Center for Economic and Community Development

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Pennsylvania Agriculture:

Where the Action is!

$7.4 Billion Sales - $1.8 Billion Farm Income
A Graphic Update

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Pennsylvania Agriculture: Where the Action Is!

Pennsylvania agriculture in 2017 is in a rough spot. Prices of major commodities have plummeted since 2012. This raises the question "Which farms can readily adjust and continue farming successfully? The long-run trend in Pennsylvania has been more "large" farms and fewer "small" farms – suggesting bigger is better.

For a close-up check on "bigger is better" this report takes a detailed graphic look at farm size and farm incomes on Pennsylvania farms in 2012 – the latest year of detailed Agriculture Census data. For an in-depth analysis, the state's 59,309 farms in 2012 are grouped by farm product sales as follows:

Farm Size	Farm Product Sales ($) – 2012
Mega	500,000 & over
Large	100,000 – 499,999
Medium	10,000 – 99,999
Small	Less than 10,000

Data Source for Report

"2012 Census of Agriculture – Pennsylvania" – U.S. Department of Agriculture

"2015-16 Agricultural Statistics Bulletin – Pennsylvania" – U.S. Department of Agriculture

Please Note: This report seeks to tell the story of agriculture in Pennsylvania in 2012 by minimizing text and maximizing graphics – a graph is worth a thousand words.

Also: The authors welcome any comments/questions on content or format.

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59,000 Farms – Mega to Small: A Summary

"The next farm-bust is coming." – Wall Street Journal, Feb. 1, 2017

Pennsylvania agriculture in 2017 is in a rough spot. Prices paid to farmers for four major commodities – milk, soybeans, corn for grain and wheat – have plummeted, since 2012 cutting profit margins and farm incomes. This raises the question "Which farms can adjust and survive an extended decline in commodity prices?"

The long-run trend in Pennsylvania and the U.S. has been for more "large" and fewer "small" farms, suggesting that farm size is often key to successful farming. It is too early to assess the impact of the 2012-16 decline in commodity prices on farm size and numbers in Pennsylvania, but a close-up look at Pennsylvania farms in 2012 shows farm incomes closely linked to farm size.

Is Bigger Better? Farm Product Sales and Farm Incomes - Pennsylvania Farms In 2012

To look at farm sizes and incomes of Pennsylvania's 59,309 farms – 2012, we grouped farms by product sales: Mega, Large, Medium, and Small. The results showed Mega and Large farms dominating Pennsylvania agriculture with 95 percent of farm product sales and farm income in 2012. Key contrasts in product sales and income among the four size groups are:

2,901 Mega Farms-2012: Sales $500,000 and Over

- **$4.6** Billion Farm Product sales – **62%** of PA Total
- **$451,620** Net Cash Income Per farm
- **92%** of Farms – Net Income Gain

8,913 Large Farms-2012: Sales $100,000-499,999

- **$2.2** Billion Farm Product Sales – **29%** of PA Total
- **$74,316** Net Cash Income Per Farm
- **88%** of Farms - Net Income Gain

16,728 Medium Farms-2012: Sales $10,000–99,999

- **$0.6** Billion Farm Product Sales -**8%** of PA total
- **$5,545 –** Net Cash Income per farm
- **68%** of Farms –Net Income Gain

30,767 Small Farms-2012: Sales under $10,000

- **0.1** Billion Farm Product Sales – **1%** of PA Total
- **-$7,146** Net Cash Income per farm
- **23%** of farms – Net Income Gain

Is Bigger Better? Productivity and Farm Size – Pennsylvania Farms 2012

Productivity feeds farm incomes. Mega and Large farms outpaced Medium and Small farms on three key productivity measures in 2012.

Productivity Indicator	Mega	Large	Medium	Small
Farm Expenses % of Product Sales	76	73	92	344
Milk Sales per Cow	$4,100	$3,500	$1,500	$100
Corn for grain (bushels per acre)	132	127	111	99

Bottom Line: Farm Size and Successful Farming – Pennsylvania Farms 2012

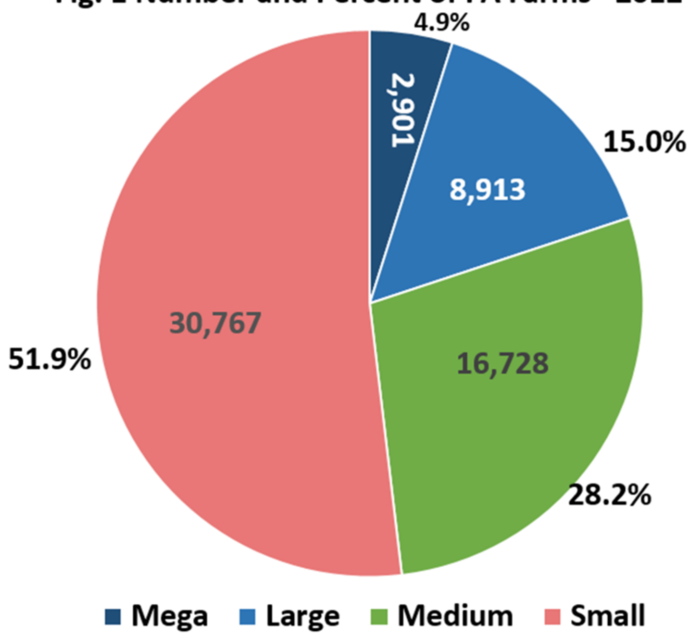
Is bigger better? - A good bet - if long-run profits are the goal.

Contents

The Big Picture: Farms – Farmland

PA. – 2012: 59,000 Farms

Fig. 1 Number and Percent of PA Farms - 2012



Highlights:

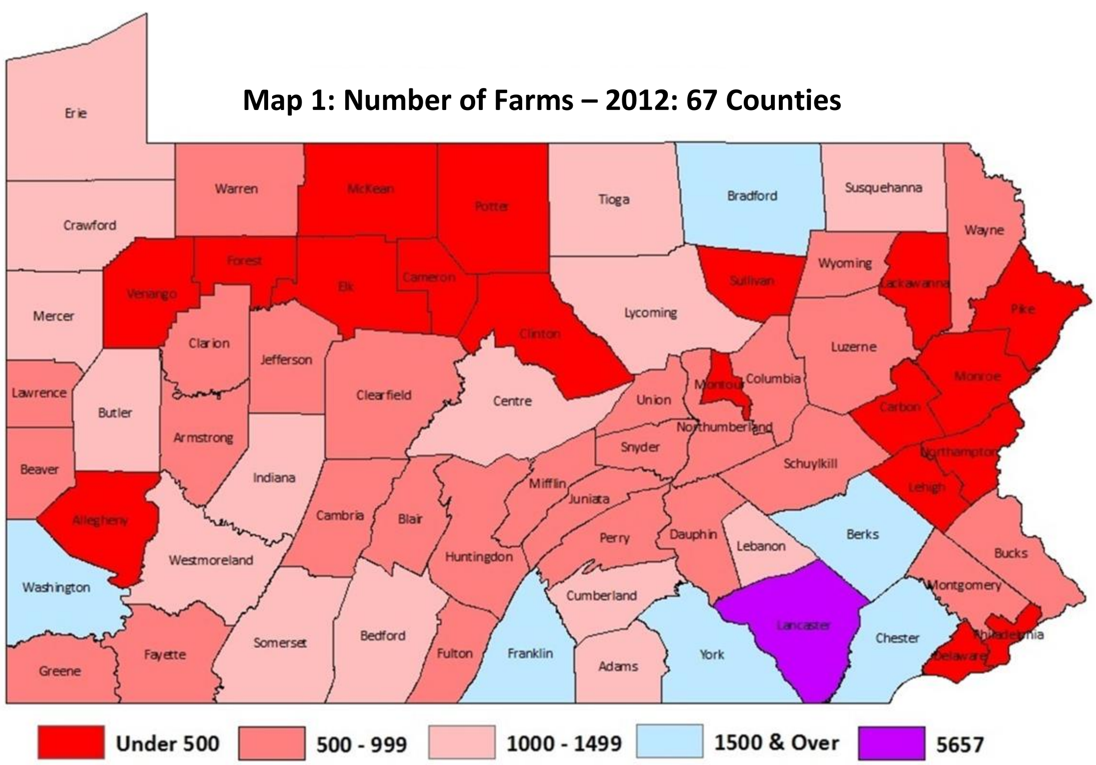
NUMBER OF FARMS

Four Sales Groups

- Mega & Large: 11,814 Farms
  - 19.9% of PA. Farms
- Small & Medium: 47,495 Farms
  - 80.1% of PA. Farms

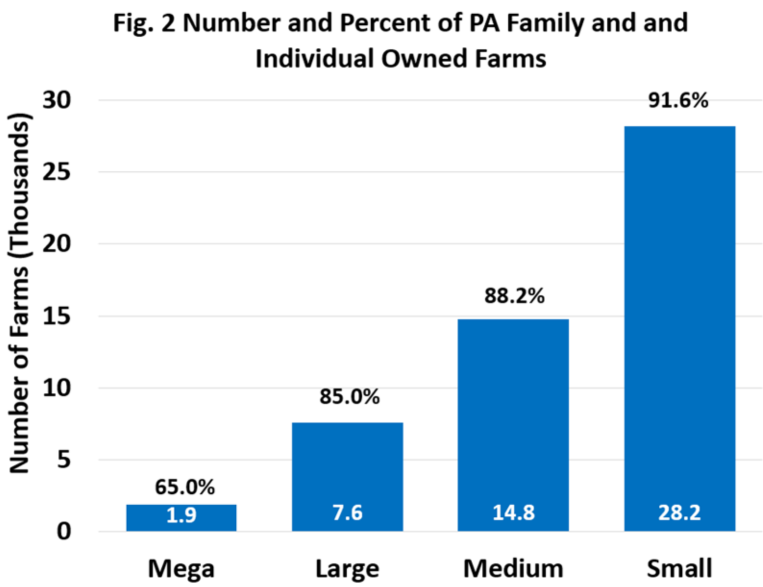
67 Counties

- Top 7 Counties - Southeast: 15,796 Farms
  - 15,796 Farms
  - 26.7% of PA. Farms
- Top Three Counties:
  - Lancaster – 5,657 Farms
  - York – 2,171 Farms
  - Berks – 2,039 Farms



Map 1: Number of Farms – 2012: 67 Counties

PA. – 2012: 52,390 Farms – Family or Individually Owned



Highlights

FAMILY/INDIVIDUAL OWNED FARMS

Four Sales Groups

Percent of Farms

- Mega – 65%
- Large – 85%
- Medium – 88%
- Small – 92%

67 Counties

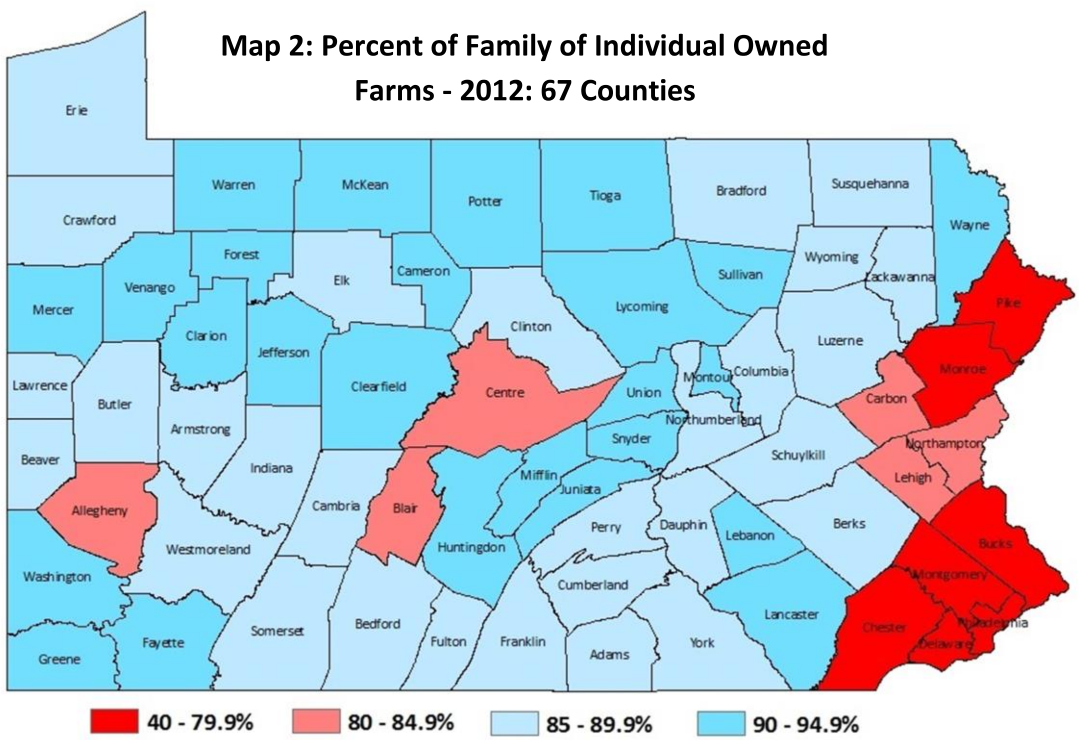
Percent of Farms

Top Three:

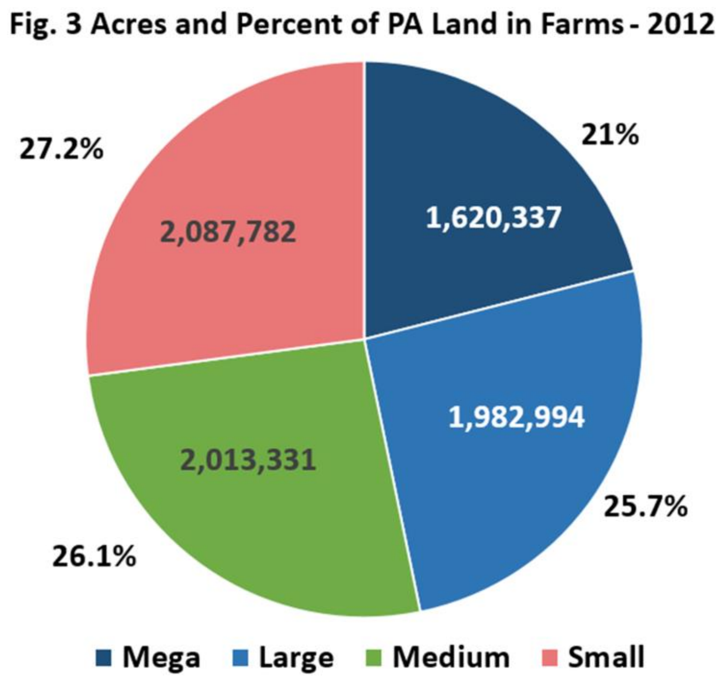
- Cameron – 94%
- Greene – 94%
- McKean – 93%

Bottom Three:

- Philadelphia – 41%
- Delaware – 68%
- Monroe – 77%



PA. – 2012: Farmland – 7.7 Million Acres



Highlights

FARMLAND

Four Sales Groups

Mega & Large: 3,603,331 Acres

- 46.7% of PA Farmland

Small & Medium: 4,101,113 Acres

- 53.3% of PA Farmland

67 Counties

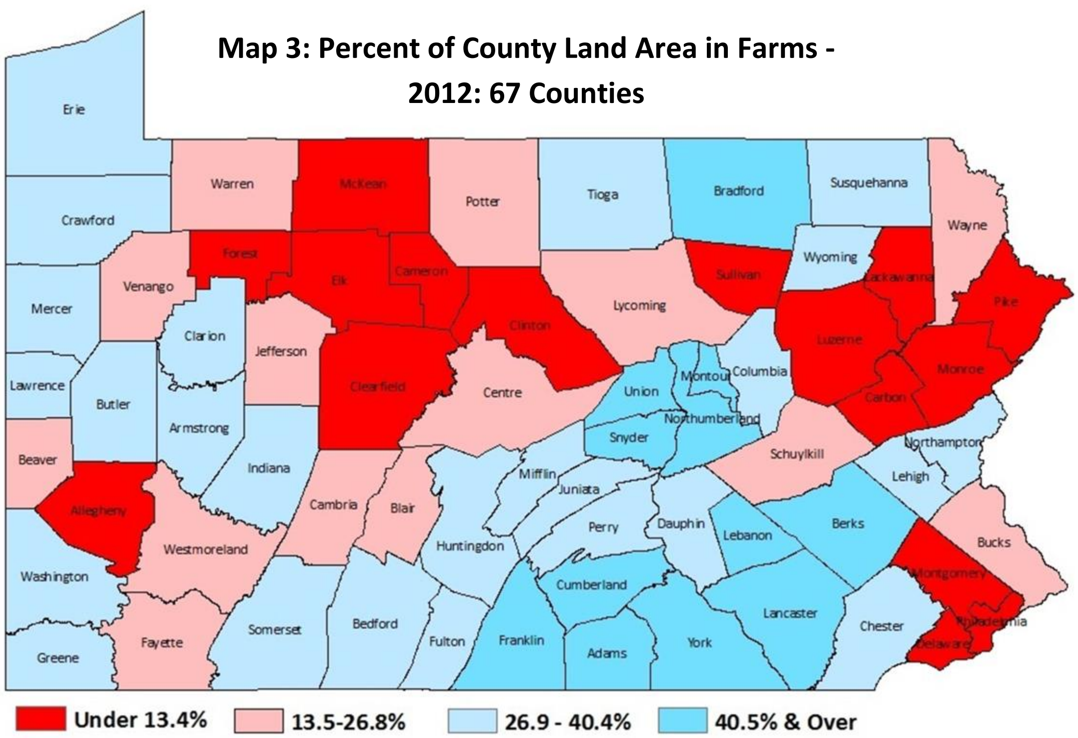
Farmland Percent of County Land Area

Top Counties - Southeast

- Lancaster – 72.8%
- Franklin – 53.5%
- Lebanon - 52.4%

Top Counties - Outside Southeast

- Montour – 52.2%
- Union - 46.1%

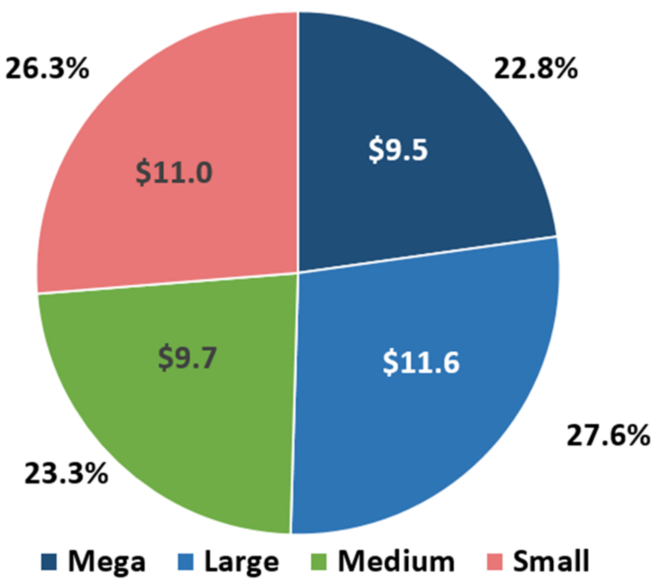


Investment: Land & Buildings – Machinery & Equipment

"You can make a fortune in Farming provided you start with a big one" –Anonymous

PA. Farms – 2012: Investment in Land & Buildings - 41.8 Billion

Fig. 4 Market Value ($- Billions) and Percent of PA Value of Land & Buildings - 2012



Highlights

INVESTMENT: LAND & BUILDINGS

Four Sales Groups

Mega & Large - $21.1 Billion
- 50.4% of PA Total

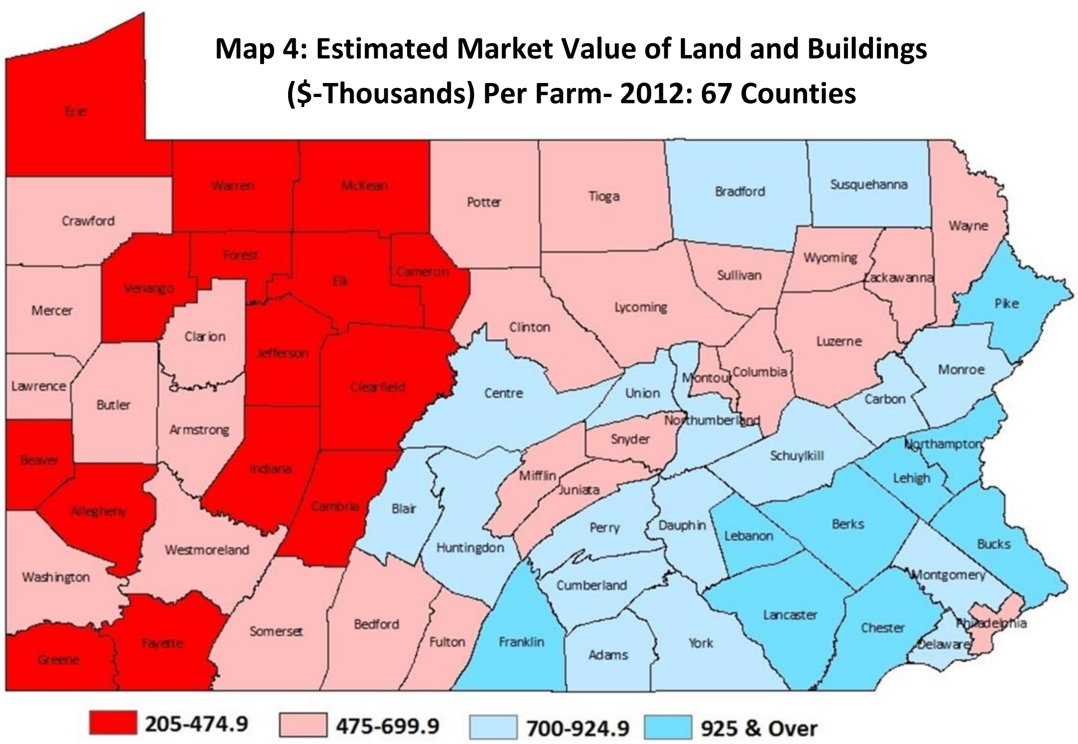
Small & Medium - $20.7 Billion
- 49.6% of PA Total

67 Counties

Investment per Farm

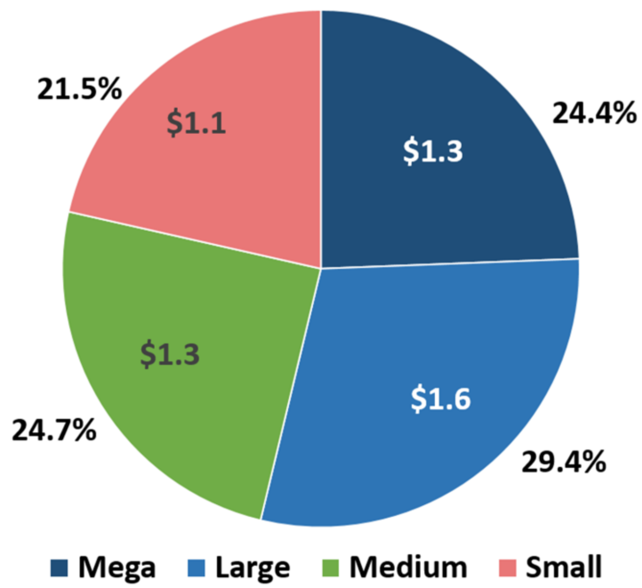
Top Counties - Southeast:
- Lehigh - $1,308,144
- Chester - $1,242,743
- Franklin - $1,101,505

Top Counties - Outside Southeast:
- Pike - $1,037,116
- Schuylkill - $860,377



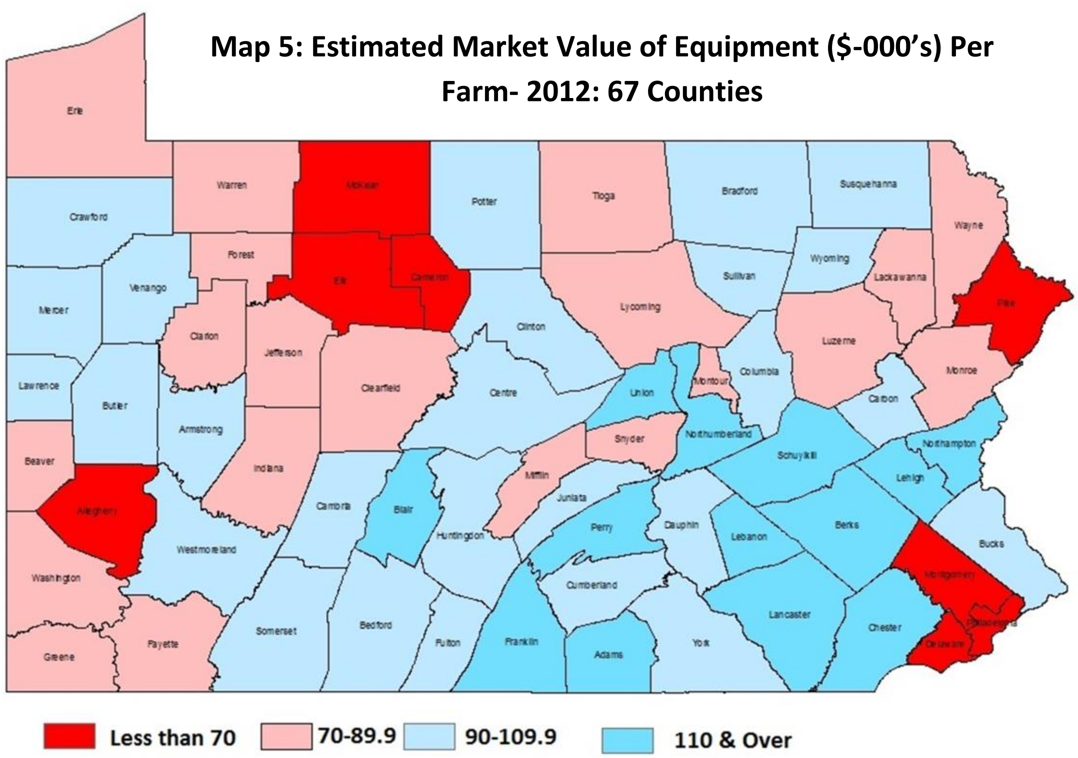
PA Farms – 2012: Investment in Machinery & Equipment - $5.3 Billion

Fig. 5 Value ($-Billions) and Percent of PA Farm Machinery and Equipment - 2012



Highlights
INVESTMENT: MACHINERY & EQUIPMENT
Four Sales Groups
Mega & Large: $2.9 Million
○ 53.8% of PA Total
Small & Medium: $2.4 Million
○ 46.2% of PA Total
67 Counties
Investment per Farm
Top Counties - Southeast:
○ Franklin - $133,634
○ Lebanon - $122,164
○ Berks - $120,253
Top Counties - Outside Southeast:
○ Northampton - $115,108
○ Blair - $106,917
○ Schuylkill - $105,597

Map 5: Estimated Market Value of Equipment ($-000's) Per Farm- 2012: 67 Counties

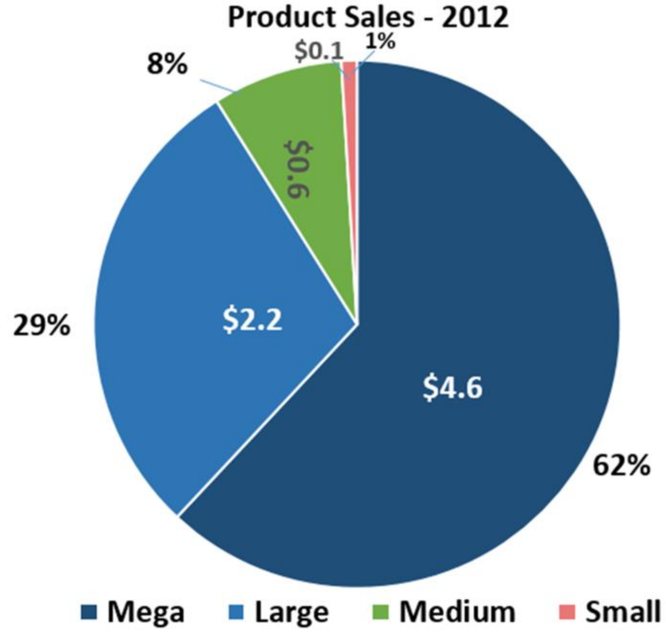


The Balance Sheet: Sales – Expenses – Income

"To make agriculture sustainable, the grower has to make a profit." – Sam Farr

PA Farms – 2012: Sales of Agricultural Products – $7.4 Billion

Fig. 6 Value ($-Billion) and Percent of PA Agricultural Product Sales - 2012



Highlights

SALES OF FARM PRODUCTS

Four Sales Groups

Mega & Large: $6.7 Billion

- 91% of PA Sales

Small & Medium: $0.7 Billion

- 8% of PA Sales

67 Counties

Percent of Farms with Sales of $100,000 & Over

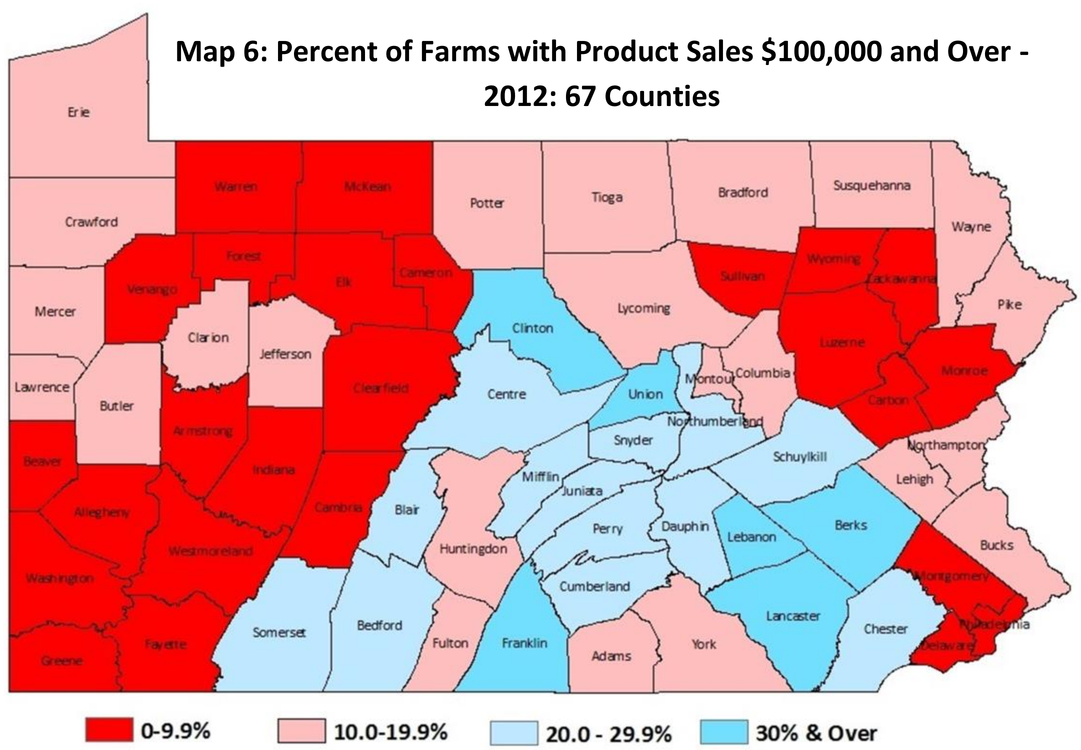
18 Counties – 20% & over:

- Located mainly in Southeast and South Central PA

Top Counties:

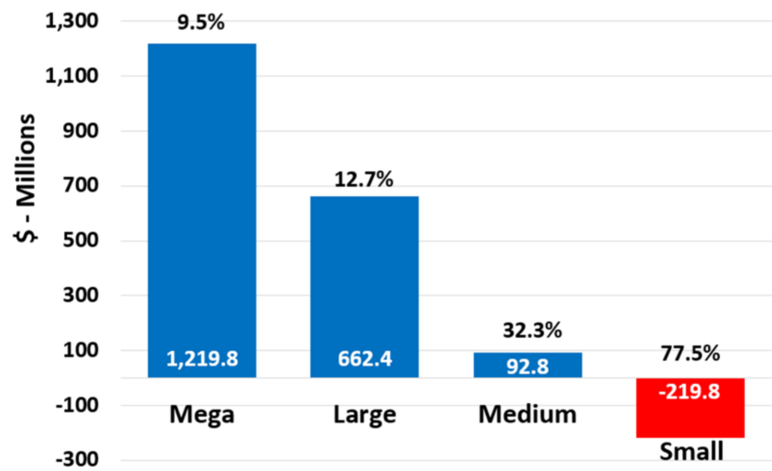
- Lancaster - 48%
- Union - 45%
- Franklin - 40%

Map 6: Percent of Farms with Product Sales $100,000 and Over - 2012: 67 Counties



PA Farms – 2012: Net Farm Income: $1.8 Billion

Fig. 7 Net Farm Income and Percent of Farms with Income Loss - 2012



Highlights:
NET FARM INCOME

Four Sales Groups

Percent of Farms with Income Loss

- Mega & Large - 10.2%
- Medium - 32.3%
- Small - 77.5%

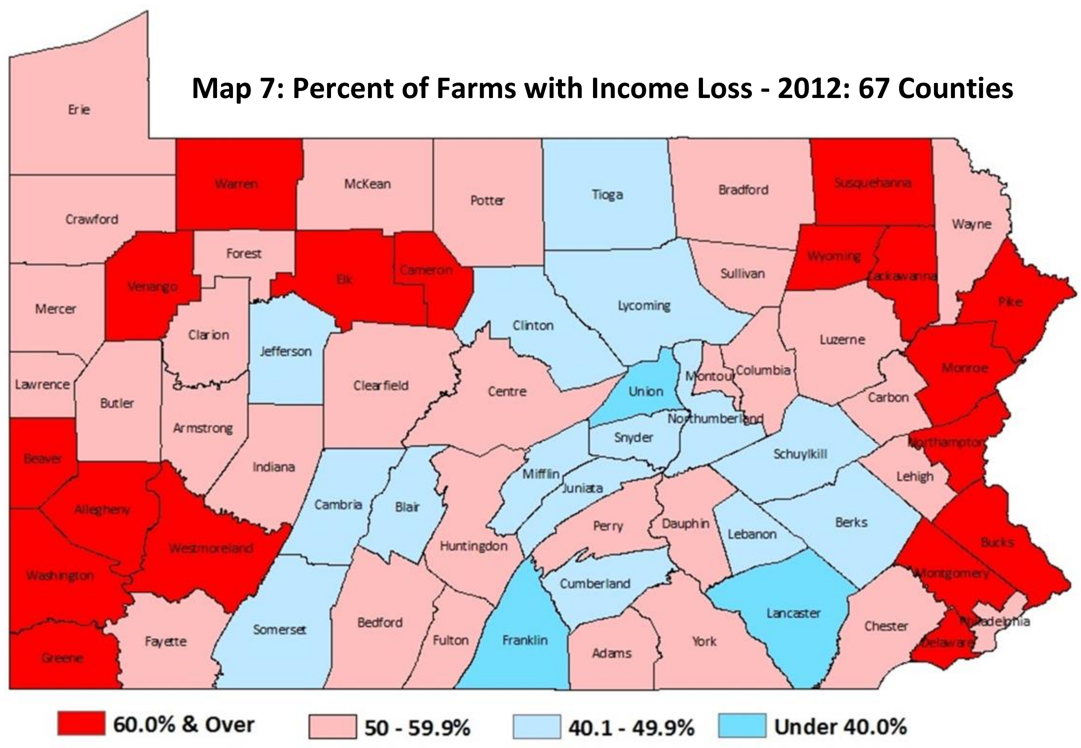
67 Counties

Percent of Farms with Income Loss

Top Counties – Lowest Percent:

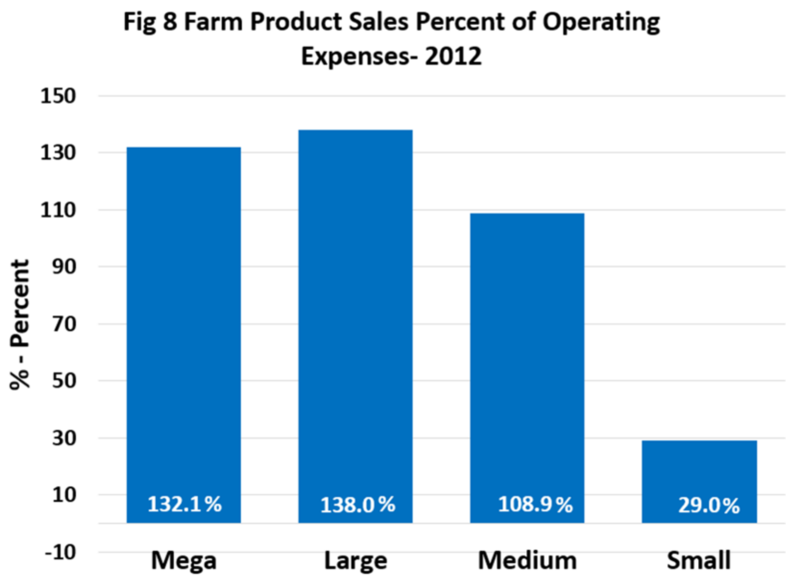
- Union - 32.8%
- Lancaster -34.4%
- Franklin - 39.4%
- Northumberland - 41.2%
- Cumberland - 41.1%

Map 7: Percent of Farms with Income Loss - 2012: 67 Counties



Productivity: Sales vs. Expenditures & Investments

PA Farms – 2012: Sales vs. Operating Expenses



Highlights:

PRODUCT SALES vs. OPERATING EXPENSES

Four Sales Groups

Sales per Dollar of Expenses

- Mega - 132%
- Large - 138%
- Medium - 109%
- Small - 29%

67 Counties

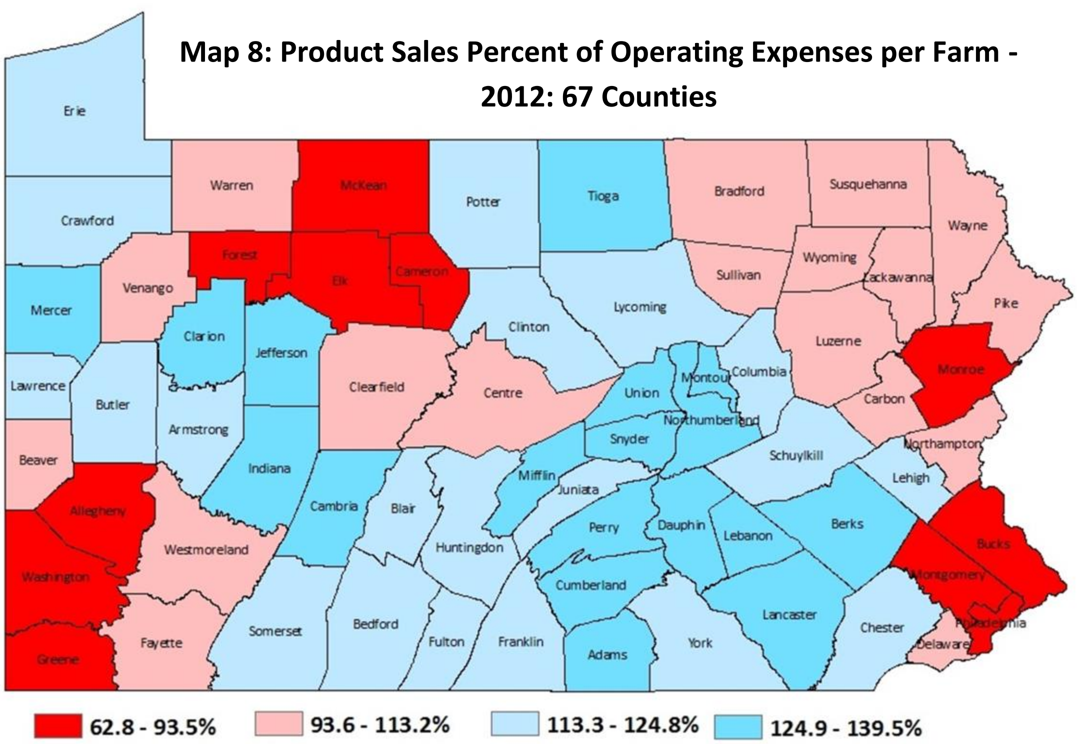
Sales Percent of Operating Expenses

Top Counties:

- Northumberland - 134%
- Mercer - 133%
- Union - 133%
- Lebanon - 133%

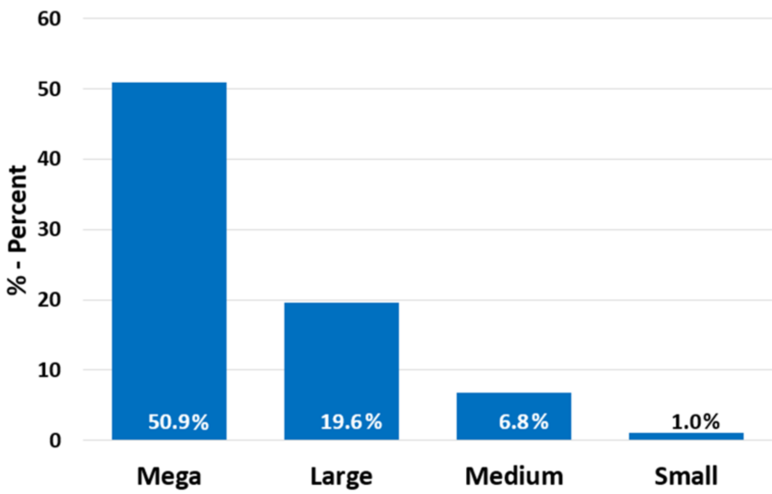
Bottom Counties:

- Philadelphia - 62%
- Cameron - 69%
- Forest - 88%



PA Farms – 2012: Product Sales vs. Investment in Land & Buildings

Fig. 9 Farm Product Sales Percent of Value of Land & Buildings Per Farm - 2012



Highlights:

SALES vs. INVESTMENT IN LAND & BUILDINGS

Four Sales Groups

Sales Percent of Investment

- Mega - 51%
- Large - 20%
- Medium - 7%
- Small - 15

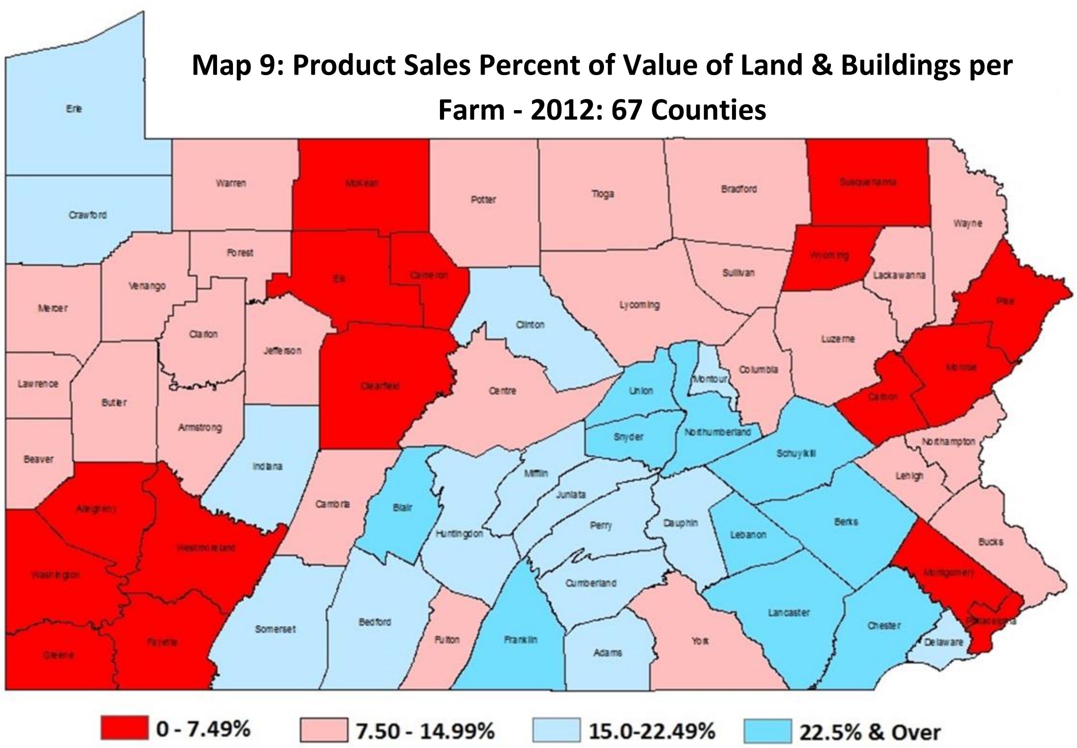
67 Counties

Sales percent of Investment

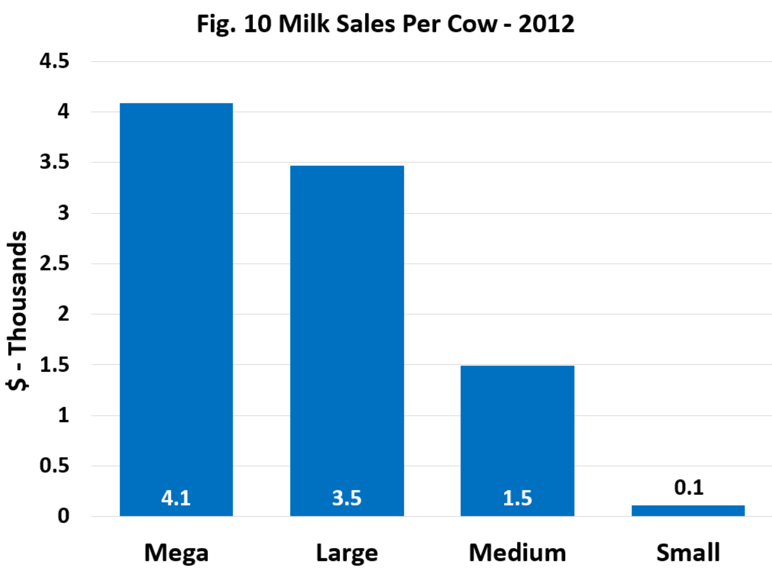
Top Four Counties:

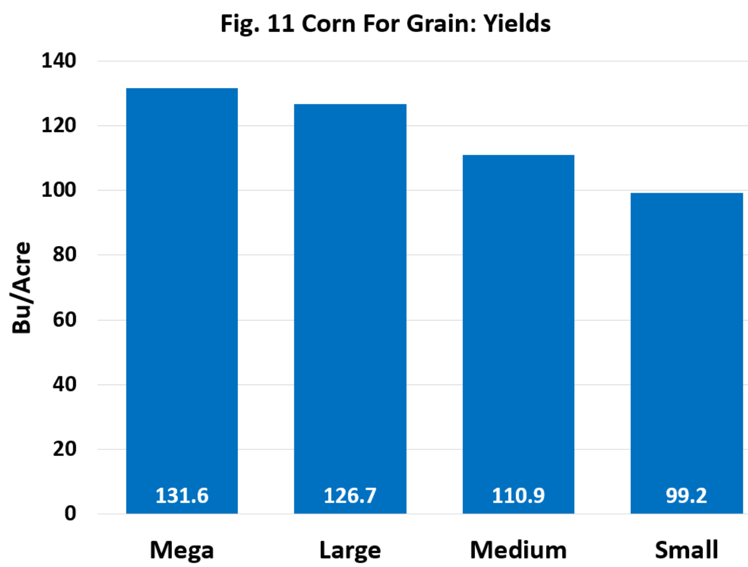
- Snyder - 31%
- Chester - 31%
- Lebanon - 27%
- Union - 27%

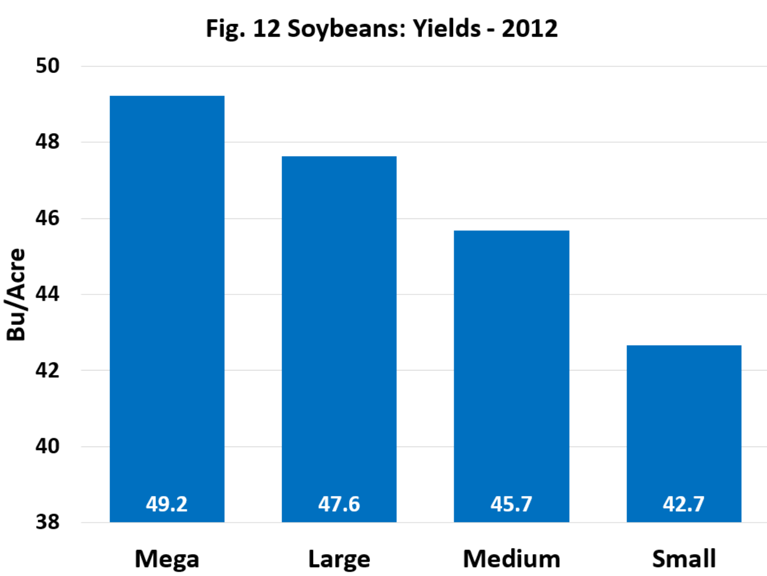
Map 9: Product Sales Percent of Value of Land & Buildings per Farm - 2012: 67 Counties



Productivity - Milk Sales per Cow – Crop Yields







Highlights:

PRODUCTIVITY: MILK – SOYBEANS – CORN FOR GRAIN

Four Sales Groups

Milk Sales per Cow

- Mega and Large farms accounted for 98% of milk sales by PA farms.
- Milk sales per cow declined sharply with farm size.

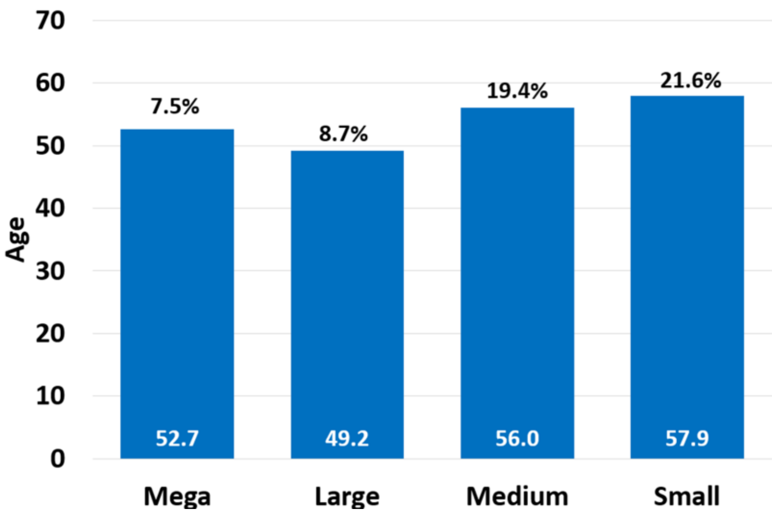
Crop Yields – Soybeans and Corn

- Bushels per acre yields of both soybeans and corn for gran declined by sales group.

Farm Operators: Age – Off-farm Work – Female Operators

PA Farms – 2012: Age of Operators

Fig. 13 Average Age of Operators and Percent Over Age 65



Highlights

AGE OF FARM OPERATORS

Four Sales Groups

Percent of Operators Over 65

- Mega - 7.5%
- Large - 8.7%
- Medium - 19.4%
- Small - 21.6%

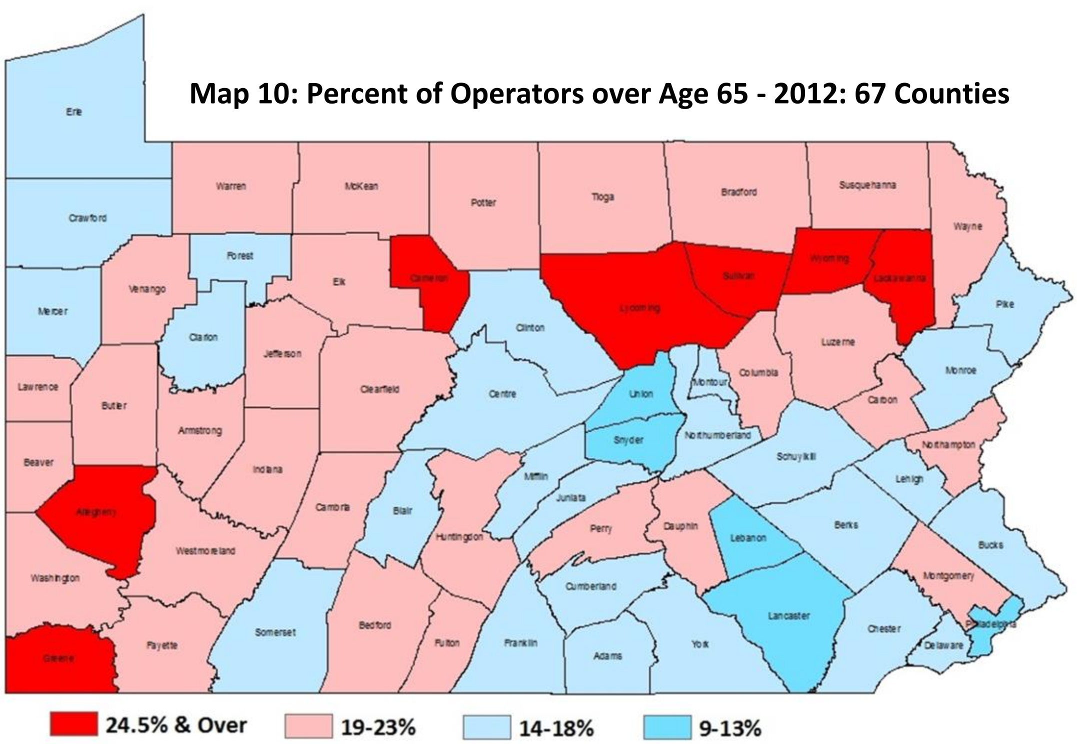
67 Counties

Percent of Operators Over 65

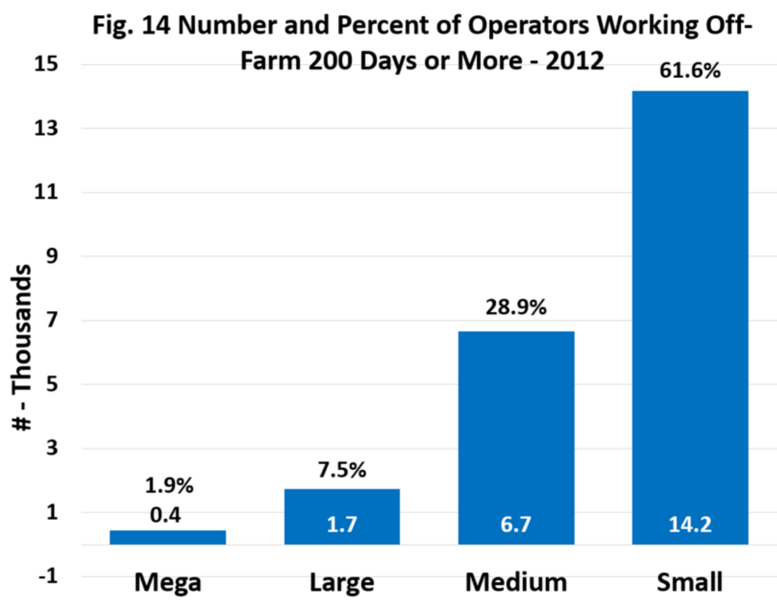
Lowest Percent**:**

- Lancaster - 9%
- Philadelphia - 9%
- Lebanon - 12%
- Union - 12%

Map 10: Percent of Operators over Age 65 - 2012: 67 Counties



PA Farms – 2012: Off-farm Work of Operators



Highlights

OFF-FARM WORK OF FARM OPERATORS

Four Sales Groups

Percent Working Off-farm 200 Days or More

- Mega - 1.9%
- Large - 7.5%
- Medium - 28.9%
- Small - 61.6%

67 Counties

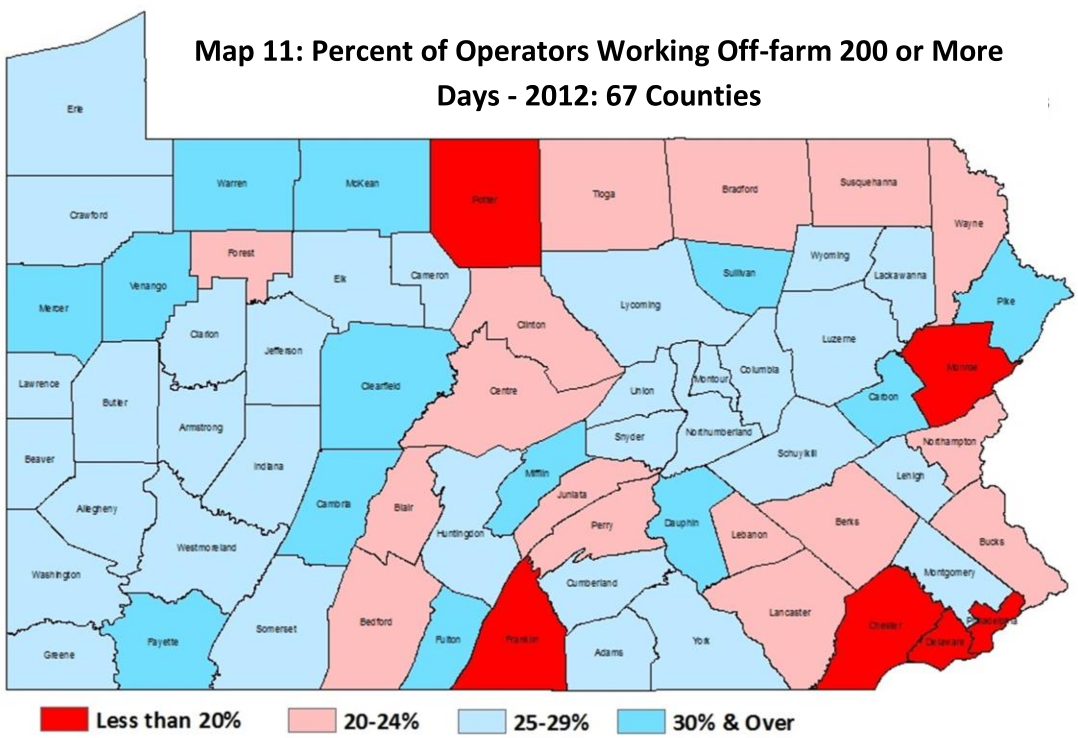
Percent Working Off-farm 200 Days or More

Lowest Percent:

- Delaware - 11%
- Monroe - 18%
- Chester - 19%

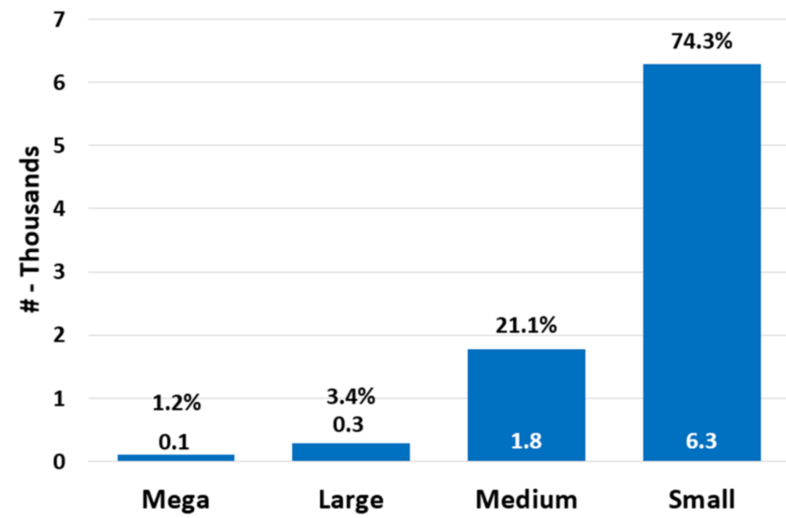
Highest Percent:

- Pike - 37%
- Cambria - 32%



PA Farms – 2012: Female Primary Operator

Fig. 15 - Number and Percent of Farms with Female Primary Operators



Highlights
FARMS – FEMALE PRIMARY OPERATOR

Four Sales Groups

Percent of Farms

- Mega - 1.2%
- Large - 3.4%
- Medium - 21.1%
- Large - 74.3%

67 Counties

Percent of Farms

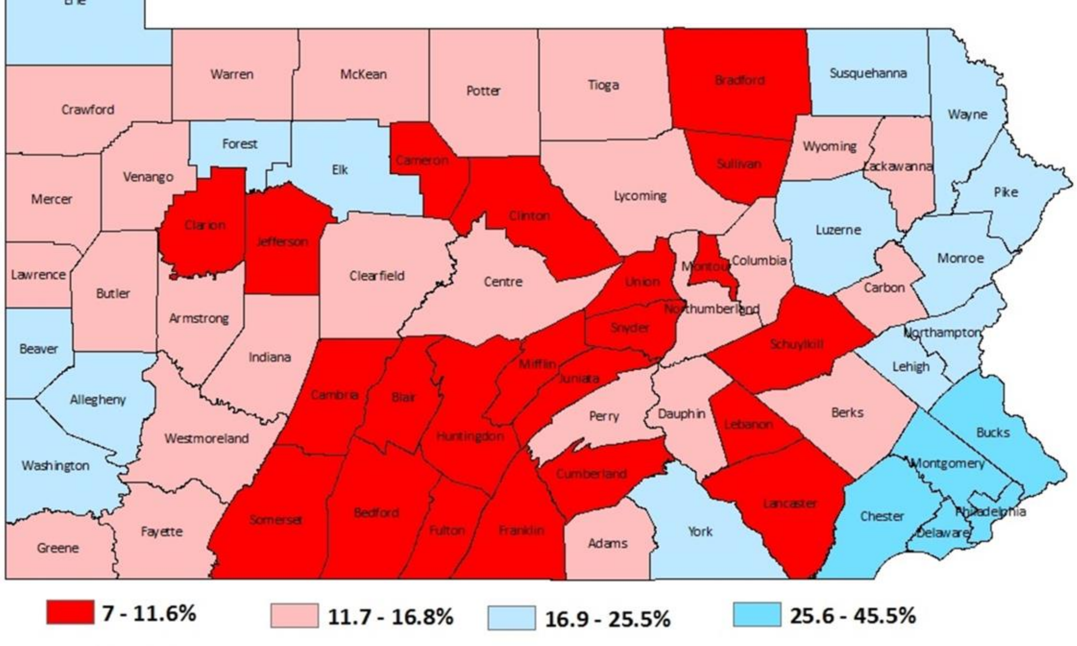
Highest Percent:

- Philadelphia - 45%
- Delaware - 38%
- Bucks - 28%

Lowest Percent:

- Clinton - 7%
- Union - 8%

Map 12: Percent of Farms with Female Primary Operators - 2012: 67 Counties



Specialty Farms: Organic & Direct Sales to Consumer

PA Farms – 2012: 600 Organic Farms - $78.5 Million Sales

Fig 16. Number and Percent of PA Organic Farms - 2012

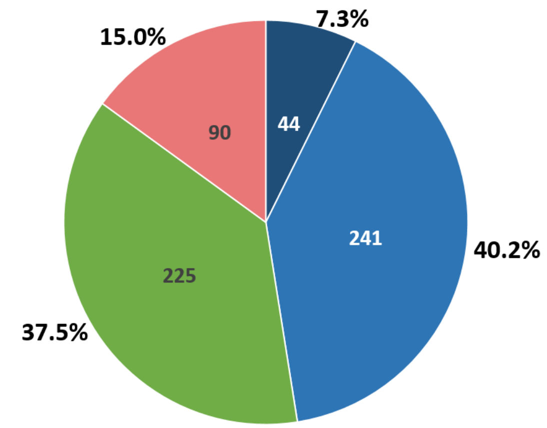
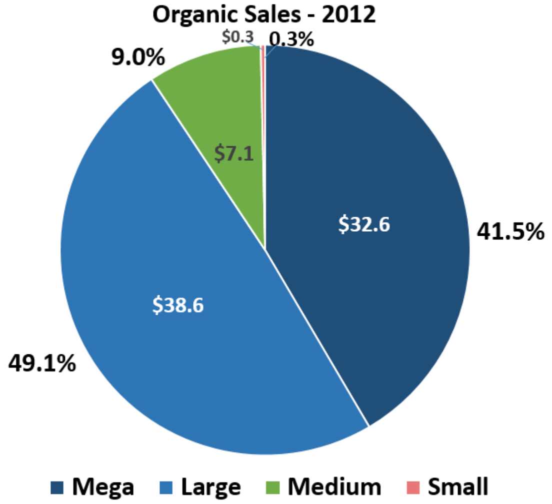


Fig 17. Organic Sales ($ - Millions) and Percent of PA Organic Sales - 2012



Highlights:

ORGANIC FARMS

Four Sales Groups

Organic Sales Concentrated

Mega & Large
- 47.5% of farms
- 90.7% of sales

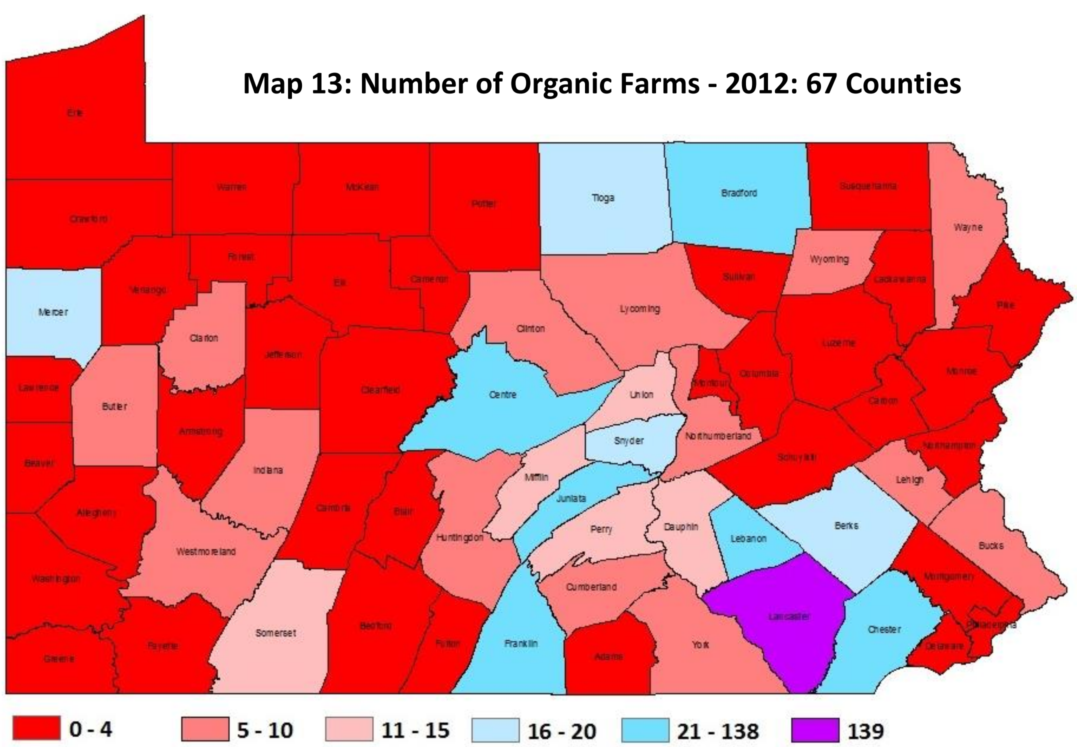
Medium & Small
- 52.5% of farms
- 9.3% of sales

67 Counties

Number of Organic Farms

Top counties:
- Lancaster - 139
- Juniata - 50
- Franklin - 29
- Bradford - 28
- Chester - 25

Map 13: Number of Organic Farms - 2012: 67 Counties



PA Farms – 2012: 7,577 Farms Direct Sales to Consumer - $86 Million Sales

Fig. 18 Number and Percent of Total PA Farms Selling Directly to Consumers

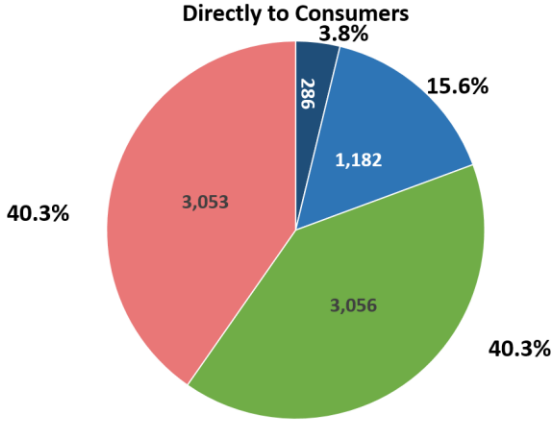
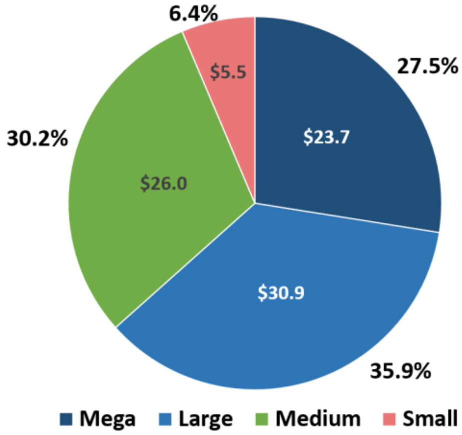


Fig. 19 Sales ($ - Millions) and Percent of PA Direct Farm Sales to Consumers - 2012



Highlights:

DIRECT SALES TO CONSUMERS

Four Sales Groups

Sales Concentrated

Mega & Large
- 19.4% of farms
- 63.4% of sales

Medium & Small
- 80.6% of farms
- 36.6% of sales

67 Counties

Direct Sales to Consumers

Top counties ($-millions):
- Lancaster - $11.9
- York - $4.6
- Berks - $4.1
- Chester - $3.9
- Bucks - $3.8

Map 14: Direct Sales of Agricultural Products to Consumers ($ - Thousands)- 2012: 67 Counties