Understanding the Quiet Majority: Small Farms in Pennsylvania, 2017

Agriculture in Pennsylvania is diverse, with farms ranging from very small to very large, producing a wide variety of different crops and animal products, and selling through many different outlets. However, the major differences in farm size often are overlooked when people discuss Pennsylvania farming, as is the important role played by the Commonwealth's smallest farms.

Key Points

- The vast majority of Pennsylvania farms are small operations when considered by their value of sales.
- About half of all Pennsylvania farms sold less than $10,000 of agricultural products in 2017, and 24% of farms statewide sold less than $1,000 in that year.
- Only 11.8% of Pennsylvania farms are larger than the USDA's definition of small farms, which is annually selling less than in $250,000 in agricultural products.
- Small farms are the predominant farm type across Pennsylvania, though they are more common in the Appalachian highlands of western Pennsylvania and the Northern Tier than in the ridge and valley region of southeast Pennsylvania.
- Small farms tend to focus on different agricultural products, such as hay, beef cattle, sheep or goats, than do their larger neighbors.
- The majority of small farms in Pennsylvania lose money each year, which reflects that many are operated to supplement the household pantry, or for quality of life or recreation reasons.
- Operators of small farms tend to be older than operators of larger farms.

UNDERSTANDING PENNSYLVANIA AGRICULTURE: 2017 UPDATE

PennState
College of Agricultural Sciences

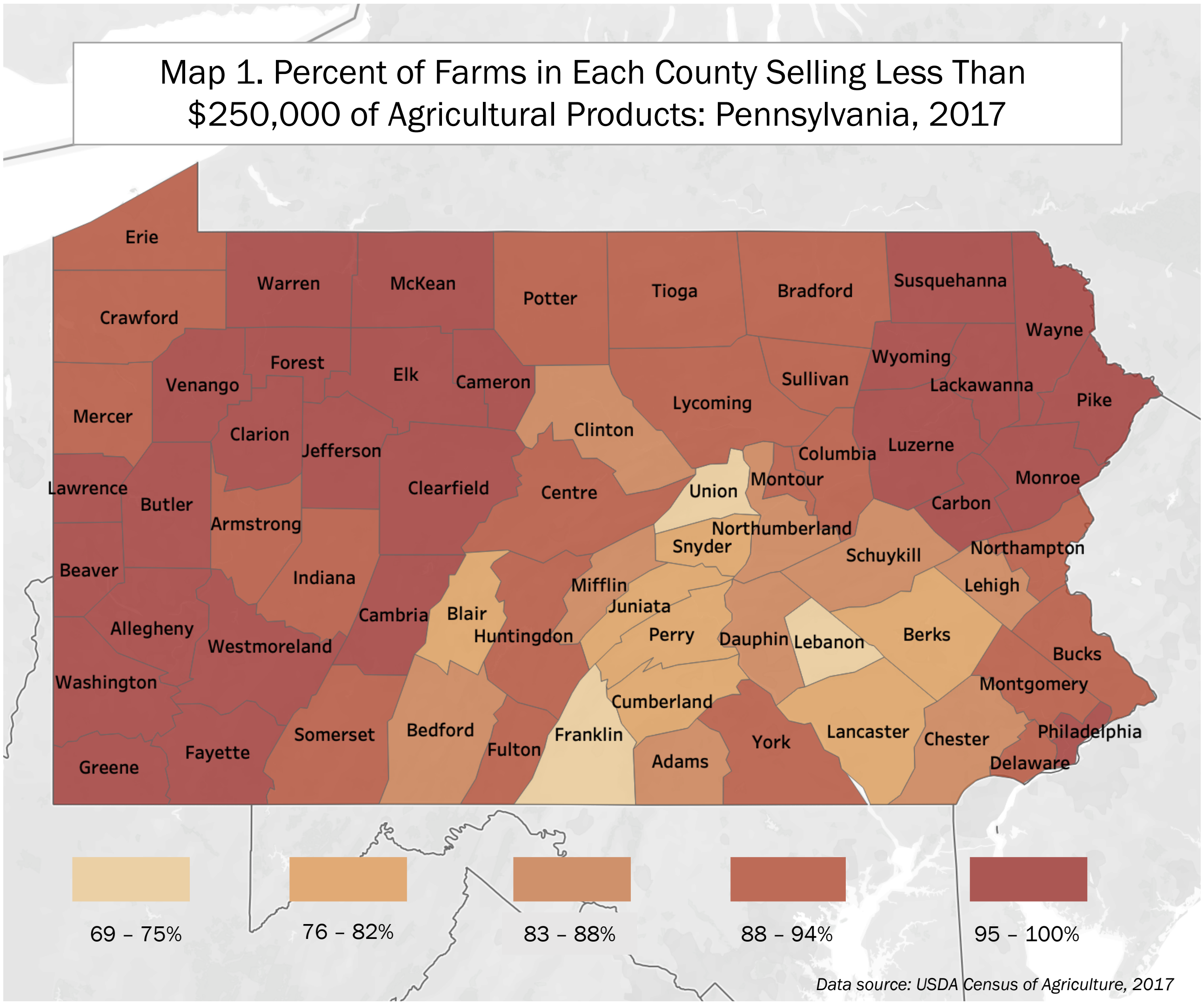
Center for Economic and Community Development

The vast majority of Pennsylvania farms are small operations when considered by their value of sales. According to the U.S. Census of Agriculture, about 79% of Pennsylvania farms sold less than $100,000 of agricultural products in 2017, an amount that would leave the farm household much less actual income once farm expenses are deducted from sales. About half of all Pennsylvania farms (50.8%) sold less than $10,000, and 24% of farms statewide sold less than $1,000 in that year. Farms of such small size typically are too small to be a major source of income or livelihood for the owner, but instead are operated to supplement the owner's income or pantry, or for lifestyle or recreational purposes. In many ways small farms are the silent majority in Pennsylvania agriculture; they far outnumber the larger farms which people commonly immediately think of when agriculture is discussed, and yet they largely are invisible in such discussions.

One potential reason why small farms are overlooked is because collectively they account for a very small share of total farm production. For example, the 27,000 Pennsylvania farms (50.8%) who had less than $10,000 in sales in 2017 collectively accounted for only 0.08% of total farm-related agricultural product sales in that year, while the 11,348 farms with $100,000 or more in sales were responsible for 92.4% of such sales (the 6,292 farms with $250,000 or more in sales themselves account for 81.3% of total farm-related sales). Yet despite small farms' contributions towards total agricultural product sales, they are important because of the predominant number of them, as well as other factors. This report examines the role of small farms in Pennsylvania, including where they are located, what they produce, and the characteristics of the people who operate these farms. Unless otherwise noted, all data in this report is from the 2017 U.S. Census of Agriculture.

Section 1: Where Are the Small Farms?

Small farms are the predominant farm type throughout Pennsylvania. Statewide, about 88% of all Pennsylvania farms had less than $250,0000 in annual agricultural product sales in 2017, a level of sales that the U.S. Department of Agriculture (USDA) defines as 'small farms.' As noted earlier, annual sales values, or the 'market value of agricultural products sold,' represent sales, not income or profit, so the amount left after expenses are paid typically is significantly less than the sales value. Not surprisingly, the proportion of small and large farms varies across Pennsylvania counties. In 24 Pennsylvania counties more than 95% of farms sold less than $250,000 of agricultural products in 2017, while in only three counties did more than one quarter of farms sell more than this amount (Franklin 31%, Lebanon 30%, and Union 27%), with Lancaster close behind (24%) (See Map 1. County-level percentages appear in Appendix Table A1).

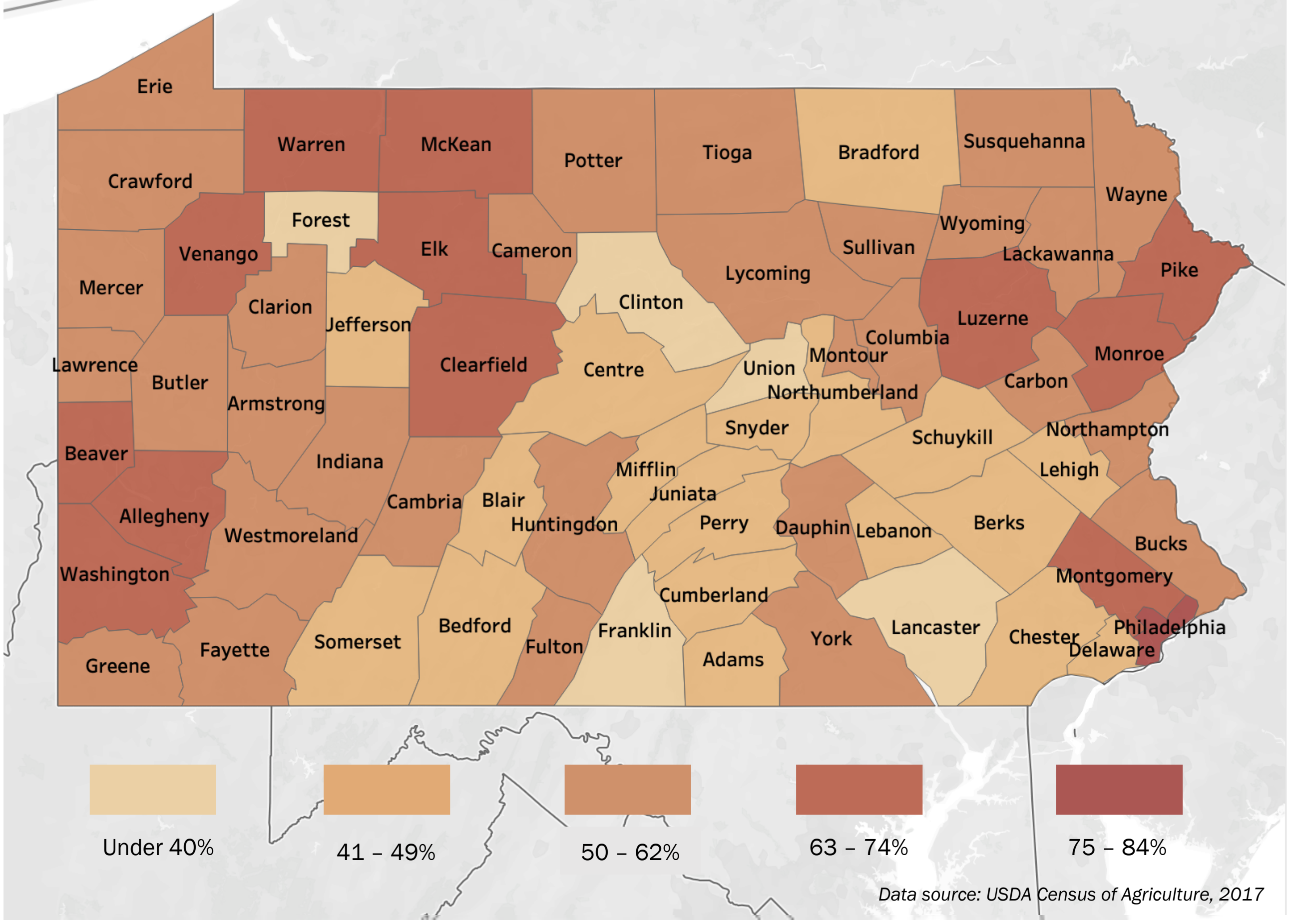


Map 1. Percent of Farms in Each County Selling Less Than $250,000 of Agricultural Products: Pennsylvania, 2017

The proportion of small farms in a county does seem related to the county's geographic location. About 96% of farms in counties in western Pennsylvania sold less than $250,000 of agricultural products in 2017, as did 93.6% of farms in the northern part of the Commonwealth. In contrast, the percentage was "only" 82.7% of farms in southcentral and southeast Pennsylvania. These geographic patterns can be seen in Map 1. These differences may be occurring because the soils and climate conditions for farming generally are better in southcentral and southeastern Pennsylvania due to the limestone soils there.

Similar geographic patterns are clear when considering farms who sold less than $10,000 of agricultural products in 2017 (see Map 2). Counties in the Appalachian Highlands and Northern Tier were more likely to have larger proportions of farms of this small size (58.9% and 56%, respectively) than were counties in the Ridge and Valley region in southcentral and southeast Pennsylvania (45.1%).

Map 2. Percent of Farms in Each County Selling Less Than $10,000 of Agricultural Products: Pennsylvania, 2017



Data source: USDA Census of Agriculture, 2017

It might be expected that more populous counties are more likely to have larger proportions of small farms than less populous counties due to higher population densities and population pressure on land use and property values. However, the proportion of small farms in a county isn't directly associated with the size of a county's population. Pennsylvania counties with 200,000 or more residents had an average of 90.4% of their farms selling less than $250,000 annually, a slightly smaller percentage than counties with fewer than 50,000 residents (91.1%) and between 50,000 and 99,999 residents (93.4%), but slightly more than counties with 100,000 to 199,999 residents (88.8%) (See Table 1. Population data also appears in Appendix Table A1).

Table 1. Average Percent of Farms at the County Level Selling Less Than $250,000 a Year by Population: Pennsylvania, 2017

PA County Population	Average Percent of Farms at the County Level Selling Less Than $250,000 a Year
Less than 50,000	91.1%
50,000 to 99,999	93.4%
100,000 to 199,999	88.8%
200,000 or more	90.4%

Data sources: USDA Census of Agriculture, Table 2, 2017; PA State Data Center, 2018

Section 2: What Do Small Farms Do?

2.1 Types of Agricultural Production

Not surprisingly, small farms in Pennsylvania tend to focus on different agricultural products than do their larger neighbors. For example, farms with less than $10,000 in annual agricultural product sales were more likely to grow hay as their primary product (i.e. sales of that product account for 50% or more of the farm's total sales) than were farms with $250,000 or more in annual sales (34.8% compared to 2.7%) (see Table 2). Such small farms similarly were more likely to raise beef cattle than do the larger farms (17.5% compared to 5.6%). Other primary products more common to these small farms than to large farms included sheep and goats (7.8% compared to 0.1%) and aquaculture and other animals (20.2% compared to 1.9%). Other animal production includes bees, horses and other equine, rabbits, and other fur-bearing animals.

Table 2. Farms by Primary Agricultural Product: Pennsylvania, 2017

Primary Agricultural Product	All Farms	Farms by Market Value of Ag Products Sold			
		$250,000 or more	Less than $250,000	Less than $10,000	Less than $1,000
Oilseed & Grain	11.8%	9.8%	30.5%	5.7%	1.3%
Vegetable & Melons	3.7%	1.9%	8.3%	3.0%	1.1%
Fruit & Tree Nuts	3.4%	2.5%	5.6%	3.4%	2.5%
Greenhouse, Nursery & Floriculture	4.7%	5.0%	9.8%	3.7%	2.7%
Tobacco	0.2%	0.0%	0.6%	0.0%	0.0%
Hay	28.9%	2.7%	45.6%	34.8%	33.5%
Beef	14.4%	5.6%	25.6%	17.5%	14.1%
Dairy Cattle & Milk	10.8%	48.7%	45.0%	0.4%	0.6%
Hogs & Pigs	1.4%	5.2%	1.5%	1.2%	0.2%
Poultry & Eggs	3.6%	16.7%	4.6%	2.2%	1.6%
Sheep & Goats	4.5%	0.1%	6.1%	7.8%	8.6%
Aquaculture & Other Animal	12.5%	1.9%	16.9%	20.2%	34.0%

Data source: USDA Census of Agriculture, Table 72, 2017

In contrast, farms with less than $10,000 in annual sales were much less likely to have dairy cattle or milk as their primary product than do the largest farms (0.4% compared to 48.7%). Farms of this small size similarly were much less likely to have poultry or eggs as their main focus (2.2% compared to 16.7% of the largest farms).

Many farms grow more than one agricultural product. When comparing small and large farms it is important to consider more than just their one primary product because there are clear differences in their likelihood of growing specific products. For example, 74.1% of farms with $250,000 or more in annual sales reported selling corn, wheat, soybeans, sorghum or barley in 2017, compared to only 9.5% of farms with less than $10,000 in annual sales (see Table 3). About 69.6% of farms with $250,000 or more in annual sales reported selling cattle or calves, compared to only 15.6% of farms with less than $10,000 in sales. About half (52.7%) of large farms sold milk from cows, compared to only 0.2% of farms with less than $10,000 in annual sales. Clearly a common characteristic of large farms in Pennsylvania is a heavy focus on grains, cattle and milk, and that large farms typically sell a wide variety of farm products. Individual small farms in Pennsylvania, in contrast, appear to focus more on just one or two main products.

Table 3. Percent of Farms Selling Specific Agricultural Products: Pennsylvania, 2017

Agricultural Products	All Farms	Farms by Market Value of Ag Products Sold			
		$250,000 or more	Less than $250,000	Less than $10,000	Less than $1,000
Corn, wheat, soybeans, sorghum, or barley	31.9%	74.1%	86.6%	9.5%	2.1%
Other grains or oilseeds	6.7%	12.6%	17.5%	1.9%	0.4%
Vegetables, melons, potatoes	8.0%	9.3%	21.0%	4.5%	1.3%
Nursery, greenhouse, floriculture	4.8%	7.6%	12.9%	2.0%	0.3%
Christmas trees and woody crops	1.8%	1.0%	3.3%	1.9%	1.4%
Other crops and hay	38.4%	30.4%	75.9%	30.5%	11.4%
Cattle and calves	34.1%	69.6%	93.0%	15.6%	1.0%
Milk from cows	11.5%	52.7%	46.7%	0.2%	0.0%
Hogs and pigs	5.4%	8.9%	9.5%	4.4%	1.4%
Sheep, goats, wool and mohair	7.4%	3.4%	12.9%	8.8%	4.6%
Horses, ponies, mules, donkeys	4.1%	3.3%	10.5%	2.7%	0.7%
Poultry and eggs	13.8%	25.5%	26.0%	12.3%	8.2%
Aquaculture	0.4%	0.3%	0.8%	0.3%	0.1%
Other animals and animal products	3.4%	1.6%	6.1%	3.8%	2.1%

Data source: USDA Census of Agriculture, Table 72, 2017

2.2 Direct Sales by Small Farms

Small farms in Pennsylvania were about as likely as larger farms to sell directly to consumers. For example, about 10.1% of farms with less than $10,000 in annual agricultural product sales reported direct sales to consumers in 2017, very similar to the 8.9% of farms with $250,000 or more in annual sales who reported such sales (see Table 4). This similarity is somewhat surprising. Marketing and sales require time, effort, and contacts and may not be cost effective for small farms who have relatively small quantities to sell. As such, it could be expected the percentage of small farms selling directly to consumers would be much higher. Direct marketing, such as having a small, self-serve roadside stand or a sign by the driveway (such as 'brown eggs sold here'), or relying upon word of mouth, is relatively easy and takes little labor. Direct marketing activities can also include selling through a local farmers market, though this can be more time-consuming because it requires someone to be present when items are sold.

Small farms accounted for a relatively small share of the total value of direct sales across Pennsylvania. Farms with less than $10,000 in annual sales collectively accounted for 4.7% of agricultural products sold directly to consumers in 2017, while farms with $250,000 or more in sales accounted for 54% of the total volume of direct sales.

Small farms were much less likely to report sales to retail markets, institutions, or food hubs than were larger farms (1.2% compared to 5.1%), which probably reflects the effort required to make such arrangements (see Table 3). Large farms dominated these sales, accounting for 88.5% of direct sales to retail markets, institutions, and food hubs, while farms with less than $10,000 in annual sales made less than 0.4% of these sales statewide.

Table 4. Percent of Farms Selling Directly to Consumers or Other Direct Sales by Farm Size Pennsylvania, 2017

	All Farms	Farms by Market Value of Ag Products Sold			
		$250,000 or more	Less than $250,000	Less than $10,000	Less than $1,000
Percent of Farms, by farm size					
Direct Sales to Consumers	12.0%	8.9%	25.2%	10.1%	3.8%
Direct Sales to Retail Markets, Institutions & Food Hubs	2.7%	5.1%	5.3%	1.2%	0.4%
Share of Statewide Sales, by farm size					
Direct Sales to Consumers	100.0%	54.0%	46.0%	4.7%	0.3%
Direct Sales to Retail Markets, Institutions & Food Hubs	100.0%	88.5%	11.5%	0.4%	0.1%

Data source: USDA Census of Agriculture, Table 72, 2017

2.3 Net Cash Income

The vast majority of small farms in Pennsylvania lose money each year. Only about 14% of farms with less than $1,000 in annual agricultural product sales had a positive net gain in income from the farm operation once their expenses were considered (see Table 5), as did about 20% of farms with less than $10,000 in annual sales. In contrast, about 87.4% of farms with between $100,000 to $249,000 in annual sales earned net cash income from the farm operation, as did more than 90% of farms with $250,000 or more in annual sales.

Table 5. Net Cash Income by Market Value of Ag Products Sold: Pennsylvania, 2017

Farms by Market Value of Ag Products Sold	Farms with a Net Gain of Income		Farms with a Net Loss of Income		Number of Farms
	Number	Percent	Number	Percent	
Less than $1,000	1,744	13.7%	11,004	86.3%	12,748
$1,000 to $2,499	452	10.8%	3,744	89.2%	4,196
$2,500 to $4,999	1,005	22.4%	3,472	77.6%	4,477
$5,000 to $9,999	2,103	37.7%	3,476	62.3%	5,579
$10,000 to $24,999	3,942	58.0%	2,860	42.0%	6,802
$25,000 to $49,999	3,267	73.6%	1,170	26.4%	4,437
$50,000 to $99,999	2,848	79.8%	722	20.2%	3,570
$100,000 to $249,999	4,418	87.4%	638	12.6%	5,056
$250,000 to $499,999	2,924	91.2%	281	8.8%	3,205
$500,000 to $999,999	1,549	93.0%	117	7.0%	1,666
$1 million or more	1,335	93.9%	86	6.1%	1,421
All farms	25,587	48.1%	27,570	51.9%	53,157

Data source: USDA Census of Agriculture, Table 72, 2017

It is clear from these numbers that many small farms exist for reasons other than to make money for the farmer, such as to supplement the household pantry, or for quality of life or recreation reasons. Indeed, according to the U.S. Census of Agriculture, the average annual loss by farms who lost money and who sold less than $1,000 a year was $14,128 in 2017. The average loss by farms who lost money while selling between $1,000 and $2,499 was $10,125 (see Table 6). If the small farms were being operated with a primary goal of earning money, farm expenses would be under much greater control than what these averages suggest. The average losses by larger farms with losses, in contrast, were less than the annual sales by those farms (such the average loss of $62,723 by farms with annual sales between $100,000 and $249,999).

Table 6. Net Cash Income Losses of Farms with a Loss by Farm Size: Pennsylvania, 2017

Farms by Market Value of Ag Products Sold	Average Annual Loss by Farms Losing Money	Total Losses	Share of Total Losses Statewide	Cumulative Losses
Less than $1,000	$14,128	$155,464,512	29.5%	29.5%
$1,000 to $2,499	$10,125	$37,908,000	7.2%	36.7%
$2,500 to $4,999	$10,234	$35,532,448	6.7%	43.4%
$5,000 to $9,999	$12,482	$43,387,432	8.2%	51.7%
$10,000 to $24,999	$17,607	$50,356,020	9.6%	61.2%
$25,000 to $49,999	$32,522	$38,050,740	7.2%	68.4%
$50,000 to $99,999	$42,023	$30,340,606	5.8%	74.2%
$100,000 to $249,999	$62,723	$40,017,274	7.6%	81.8%
$250,000 to $499,999	$123,783	$34,783,023	6.6%	88.4%
$500,000 to $999,999	$252,326	$29,522,142	5.6%	94.0%
$1 million or more	$369,709	$31,794,974	6.0%	100.0%
All farms	$19,120	$527,138,400	100.0%	

Data source: USDA Census of Agriculture, Table 72, 2017

It is important to notice that small farms accounted for the majority of farm net cash income losses within Pennsylvania; for example, the total losses by farms with less than $1,000 accounted for 29.5% of the total net cash income losses by Pennsylvania farms in 2017, while losses by all farms with less than $10,000 in annual sales accounted for slightly more than half of all such losses (see Table 6). In fact, about three-quarters of all net income lost by farms was lost by farms with less than $100,000 in annual sales. Overall, small farms generally lose money while larger farms are much more likely to make money.

2.4 Acreage Owned by Small Farms

Small farms in Pennsylvania tend to be smaller in acreage than large farms. For example, the average farm with annual agricultural product sales between $1,000 and $2,499 in 2017 was 45 acres in size, while farms with annual sales of $1 million or more averaged 661 acres in size (see

Table 7). Average farm size declines as annual sales decrease (with the exception of the farms with less than $1,000 in annual sales, who had an average of 62 acres, which was still fewer acres than all farms selling $5,000 or more a year). Despite their average smaller acreage, small farms still accounted for an important share of farmland in Pennsylvania; half of the farm acreage in 2017 was owned by farms selling less than $100,000 a year, and 22% was owned by farms with less than $10,000 a year in sales.

Table 7. Land in Farms by Market Value of Ag Products Sold: Pennsylvania, 2017

Farms by Market Value of Ag Products Sold	Total Acres	Percent of Land in Farms	Average Size of Farm (acres)
Less than $1,000	790,139	10.9%	62
$1,000 to $2,499	188,376	2.6%	45
$2,500 to $4,999	236,117	3.2%	53
$5,000 to $9,999	394,587	5.4%	71
$10,000 to $24,999	703,405	9.7%	103
$25,000 to $49,999	615,340	8.5%	139
$50,000 to $99,999	638,412	8.8%	179
$100,000 to $249,999	1,058,731	14.5%	209
$250,000 to $499,999	959,867	13.2%	299
$500,000 to $999,999	754,925	10.4%	453
$1 million or more	938,769	12.9%	661
All farms	7,278,668	100.0%	137

Data source: USDA Census of Agriculture, Table 72, 2017

Section 3: Who Are the Operators of Small Farms?

3.1 Off-Farm Work

Not surprisingly, operators of small farms were more likely to report working off-farm at a job unrelated to their farm operation than did operators of larger farms. For example, close to 70% of operators of farms selling between $1,000 and $4,999 a year reported working at least one day a year at an off-farm job, compared to only about one-third of operators of farms with $250,000 or more in sales (see Table 8). Significantly, operators of small farms were also more likely to report working more days off-farm than did operators of larger farms. About 46% of operators of farms selling less than $1,000 annually reported working 200 days or more off-farm, for example, compared to only about 14% to 15% of operators of farms with more than $250,000 in annual agricultural product sales.

Table 8. Percent of Farm Operators Who Worked Off-Farm by Farm Size: Pennsylvania, 2017						
Farms by Market Value of Ag Products Sold	No Work Off Farm	Worked At Least 1 Day Off Farm	Days Worked Off Farm			
			1 to 49	50 to 99	100 to 199	200 or more
Less than $1,000	36.3%	63.7%	7.3%	3.2%	7.4%	45.8%
$1,000 to $2,499	30.2%	69.8%	8.1%	4.1%	9.1%	48.5%
$2,500 to $4,999	30.4%	69.6%	7.8%	4.0%	9.4%	48.4%
$5,000 to $9,999	34.3%	65.7%	7.8%	4.6%	9.1%	44.3%
$10,000 to $24,999	36.5%	63.5%	7.5%	4.8%	8.9%	42.2%
$25,000 to $49,999	38.9%	61.1%	7.5%	5.2%	10.3%	38.1%
$50,000 to $99,999	44.5%	55.5%	10.2%	5.1%	10.2%	30.0%
$100,000 to $249,999	61.8%	38.2%	11.9%	3.2%	5.7%	17.4%
$250,000 to $499,999	66.8%	33.2%	11.9%	3.2%	4.0%	14.1%
$500,000 to $999,999	67.6%	32.4%	10.3%	2.8%	4.9%	14.4%
$1,000,000 or more	68.7%	31.3%	9.2%	2.8%	3.9%	15.4%
All farms	42.8%	57.2%	8.6%	4.0%	7.9%	36.7%
Data source: USDA Census of Agriculture, Table 72, 2017						

3.2 Operator Age

Operators of small farms also tended to be older than operators of larger farms. The average age of an operator of a farm selling than $1,000 of agricultural products a year was 59.1 years old in 2017, compared to an average age of only 49.6 years among operators of farms selling more than $1 million (see Table 9). These age differences become more apparent when considering the percentage of farm operators falling into different age groups. For example, about 32 percent of operators of farms with between $5,000 and $9,999 in sales were 65 years or older (22% were age 65 to 74, and an additional 10% were 75 years or older). In contrast, only 12.5% of operators of farms selling between $250,000 and $499,999 were 65 years or older (9.1% were age 65 to 74, and an additional 3.4% were 75 years or older).

Table 9. Percent of Farm Operators Within Age Groups by Market Value of Agricultural Products Sold: Pennsylvania, 2017									
Farms by Market Value of Ag Products Sold	Age of Operator								Average Age
	Under 25	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 or more	*Total*	
Less than $1,000	1.1%	5.2%	9.2%	17.7%	29.2%	24.8%	12.8%	100%	59.1
$1,000 to $2,499	2.2%	10.0%	13.7%	19.5%	26.8%	19.6%	8.1%	100%	54.7
$2,500 to $4,999	2.2%	9.8%	11.8%	19.6%	26.9%	20.3%	9.5%	100%	55.4
$5,000 to $9,999	2.2%	8.4%	12.6%	18.5%	26.4%	22.0%	10.0%	100%	56.1
$10,000 to $24,999	2.0%	8.3%	11.7%	17.4%	26.7%	21.0%	12.8%	100%	57.0
$25,000 to $49,999	2.2%	9.7%	11.2%	18.8%	26.0%	20.7%	11.3%	100%	56.1
$50,000 to $99,999	2.9%	11.9%	15.7%	18.5%	25.0%	17.4%	8.7%	100%	53.5
$100,000 to $249,999	5.2%	15.9%	18.6%	19.9%	21.9%	12.4%	6.1%	100%	49.5
$250,000 to $499,999	6.3%	18.0%	19.7%	20.7%	22.7%	9.1%	3.4%	100%	47.3
$500,000 to $999,999	5.1%	13.6%	20.8%	20.4%	26.3%	9.8%	4.0%	100%	49.0
$1,000,000 or more	3.8%	12.8%	20.0%	23.6%	25.3%	10.6%	3.9%	100%	49.6
All farms	2.7%	10.0%	13.5%	18.9%	26.3%	19.1%	9.6%	100%	54.8
Data source: USDA Census of Agriculture, Table 72, 2017									

3.3 Number of Operators Involved in Farm Decision-Making

Surprisingly, there weren't major differences by farm size in the number of farm operators involved in decision-making. For example, farms that sold between $250,000 and $499,000 a year on average had about 1.7 operators involved in day-to-day decision-making about the farm operation, not much more than the average of 1.5 operators involved in such decision-making on farms with between $1,000 and $2,499 in annual agricultural product sales (see Table 10). There were similar relatively small differences in other types of farm decision-making across farm sizes, such as livestock decisions, recording keeping and/or financial management decisions, or estate planning.

Such findings are surprising because it would be expected that larger farms with more sales would require more decision-making than smaller farms because the scale of their operations are larger. These findings might be a result of the Census simply counting the number of operators involved in decision-making rather than how many hours a week those operators spend in farm decision-making; the operators of larger farms may be more likely to do this full-time, for example, while operators of smaller farms may be doing this while balancing other responsibilities, such as off-farm work.

Table 10. Average Number of Operators Involved in Farm Decision-Making by Market Value of Agricultural Products Sold: Pennsylvania, 2017

	Day-to-Day Decisions	Land use and/or Crop Decisions	Livestock Decisions	Record Keeping and/or Financial Management Decisions	Estate Planning or Succession Planning
All farms	1.5	1.3	1.1	1.3	0.9
Farms by Market Value of Ag Products Sold					
$1,000,000 or more	1.9	1.5	1.3	1.5	1.2
$500,000 to $999,999	1.8	1.4	1.3	1.5	1.1
$250,000 to $499,999	1.7	1.4	1.3	1.5	1.1
$100,000 to $249,999	1.6	1.3	1.2	1.4	1.0
$50,000 to $99,999	1.5	1.3	1.1	1.3	0.9
$25,000 to $49,999	1.5	1.3	1.0	1.3	0.9
$10,000 to $24,999	1.4	1.3	1.0	1.2	0.9
$5,000 to $9,999	1.5	1.3	1.1	1.2	0.9
$2,500 to $4,999	1.5	1.3	1.1	1.2	0.9
$1,000 to $2,499	1.5	1.2	1.1	1.2	0.9
Less than $1,000	1.4	1.1	1.0	1.1	0.8

Data source: USDA. Census of Agriculture, Table 72, 2017

Implications

Farms in Pennsylvania predominantly are small operations, with almost four out of five farms (79%) selling less than $100,000 of agricultural products in 2017. About half of all farms sold less than $10,000, and 24% sold less than $1,000 in that year. Farms of this size typically are too small to be a major source of income or livelihood for the owner, but instead are operated to supplement household income or pantry, or for lifestyle or recreation purposes.

Only one out of eight Pennsylvania farms (12%) exceeded $250,000 in annual sales, which the U.S. Department of Agriculture defines as the cutoff between small and large farms. The very large number of small farms in Pennsylvania does not diminish the important role played by large farms in the Commonwealth. The vast majority of farm production in Pennsylvania is done on a relatively small proportion of farms in the Commonwealth. The 6,292 farms with $250,000 or more in annual sales accounted for 81.3% of the total value of sales statewide, while the 11,348 farms with $100,000 or more sales were responsible for 92.4% of such sales.

The Census of Agriculture data thus demonstrates that Pennsylvania *farm operations* predominantly are small, while *farm production* predominantly is done on large farms. This distinction is important to keep in mind when discussing Pennsylvania agriculture. The types of farm production vary across large and small farms, with small farms being much more likely to focus on hay and beef production and less likely to focus on dairy production than do large farms. They also tend to be smaller in physical size than large farms, and their operators tend to be older and rely more upon off-farm work than do operators of large farms. The data indicates that there are significant differences between the 53,157 farms in Pennsylvania, and that it is important to keep these size-related differences in mind when discussing Pennsylvania's agriculture.

For an understanding of the economic effect of small farms in Pennsylvania, see the CECD report "Not Inconsequential: The Economic Effect of Small Farms in Pennsylvania."

References

Pennsylvania State Data Center, Penn State Harrisburg. (2018). *2017 County Population Estimate.* Available at https://pasdc.hbg.psu.edu/sdc/pasdc_files/researchbriefs/March_2018.pdf

U.S. Department of Agriculture. (2019). *Table 2: Market Value of Agricultural Products Sold Including Food Marketing Practices and Value-Added Products: 2017 and 2012.* Available at https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_2_County_Level/Pennsylvania/st42_2_0002_0002.pdf

U.S. Department of Agriculture. (2019). *Summary by Market Value of Agricultural Products Sold: 2017, Table 72.* Available online at: https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_State_Level/Pennsylvania/st42_1_0072_0072.pdf

Appendix

Table A1. Percent of Farms in Each County by Market Value of Agricultural Products Sold: Pennsylvania, 2017

County	Farms by Market Value of Ag Products Sold				Population, 2017	County	Farms by Market Value of Ag Products Sold				Population, 2017
	$250,00 or more	Less than $250,000	Less than $10,000	Less than $1,000			$250,00 or more	Less than $250,000	Less than $10,000	Less than $1,000	
Pennsylvania	12%	88%	51%	24%	12,805,537	Juniata	20%	80%	47%	22%	24,514
Adams	13%	87%	46%	19%	102,336	Lackawanna	4%	96%	55%	24%	210,761
Allegheny	3%	97%	68%	30%	1,223,048	Lancaster	24%	76%	30%	12%	542,903
Armstrong	6%	94%	57%	30%	65,642	Lawrence	5%	95%	54%	20%	87,069
Beaver	3%	97%	68%	31%	166,140	Lebanon	30%	70%	41%	19%	139,754
Bedford	12%	88%	48%	17%	48,480	Lehigh	12%	88%	42%	18%	366,494
Berks	22%	78%	42%	19%	417,854	Luzerne	4%	96%	65%	38%	317,343
Blair	18%	82%	41%	17%	123,457	Lycoming	6%	94%	59%	34%	113,841
Bradford	9%	91%	51%	25%	60,853	McKean	1%	99%	66%	37%	41,330
Bucks	9%	91%	57%	33%	628,341	Mercer	6%	94%	53%	20%	111,750
Butler	5%	95%	53%	22%	187,108	Mifflin	15%	85%	46%	22%	46,388
Cambria	4%	96%	61%	32%	133,054	Monroe	5%	95%	70%	36%	168,046
Cameron	0%	100%	62%	24%	4,592	Montgomery	7%	93%	63%	35%	826,075
Carbon	5%	96%	56%	33%	63,853	Montour	9%	91%	56%	31%	18,272
Centre	8%	92%	48%	23%	162,660	Northampton	10%	90%	56%	18%	303,405
Chester	17%	83%	49%	26%	519,293	Northumberland	17%	83%	47%	27%	92,029
Clarion	4%	96%	60%	23%	38,458	Perry	20%	80%	47%	22%	46,127
Clearfield	3%	97%	65%	25%	79,685	Philadelphia	0%	100%	84%	35%	1,580,863
Clinton	12%	88%	39%	18%	38,998	Pike	2%	98%	70%	21%	55,691
Columbia	6%	94%	61%	36%	65,932	Potter	9%	91%	57%	32%	16,802
Crawford	9%	91%	56%	25%	86,159	Schuykill	13%	87%	44%	22%	142,569
Cumberland	18%	82%	44%	19%	250,066	Snyder	19%	81%	45%	21%	40,801
Dauphin	12%	88%	52%	27%	275,710	Somerset	9%	91%	46%	21%	74,501
Delaware	11%	89%	46%	38%	564,696	Sullivan	8%	92%	61%	39%	6,089
Elk	1%	99%	69%	34%	30,197	Susquehanna	5%	95%	58%	30%	40,985
Erie	7%	93%	55%	25%	274,541	Tioga	8%	92%	55%	28%	40,793
Fayette	3%	97%	59%	26%	131,504	Union	27%	73%	34%	18%	44,595
Forest	3%	97%	28%	0%	7,297	Venango	3%	97%	68%	32%	51,762
Franklin	31%	69%	36%	17%	154,234	Warren	4%	96%	63%	31%	39,659
Fulton	9%	91%	57%	25%	14,590	Washington	1%	99%	64%	28%	207,298
Greene	1%	99%	61%	25%	36,770	Wayne	5%	95%	53%	19%	51,205
Huntingdon	10%	90%	56%	29%	45,491	Westmoreland	4%	96%	59%	27%	352,627
Indiana	8%	92%	58%	28%	84,953	Wyoming	3%	97%	61%	35%	27,322
Jefferson	5%	95%	49%	19%	43,804	York	8%	92%	61%	33%	446,078

Data source: USDA Census of Agriculture, Table 2, 2017; Pennsylvania State Data Center, 2018

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