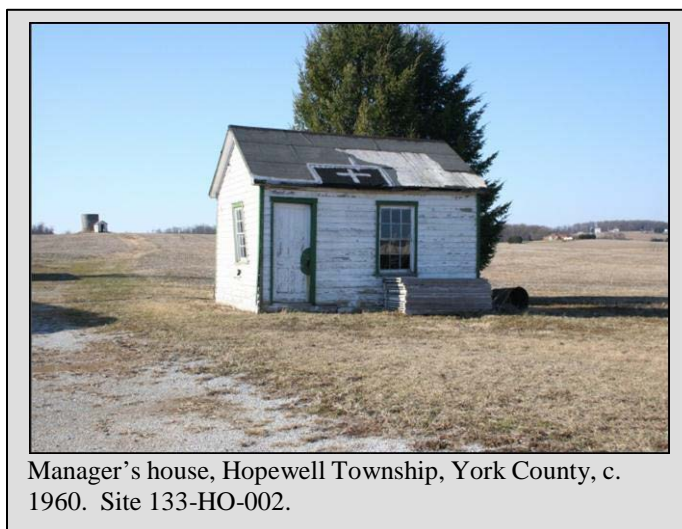


Machine Shed, Butler Township, Adams County, c. 1945-1970.
Site 001-BU-004.



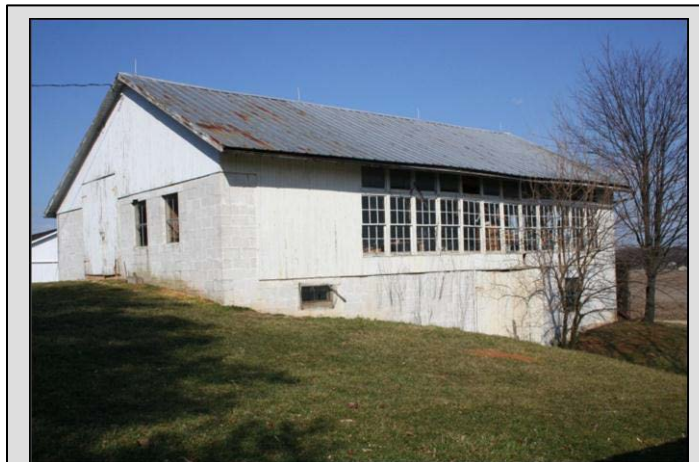
Other Building Types, 1940-1960

At three sites, specialized structures relating to large-scale cannery crop production and fruit production were documented.

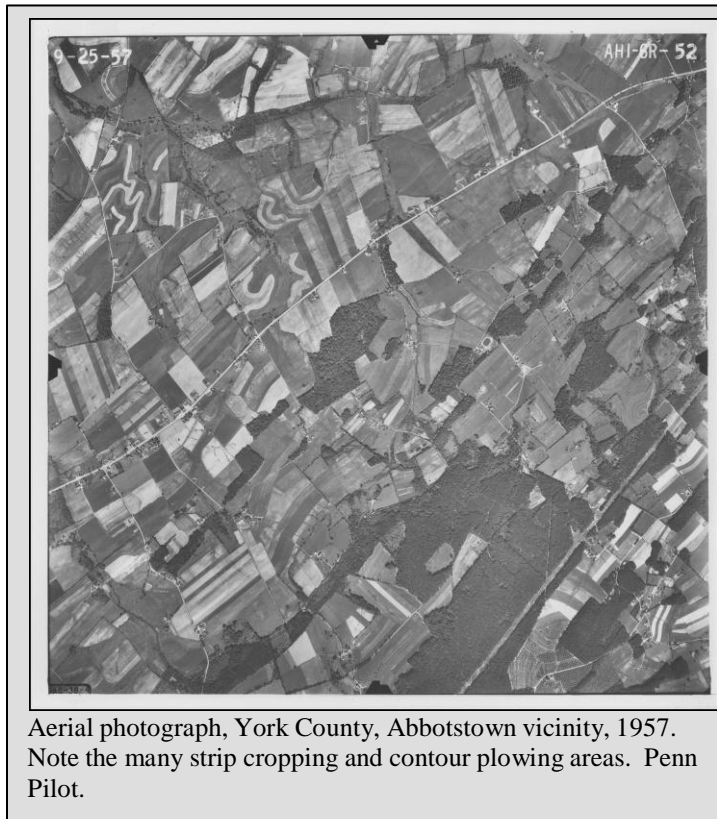




Pay house, Hopewell Township, York County, c. 1960. Site 133-HO-002. At this large fruit/vegetable farm, workers collected their pay in this small building.



Fruit packing house, Hopewell Township, York County, c. 1950. Site 133-HO-001.

Farm Pond, 1940-1960

Aerial photograph, York County, Abbotstown vicinity, 1957. Note the many strip cropping and contour plowing areas. Penn Pilot.

After the war, there was a boom in farm pond construction. This was due to several factors. Earth moving equipment became more widely available; insurance companies offered discounts for farm properties with access to water for firefighting; and interest rose in recreational uses. The York County agricultural extension agent, for example, noted that carefully sited ponds offered fire protection not just for one farm but often for others, and sometimes even for villages. He cited fishing, boating, swimming, and ice skating as recreational benefits. Several photos in this document show ponds.⁷⁶

Strip Cropping and Contour Plowing, 1940-1960

Already in the 1930s aerial photographs suggest that farmers in the region were beginning to use strip cropping and contour plowing. These are erosion control measures. Strip cropping alternates crops of different textures and water holding capacity in long, narrow strips. Contour plowing plants crops along the contour of a slope, rather than against it. The two techniques are most often used together. The combination of techniques works to capture rainwater and retain it in the soil, instead of letting it run off and take valuable topsoil along with it. The practice was heavily promoted during the

New Deal and became more widespread after the war. The York County extension agent in 1954 wrote that a cannery company owning 800 acres had begun to institute “erosion procedures.”⁷⁷

Orchard, 1940-1960

Already by about 1950, orchards were on the decline in York and eastern Adams County. They can still be seen on the aerials for 1957-62, but very few remain now.

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 as 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.⁷⁸

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.⁷⁹ 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.

Registration Requirements for the York-Adams Historic Agricultural Region

To be determined significant with respect to Criterion A for agriculture in this region, 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 range of buildings and landscape features that illustrate change over time in the region's agricultural history.

Substantive Guidelines:

Strong representation of typical buildings and landscape features from one chronological phase of the region's agricultural history (#1): A farmstead will normally be significant under Criterion A only if: 1) its individual production system, for the period in question, reflects the average or above average production levels for its township in the same period, 2) its built environment and landscape reflects that product mix, 3) its built environment and landscape reflects locally prevalent levels of mechanization and tenancy, and labor patterns, and 4) if, in instances where a farm has a strong, documented connection to a particular ethnic group or land tenure system, its architecture and landscape shows evidence of that connection. [See Narrative for discussion].

To be considered significant for the period of "Diversified Small Scale Production, c. 1750-1830," a farmstead should include, at a minimum, a farmhouse typical for the region, dating to the period; and at least one barn or outbuilding related to diverse production dating to the period. A farm should have remnant crop fields or woodlot. It is a plus if historic field or property boundary lines are represented. A historic agricultural district would need a collection of farms representing these features.

To be considered significant for the period of "Small farms, mechanization, and new markets, c. 1830-1885," a farmstead should have a farm house typical of the

period and place, or an older house showing period modifications; a barn typical of the period; and at least one subsistence related outbuilding (summer kitchen, springhouse, smokehouse, bake house, etc.). The more outbuildings there are which illustrate agricultural diversification, the better. A farm should have crop land and retain at least some historic field size or boundary. A historic agricultural district should have a more or less contiguous collection of farms representing these features.

To be considered significant for the period of “Diversified Small Scale Farming, Poultry Raising, and Cannery Crops, c. 1885-1940,” a farmstead should include a house typical of the time and place or an older house showing period modifications; an older barn showing 20th century adaptations, or a new type such as a stable barn; at least one subsistence outbuilding dating from the period or modified during the period; at least one outbuilding showing poultry raising, hog raising, dairying, or truck farming; and architectural accommodation for farm machinery. The more outbuildings there are which illustrate agricultural diversification, the better. If the farm has a history of specializations such as tobacco growing, the buildings should reflect that. A farm should have cropland. Remnant field boundaries such as treelines or fencing are a plus. Landscape evidence for truck farming or orcharding is a plus because of its rarity. A historic agricultural district should have a more or less contiguous collection of farms representing these features.

To be considered significant for the period of “Poultry Production, Fossil Fuel Power, and Off-Farm Labor, 1940-1960,” a farmstead need not have a house which dates precisely from this period, but should have barn dating from the period or a barn with adaptations dating from the period; poultry housing (or barn adaptations for poultry housing) dating from the period; and architectural accommodation for farm machinery. A farm should have cropland. Remnant field boundaries such as treelines or fencing are a plus, as is a farm pond. A historic agricultural district should have a more or less contiguous collection of farms representing these features.

2) a range of buildings and landscape features that illustrate change over time in the region's agricultural history.

To be considered significant for representing the major agricultural changes in the York-Adams Historic Agricultural Region, a farmstead should have architectural evidence of the major shifts over time. An early 19th century house, late 19th century barn and subsistence buildings, and 20th-century poultry housing, for instance, would effectively portray a shift from small-scale agriculture to diversified grain and livestock farming to small scale farming with poultry production as a main enterprise. A farm should have some cropland, but the acreage would not necessarily be high, since farms were so small historically. A historic agricultural district should have a more or less contiguous collection of farms representing these features.

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

These requirements apply to properties in all regions. 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 possess high artistic values, or, as a rural historic district, that represent a significant and distinguishable entity whose components lack individual distinction”.⁸⁰

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 ...”.⁸¹ 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.⁸² 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 Revitalized 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”?

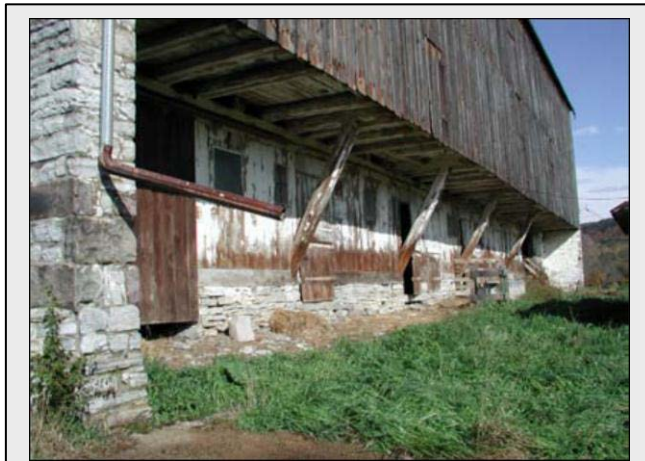
This is the most hard to define category of the three. It connotes skill in achieving desired aesthetic qualities. For example, careful proportions, sensitive siting, and originality of design are important components of aesthetic merit. Again, ornament is where aesthetic merit shows most clearly, for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

Examples

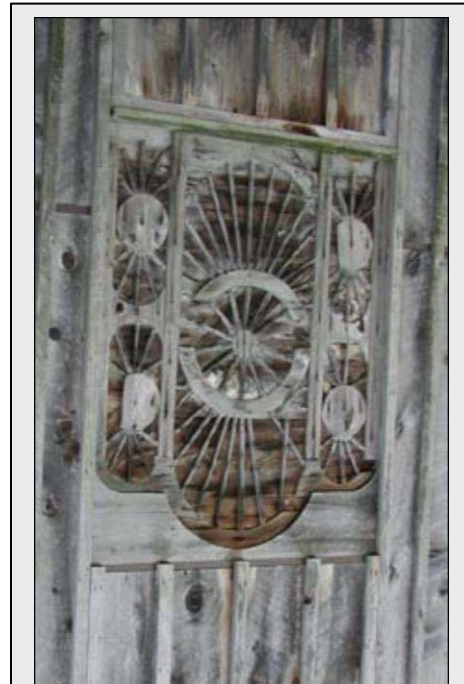
Example 1: Hodge Barn, Centre County, c. 1870.

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).



Hodge Barn, Centre County, struts under forebay



Ornament on Hodge Barn, Centre County

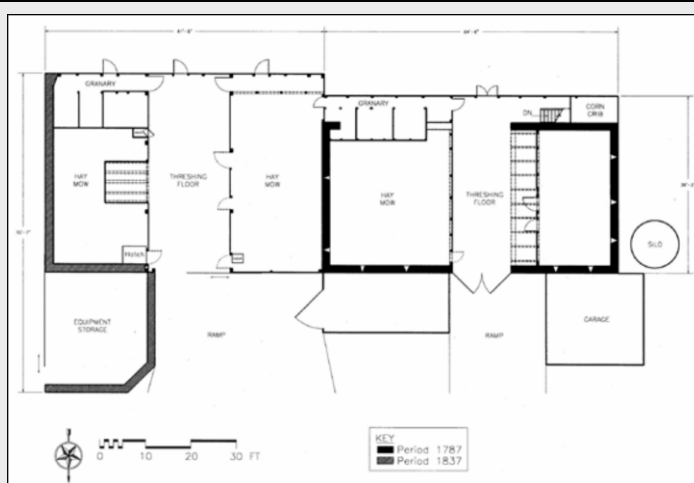


Hodge Barn, Centre County, struts under forebay

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.

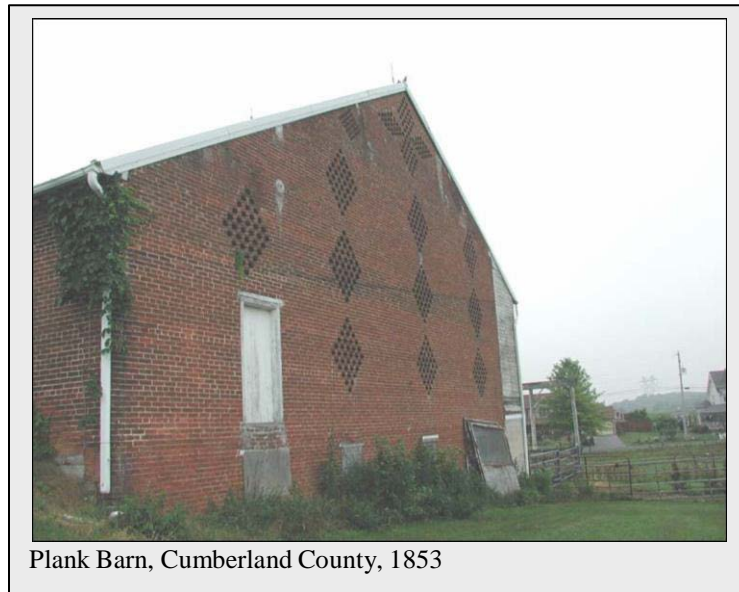


Bertolet Barn, Oley Valley, 1787 and 1839.



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



Plank Barn, Cumberland County, 1853

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.

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.



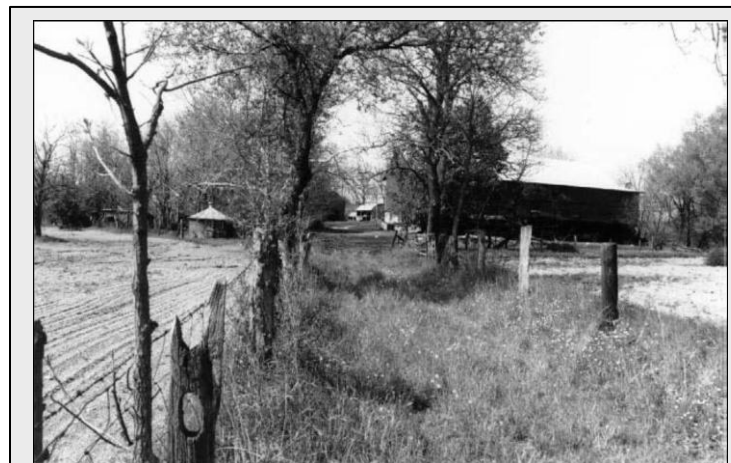
Smokehouse, Tulpehocken Manor,
Lebanon County, late 18th century

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

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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Statement of 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.”⁸³

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.”⁸⁴

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 significance, 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 constituent 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”⁸⁵ 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.”⁸⁶ 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.”⁸⁷ 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.

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Endnotes

¹ The data in this summary come from E. Willard Miller, ed., *A Geography of Pennsylvania* (University Park, PA: 1995); the online soil survey of York County at http://soildatamart.nrcs.usda.gov/Manuscripts/PA133/0/PA_York.pdf; and the Pennsylvania State Climatologist website at <http://climate.met.psu.edu/features/agrhc.php>.

² James T. Lemon, *The Best Poor Man's Country* (Baltimore, 1972), 47; George Reeser Prowell, *History of York County, Pennsylvania* (Chicago, IL: J. H. Beers and Company, 1907), 92; John Gibson, ed., *A Biographical History of York County, Pennsylvania* (Reprinted Baltimore, MD: Genealogical Publishing Company, 1975), 351.

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⁶ Prowell, *History of York County*, 628-9.

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⁸ Lemon, *Best Poor Man's Country*, 179-182; Miller, *Sketches and Chronicles*.

⁹ *Lewis Miller, Sketches and Chronicles*, plates on pages 55, 73, 75, 57, 58, 82, and 84 respectively. His spellings are given verbatim. *Pennsylvania Gazette*, November 12, 1783, obtained through Accessible Archives.

¹⁰ Tench Coxe, *View of the U. S. of America in a Series of Papers...* 1794, 64, 89; James Westfall Thompson, *History of Livestock Raising in the US, 1607-1860* (USDA, Agricultural History Series # 5, November 1942), 46-7; Percy Wells Bidwell and John Falconer, *History of Agriculture in the Northern States 1620-1840* (New York, 1941), 27, 42, 45, 47; James Lemon, "The Agricultural Practices of National Groups in Eighteenth-Century Southeastern Pennsylvania," *Geographical Review* LVI (October 1966): 467-496; John Walzer, "Colonial Philadelphia and its Backcountry," *Winterthur Portfolio* 7 (1971): 161-173; *Lewis Miller, Sketches and Chronicles*, 27, 86; Prowell, *History of York County*, 93, 95.

¹¹ *Pennsylvania Gazette*, November 12, 1873, obtained through Accessible Archives; *Lewis Miller, Sketches and Chronicles*, 75, 33, 47, 65, 88, 94, 98, 75, 91 respectively.

¹² Michael V. Kennedy, "Cash for His Turnups": Agricultural Production for Local Markets in Colonial Pennsylvania, 1725-1783," *Agricultural History* 74 No. 3 (Summer, 2000), 587-608. Quote is from page 606.

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¹⁷ Robert Bucher, "Meadow Irrigation in Pennsylvania," *Pennsylvania Folklife* 11 (fall 1960): 24-33.

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¹⁹ John Gibson, *History of York County, Pennsylvania* (Chicago, 1886), 346; Prowell, *History of York County*, 92-6.

²⁰ 1798 Direct Tax manuscripts for Chanceford Township; Joseph Kindig, *Architecture in York County* (Historical Society of York County, 1988); York County Board of Commissioners, *Historic Districts, York County, Pennsylvania* (York, PA, 1975), 18, 21, 65-66.

²¹ See for example the entries for Chanceford Township in York County.

²² Prowell, *History of York County*, 96, says there were no big barns before the Revolution; when they appeared, many were thatched with rye straw. *Historic Districts, York County*, n.p., shows a picture of a c 1810 one with stone ends and added forebay. See also *York County, a Window on the Past* (York, PA, 1975), unpaginated photos and short descriptions of early log barns.

²³ In York County, there are apparently early spring houses at HRF site 101597; 45655; 45721; and 45797. Some images are on file at the Bureau for Historic Preservation in Harrisburg.

²⁴ Email communication, November 6, 2010.

²⁵ *Pennsylvania Gazette*, November 12, 1783; November 5, 1783; September 24, 1767, obtained through Accessible Archives; 1798 Direct Tax manuscripts for Chanceford Township; Hays, "Overlapping Hinterlands." See also Richard Shaner, "Distillation and Distilleries Among the Dutch," *Pennsylvania Folklife* 13:3 (July 1963): 39-42; Amos

Long, *The Pennsylvania German Family Farm* (Breinigsville, PA: The Pennsylvania German Society, 1972), 171-175.

²⁶ See Gabrielle Lanier, "Landscapes," in Sally McMurry and Nancy Van Dolsen, eds., *Architecture and Landscape of the Pennsylvania Germans, 1720-1920* (forthcoming, University of Pennsylvania Press). Advertisements in the *Pennsylvania Gazette* occasionally note how many fields are cleared and fenced; see for example November 10, 1779. Obtained through Accessible Archives.

²⁷ Jo N. Hays, "Overlapping Hinterlands: York, Philadelphia, and Baltimore, 1800-1850," *Pennsylvania Magazine of History and Biography* Vol. 116, No. 3 (Jul., 1992), pp. 295-321.

²⁸ For photos of York city markets, see Georg Sheets, *Made in York*, page 83 and 87

²⁹ It is difficult to compare 1850 and 1880 in this respect, because of differing definitions of "improved" land. But see Kuan-I Chen, "Agricultural Production in Pennsylvania, 1840 to 1950," Ph.D. thesis, Pennsylvania State University, Agricultural Economics/Rural Sociology, 1954, who shows with census figures that clearing accounted for most of the production increases at least until the twentieth century.

³⁰ *Agriculture of Pennsylvania*, 1882, chart XI.

³¹ Prowell, *History of York County*, 631-2. Gibson, *History of York County*, 356, mentions Connecticut Narrow Leaf, Connecticut Broad Leaf, Hoover Leaf, Glessner, etc as used in York County. He gives a detailed description of the tobacco culture process on 356-7. On 358 he says that "no other single industry employs so many persons in York County as the manufacture of cigars." United States Census of Agriculture, Tenth Census, Report on the Culture and Curing of Tobacco, Chapter 14, Culture and Curing of Tobacco in Pennsylvania, p. 167.

³² Prowell, *History of York County*, 95.

³³ D. J. Lake, *Atlas of Adams County PA*, 1872. Reprint, Adams County Historical Society, 1994, no pagination.

³⁴ Georg Sheets, *Made in York* (York, PA: Agricultural & Industrial Museum of York County, 1991), 50-52.

³⁵ Henry L. Fisher, "Harvesting," in *Olden Times: Or Rural Life Some Fifty Years Ago, and Other Poems* (York, PA: Fisher Brothers, 1888), 87-115, represented Pennsylvania German men and women working together at harvest time. Phebe Earle Gibbons, *'Pennsylvania Dutch,' and other Essays* (Philadelphia: Lippincott, 1874), 43, noted that Pennsylvania German women did the milking.

³⁶ *Agriculture of Pennsylvania*, 1878, 276-7.

³⁷ Sally McMurry, "The Pennsylvania Barn as a Collective Resource," *Buildings and Landscapes* 16:1 (Spring 2009): 9-29.

³⁸ Prowell, *History of York County*, 97-8, says threshing machines were regarded with distrust by laborers. He also noted that the Hussey Reaper was manufactured in Hanover. Gibson, *History of York County*, 346, notes the c. 1825 introduction of the cast iron plow and c. 1855 when the reaper "came into common use" and thrashing machine "almost universally used."

³⁹ Joseph Glass, *The Pennsylvania Culture Region: A View from the Barn* (Ann Arbor, Mich: UMI Research Press, 1986). Photographs by H. Winslow Fegley, in *Farming, Always Farming*, show the range very well. See especially pages 4, 5, 35, 36, 38, 39, 40, 91, 93, 98, 99. Glassie, *Pattern*, 56-60.

⁴⁰ This was not an exclusively Pennsylvania German practice, but it was common in the Pennsylvania culture area.

⁴¹ Some scholars use the term “four-over-four” to refer to a house with four *rooms* on each floor, regardless of exterior appearance. Barry Rauhauser, on the other hand, in “The Development of the Pennsylvania Farmhouse Type in Manchester Township, York County, Pennsylvania” (Master’s thesis, University of Delaware, 2002), uses the term four-over-four to refer to the number of exterior bays on the main elevation.

⁴² Spangler/Benner Farm, Mount Joy Township, Adams County, Pennsylvania Historic Resources Key Number 097742.

⁴³ See Henry Glassie, *Folk Housing in Middle Virginia* (Knoxville : University of Tennessee Press, 1979,c1975).

⁴⁴ McMurry, “The Pennsylvania Barn as a Collective Resource.”

⁴⁵ Huber, “Two Hundred Years of Farming in Lancaster County,” 99. See also *New England Farmer* September 25, 1829 page 80 (American Periodicals Series online)

⁴⁶ See for example the business listings for Lower Windsor and Fairview Townships in *Atlas of York County Pennsylvania*, “by and under the direction of” Beach Nichols, published by Pomeroy, Whitman and Co, Philadelphia ,1876.

⁴⁷ See Sheets, page 141, for a good late 19th century farm photo from the Historical Society of York County.

⁴⁸ Adams County Agricultural Extension Archives, County Agent Report, 1924.

⁴⁹ *Atlas of York County Pennsylvania*, “by and under the direction of” Beach Nichols, published by Pomeroy, Whitman and Co, Philadelphia 1876, see especially Heidelberg Township, where distilleries are shown. Sheets, *Made in York*, 148.

⁵⁰ L. H. Wible, “Creameries, Cheese Factories, Milk Condenseries and Canneries of Pennsylvania, a List by Counties.” Pennsylvania Department of Agriculture *Bulletin* No. 271, 1915.

⁵¹ Adams County Agricultural Extension Archives, County Agent Report, 1917; Sheets, *Made in York*, 141.

⁵² Anderson, *Lost Heritage*, 67. See also Veatch, J. O, Lewis A. Hurst, and Gustavus B. Maynadier. *Soil Survey of York County Pennsylvania*. Washington, D. C., 1912, 167.

⁵³ Adams County Agricultural Extension Archives, County Agent Report, 1925, 1923, 1931, 1924.

⁵⁴ Veatch, J. O, Lewis A. Hurst, and Gustavus B. Maynadier. *Soil Survey of York County Pennsylvania*. Washington, D. C., 1912, 169.

⁵⁵ *Authentic General Directory of the Boroughs of York, Hanover and Wrightsville, York County, Pa., for 1877...* York, PA: Herman, Miller and Thomas, 1877, 81.

⁵⁶ York County Agricultural Extension Archives, County Agent Report, 1933; Howard Anderson, *A Lost Heritage, Living Pennsylvania Dutch*. Self published, 1988, p. 9. Penn State Special Collections, PSU Archives/Gaines Collection.

⁵⁷ Adams County Agricultural Extension Archives, County Agent Report, 1937; Veatch, J. O, Lewis A. Hurst, and Gustavus B. Maynadier. *Soil Survey of York County Pennsylvania*. Washington, D. C., 1912, 170-171.

⁵⁸ Anderson, *A Lost Heritage*, 9.

⁵⁹ M. E. John, “Part-Time Farming in Six Industrial Areas,” Pennsylvania Agricultural Experiment Station Bulletin # 361 (May 1938).

⁶⁰ William Woys Weaver, *Sauerkraut Yankees* (Mechanicsburg, PA: Stackpole Books), 116, 150.

⁶¹ Page 181.

⁶² The New York City “Dairy Report Card” is reproduced in I. F. Hall, “An Economic Study of Farm Buildings in New York,” Cornell University Agricultural Experiment Station Bulletin #478, 1929, pp. 29-34.

⁶³ Stevenson W. Fletcher, *Pennsylvania Agriculture and Country Life*. Two volumes. (Harrisburg: Pennsylvania Historical and Museum Commission, 1950–1955), Volume 2, 217-219.

⁶⁴ Plans referred to are from *Farm Building and Equipment Plans and Information Series*. See text box for publication details. Pennsylvania Circular 107 says the boiler would be needed where “the herd is large and milk is to retailed.”

⁶⁵ USDA *Farm Building and Equipment Plans and Information Series*, 1929. Not paginated.

⁶⁶ See also the map for 1927 at the Pennsylvania Agricultural History Project website.

⁶⁷ I.F. Hall, “An Economic Study”... 60.

⁶⁸ United States Department of Agriculture. *United States Department of Agriculture Circular #72*. Washington, D.C.: Government Printing Office (date unknown).

⁶⁹ Veatch, J. O, Lewis A. Hurst, and Gustavus B. Maynadier, *Soil Survey of York County Pennsylvania*, Washington, D. C., 1912, 166.

⁷⁰ York County Agricultural Extension Archives, County Agent Report, 1959.

⁷¹ Adams County Agricultural Extension Archives, County Agent Report, 1949.

⁷² Adams County Agricultural Extension Archives, County Agent Report, 1954.

⁷³ Adams County Agricultural Extension Archives, County Agent Report, 1946.

⁷⁴ York County Agricultural Extension Archives, County Agent Report, 1959.

⁷⁵ Adams and York County Agricultural Extension Archives, County Agent Reports, 1942-1946.

⁷⁶ York County Agricultural Extension Archives, County Agent Report, 1947.

⁷⁷ York County Agricultural Extension Archives, County Agent Report, 1954.

⁷⁸ 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.

⁷⁹ 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.

⁸⁰ NR Bulletin *How to Apply the National Register Criteria for Evaluation*, p 17.

⁸¹ *Historic Farming Resources of Lancaster County*, MPDF, 1994.

⁸² 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).

⁸³ “Corridor Improvement Study, Reconnaissance Survey and Historic Contexts Report. SR 0030, Section S01, East Lampeter, Leacock, Strasburg, Paradise, Salisbury, and Sadsbury Townships, Lancaster County., 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.

⁸⁴ “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

⁸⁵ Ibid.

⁸⁶ Ibid.

⁸⁷ Ibid.