

Penn State **Extension**

Pennsylvania Farm Fatalities During 2015-2019



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This publication is the seventh in a series of five-year summaries of Pennsylvania farm fatalities.

The first seven publications were:

- Pennsylvania Farm Fatalities During 1980-84 (Special Circular 319),
- Pennsylvania Farm Fatalities During 1985-89 (Extension Circular 390),
- Pennsylvania Farm Fatalities During 1990-94 (Extension Circular 424),
- Pennsylvania Farm Fatalities During 1995-99,
- Pennsylvania Farm Fatalities During 2000-2004,
- Pennsylvania Farm Fatalities During 2005-2009, and
- Pennsylvania Farm Fatalities During 2010-2014.

The data summarized in this report come from death certificates provided by the Pennsylvania Department of Health's Office of Vital Statistics, police and coroner investigative reports, a newspaper and media clipping service, and reports of farm-related injury incidents by county agricultural and extension educators and rural volunteer emergency medical service (EMS) providers. Multiple sources of information to clarify details of potential cases were used for each case before it was entered into the database. Penn State's Institutional Review Board (IRB) and the Pennsylvania Department of Health have approved the procedures for collecting and storing the injury data.

The summary data for the five-year period are:

- There were 137 farm-related fatality incidents during the 2015-2019 five-year period. This is slightly less than the number that occurred during the prior five-year period (145 in 2010-2014).
- The percentage of occupational related fatalities decreased from 65% (2010-2014) to 56% between 2015 and 2019. Of the incidents that occurred to adults aged 65 and over, 59% were killed during farm production work. For children less than 5 years of age, 92% of the deaths resulted from exposure to farm equipment, tools and product hazards while not actively engaged in farm work.
- The 5-year average death rate was 4.9 deaths per 10,000 farms.
- Deaths mostly occurred in the morning and in summer and fall months.
- Ninety one percent of the all fatalities were to males.
- Children aged 14 and under and adults aged 65 and over accounted for 74 of the 137 fatalities (54%).
- The leading sources of the fatalities were vehicles (primarily vehicles at 53%; machinery (19%); person, plants, animals, and minerals (12%); and others (e.g., structures and surfaces; parts and materials, tools, instruments, chemicals). Tractor-related fatalities were associated with 39% of all incidents.

CLASSIFYING FARM FATALITIES

The Farm and Agricultural Injury Classification (FAIC) code was established to ensure greater consistency in coding injury incidents related to farms and agriculture. The FAIC Code was adopted by the American Society of Agricultural Engineers (ASAE) – Ergonomics, Safety, and Health Division in 1998, revised in 2020. The FAIC code is a classification system that:

- parallels, to the extent appropriate, current nationally established methods for classifying and assigning work-related injury cases to an industry sector;
- provides a systematic scheme for separating farm production work cases from non-farm and non-farm production work cases; and
- allows for identification of cases that reflect unique situational exposures prevalent in the production agriculture industry, for example, children in work environments.

Table 1 identifies the FAIC code categories and provides the number of fatality cases in each category from 2015-2019. FAIC code categories are further explained in the Appendix.

Table 1. Fatalities by Farm and Agricultural Injury Classification Code in Pennsylvania: 2015-2019

FAIC Category	Number of fatalities
Occupational related (n=76)	
FAIC-1. Farm/Ranch production work	72
FAIC-2. Forestry and logging	1
FAIC-3. Fishing, hunting, trapping	-
FAIC-4. Support activities for agriculture and forestry	3
Non-occupational/Farm Lifestyle (n=54)	
Farm/Ranch hazard exposure, outside services	6
FAIC-6. Farm/Ranch hazard exposure, non-workers: equipment, tools and products	27
FAIC-7. Farm hazard exposure, non-workers: structures and landscape	10
FAIC-8. Farm/Ranch hazard exposure, non-workers: animals	2
FAIC-9. Farm/Ranch hazard exposure: roadways	9
FAIC-10. Undetermined	7
Total	137

Of the 137 fatalities from 2015 through 2019, 56% (n=76) were occupational (FAIC-1 through FAIC-4), 39% (n=54) were non-occupational (FAIC-5 through FAIC-0), and 5% (n=7) were categorized as FAIC-10 undeterminable category because of a lack of detailed information although the information available did indicate that they were farm- or agriculturally-related. The majority of the occupational deaths were associated with production agriculture work (95%, FAIC-1). There were no fatalities in the FAIC-3 category.

The majority of non-occupational fatalities (27 cases, 50%) were during an activity involving agricultural equipment, tools, and products (FAIC-6). Many of these incidents were connected to farm production operations even though the victim was not directly working in a production

activity (e.g., run over by tractor, overturned tractor during dragging a tree for cutting firewood, crushed under a falling gate, suffocated under grain while riding in grain wagon, etc.). Six cases (11%) occurred to a worker who provided services on a farm (FAIC-5) and ten cases (19%) were related to farm structures and landscapes (FAIC-7), e.g., drowning in a farm pond, suffocation in a feed bin, falling into a manure pit, etc. There were two non-occupational animal-related incidents (FAIC-8). Nine non-occupational fatalities (17%) occurred as a result of roadway traffic (FAIC-9).

The 56% of occupational-related fatalities during the 2015-2019 period was lower than the recent reporting period: 65% during 2010-2014, 55% during 2005-2009, 52% during 2000-2004, 43% during 1995-1999, and 50% during 1990-1994.

FARM WORK FATALITY RATES

Table 2 presents the number of fatalities and the death rate per 10,000 farms each year during 2015-2019. The number of deaths varied between 23 and 33. Table 2 also presents the five-year average over the past 40 years. Overall, the average death rate per 10,000 farms has declined over the past 35 years. The death rate declined unsteadily from a high of 8.4 deaths per 10,000 farms in 1980-1984 to a low of 4.6 deaths per 10,000 farms in 2000-2004. This overall downward trend is illustrated in Table 2.

Table 2. Farm Fatality Rates per 10,000 Farms

	Year	No. of Farms	Deaths	Death Rate Per 10,000 Farms
	2019	52,700	27	5.1
	2018	53,000	23	4.3
	2017	58,000	33	5.7
	2016	58,200	27	4.6
	2015	57,900	27	4.7
	2015-2019	55,960	27.4	4.9
5-year average	2010-2014	61,020	28.2	4.6
	2005-2009	61,000	29.0	4.7
	2000-2004	58,000	27.0	4.6
	1995-1999	59,000	41.0	6.9
	1990-1994	55,000	42.0	7.6
	1985-1989	56,000	38.8	6.9
	1980-1984	60,000	50.6	8.4

GENERAL DESCRIPTIVE DATA

Nearly all fatal injury incidents generate information that can be used to describe general trends and enhance understanding of when, where, how, and to whom farm and agricultural injury occurs. Such details as the victim’s age, the activity he or she was engaged in, and the time the incident occurred are necessary for effective injury prevention planning. Several tables and figures are presented to give readers an overall picture of Pennsylvania farm and agricultural fatality incidents.

Table 3 shows the number of farm fatalities by three-hour intervals and by the days of the week, as well as the percentage that each contributed to the total number of incidents. A majority of the incidents occurred between 9:01 am and noon. The time of injury was undetermined for almost one-fourth of the fatalities (25.5%). Fatal incidents occurred most often on Wednesday and Saturday with 18% and 25%, respectively.

Table 3. Fatalities by Injury Time and Day of the Week

Time	Day/Number of fatalities							% Total
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
12:01am-6:00am	0	1	1	1	2	0	0	3.6
6:01am-9:00am	1	0	1	1	1	0	1	3.6
9:01am-12:00pm	4	4	5	2	3	13	0	22.6
12:01pm-3:00pm	3	3	4	0	2	6	0	13.1
3:01pm-6:00pm	2	3	0	2	3	3	2	10.9
6:01pm-9:00pm	3	5	4	3	5	4	1	18.2
9:01pm-12:00am	0	0	0	0	1	0	2	2.2
Undetermined	4	7	10	2	2	8	2	25.5
% Total	12.4	16.8	18.2	8.0	13.9	24.8	5.8	100

Figure 1 shows the number of fatality cases by the month in which they occurred. The peak number of fatalities occurred in October which is the harvest season. Summer is also a peak time for farm fieldwork with children and adolescents are out of school and are more exposed to farm hazards. A larger number of fatalities would be expected during this time of the year.

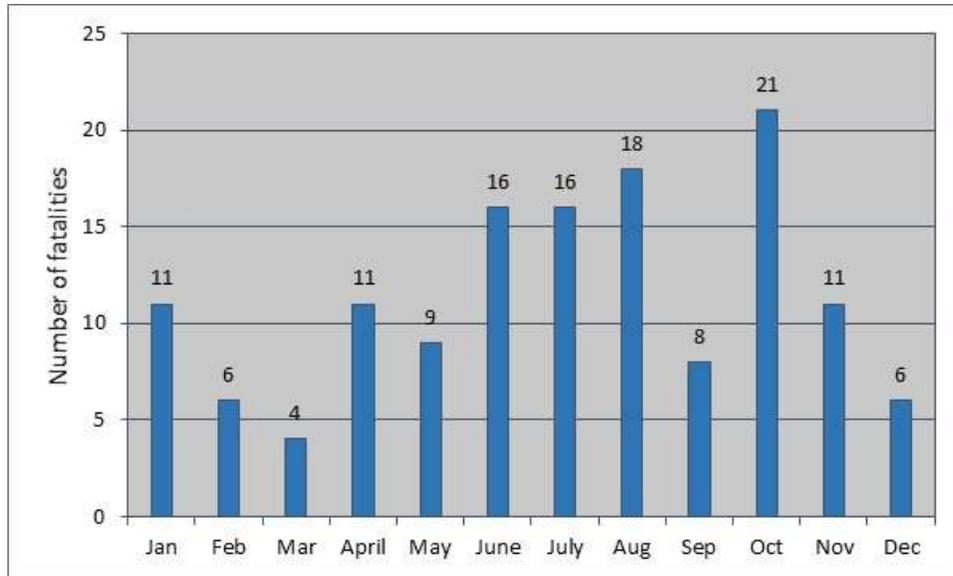


Figure 1. Number of Fatalities by Month

DEMOGRAPHICS

Of the total 137 fatalities, 91% were to males and 9% were to females. Victims' ages ranged from 1 to 89 years old with the mean of 50 years (median=59).

Children aged 14 and under and adults aged 65 and over accounted for 74 of the 137 fatalities (54%). This result is consistent with previous summary reports. For example, these two age groups accounted for 50% of the deaths in 2010-2014, 48% of the deaths in 2005-2009, 52% of the deaths in 2000-2004, and 50% during the 1995-1999 period.

Children age 14 and under and workers age 65 and over are usually not found in hazardous occupations. There were 25 fatalities to victims aged 14 and under and 49 fatalities to the victims aged 65 and over (Table 4). Children age 14 and under often are untrained, inexperienced, not closely supervised, and emotionally and physically immature. On the other hand, the ability of aged workers to respond to danger often is limited as effects of aging, such as slower reactions or decreased physical mobility, begin to have a pronounced influence on risk and hazard avoidance. Children under 5 years of age were one of the age groups frequently involved in a fatality.

Table 4 cross-classifies the age of victims by FAIC code categories. The table highlights how some types of farm- and agricultural-related fatal injury incidents largely affect specific age groups. For instance, of the incidents that occurred to children less than 5 years of age, 92% of the deaths (11 of 12) resulted from exposure to farm equipment, tools and products while not actively engaged in farm work (FAIC-06). Of the incidents that occurred to all children aged 14 and under, 12% (3 of 25) lost their life during farm production work (FAIC-01). On the other hand, of the incidents that occurred to adults aged 65 and over, 59% (29 of 49) were killed during farm production work (FAIC-01). The percentage of farm production work related fatalities to the youth 14 and under and adults aged 65 and older were lower than those from 2010-2014 report. The FAIC code could not be determined in seven cases (FAIC-10).

Table 4. Fatalities by Age of Victim

Age	Total	FAIC Code								
		1	2	4	5	6	7	8	9	10
0-4	12	0	0	0	0	11	1	0	0	0
5-9	9	1	0	0	0	6	2	0	0	0
10-14	4	2	0	0	1	1	0	0	0	0
15-19	4	3	0	0	1	0	0	0	0	0
20-24	1	1	0	0	0	0	0	0	0	0
25-29	7	5	0	0	0	0	0	0	1	1
30-34	3	1	0	1	0	0	0	0	1	0
35-39	8	3	0	0	0	0	2	0	2	1
40-44	2	1	1	0	0	0	0	0	0	0
45-49	2	1	0	0	0	0	0	0	1	0
50-54	6	4	0	0	0	0	1	0	0	1
55-59	13	8	1	0	2	0	0	1	0	1
60-64	17	13	0	0	0	1	0	1	1	1
65-69	9	5	0	0	1	3	0	0	0	0
70-74	6	4	0	0	0	0	2	0	0	0
75-79	16	10	0	0	1	1	2	0	2	0
80 and over	18	10	1	0	0	4	0	0	1	2
Total	137	72	3	1	6	27	10	2	9	7

PRIMARY SOURCE OF INJURY

Farm and agriculturally related fatalities were coded according to the Occupational Injury and Illness Classification System (OIICS) Version 2.01- U.S. Department of Labor, Bureau of Labor Statistics-BLS. The OIICS is used nationally to code all types of unintentional occupational injury in the United States. Category and sub-category titles are very generic and not always intuitive in the context of a specific field of work. In the data presented here, the most unusual categorization is the inclusion of hay bales in the ‘Containers’ category. We use the OIICS because it allows a comparison of Pennsylvania data with other occupational cohorts.

Each fatality case was carefully assigned a primary and/or secondary injury source code based on OIICS selection rules and code descriptions. The primary source of the injury, and when applicable, the secondary source of injury, were determined from the incident description. The primary injury source code is designed to capture “the object, substance, element, or bodily motion, which directly produced the injury.” For example, one incident description reads, “During repairs, mower fell from blocks, running tractor engaged in gear and dragged the victim.” The primary source in this case would be the tractor and the mower would be the secondary source. The use of these codes allows comparison of our state data with other states, or regional or national data, that also use these source codes to track fatal farm and agricultural injury.

The leading sources of the fatalities were vehicles, which contain the subgroup tractors (53%); machinery (19%); person, plants, animals, and minerals (13%); and others (Table 5). Overall, tractors-PTOs were the major source of injury, accounting for 33% of all fatalities.

The secondary source is defined as “the object, substance, or person that generated the source or contributed to the event or exposure” (BLS, 2012). A secondary source was involved in (or identifiable) for 22% (30 of 137) of all incidents. The tractors-PTOs category was the secondary source for nine fatalities. Thus, tractor-related fatalities were associated with 54 of 137, or 39% of all fatal incidents as either a primary (45) or secondary source (9).

Table 5. Sources and Description of Fatalities

Primary Source Secondary Source	Description of Incident
VEHICLES (N=73, 53%)	
Rowboat, kayak, canoe	Child drowned in retention pond on farm
Passenger vehicles—automobiles, buses, and passenger vans	
Farm tractor	Passenger died as a result of car/tractor crash
Farm tractor	Woman Dies After Crash Involving Farm Tractor
Farm tractor	Victim killed in motorcycle crash while passing farm tractor
Mowing machinery	Decedent was operating a stand-on mower on roadway and was hit by automobile from behind.
Truck—motorized freight hauling and utility	Victim killed when his vehicle crossed the double yellow center line and struck an oncoming farm truck
Trucks—motorized freight hauling and utility	Runover by grain hauling truck in field
	Truck driver died when his livestock trailer carrying bulls overturned
	His farm truck loaded with hay went over embankment
Multi-purpose highway vehicles	
Farm tractor	Tractor and manure spreader with no lighting and marking rear-ended by pickup truck driven by deceased.
Farm tractor	Crash involving a farm tractor and SUV killed two (2 victims)
Farm tractor	Driver struck a vintage age farm tractor from behind and was killed.
	Victim (pedestrian) backed over by pickup truck
Animal-powered wagon	
Animal-powered wagon	Crushed between two horse drawn hay wagons
Horses and other equines	Anabaptist child died on when an upright on a wagon load of spelts broke and the horse spooked
	Victim thrown from wagon
	14-year-old male died after falling under a horse-drawn tobacco cart
	Man died in accident while picking pumpkins
Animal- or human- powered vehicle	Reportedly riding on horse drawn manure spreader, decedent fell off and was run over by manure spreader
Tractors, PTOs	
Embankments	Tractor rolled over on the victim
Trees	Tractor rolled over on the victim while trying to pull tree with chain
Trees	Decedent/a passenger in a UTV that traversed the driveway and struck a tree
Trees	Tractor rollover pinning decedent
Clothing	Caught in the PTO of a tractor attached to a manure spreader
Nonconfined ditches	Tractor rollover operated near ditch
Farm tractor	Victim died after a three-vehicle crash
Embankments	Farm tractor the victim was operating left the road, traveled down an embankment, and overturned
Brush hogs—tractor	Victim was operating tractor, ejected from tractor and fell beneath brush hog
Passenger van	Victim’s minivan collides with tractor
Walls	Farmer got pinned between wall and front of tractor
Embankments	Farmer thrown from the farm tractor he was operating
Balers—agricultural	Farmer fell off tractor and was struck by the baler wheel
	Victim died when the tractor overturned
	When tractor was backed over a steep embankment, it rolled onto victim.

Table 5 continued...

Primary Source Secondary Source	Description of Incident
Tractors, PTOs	Victim fell from tractor and struck by weed cutter
	Died from injuries sustained in a tractor accident
	Victim thrown from farm tractor
	Victim killed while plowing a field with a tractor, run over
	Entrapped between two tractors
	Killed on farm tractor rollover
	Victim was plowing driveway and tractor rolled over
	Victim died after tractor overturn
	Victim pinned under rolled tractor
	Killed when the tractor engaged in gear and run over by the back tire
	Ejected from tractor that rolled over
	Farm tractor accident
	Killed when trying to push start a farm tractor and run over by tractor
	Crushed under rolled tractor
	Run over by a tractor that coasted away while being worked on
	Tractor overturn
	3 year-old-male killed after runover by track front end loader
	Tractor he was using to plow field rolled over and pinned victim under it.
	Tractor runover and tangled in baler
	Farmer killed under rolled tractor
	Tractor flipped over on victim pinned him at chest
	4 year-old-male died on a farm tractor accident
	Tractor rollover on Christmas tree farm.
	Child fell from tractor cab and was run over.
	Victim's clothing became entangled in a spinning driveshaft which is connected to the tractor to the flail chopper
	Tractor rollover
	Tractor rollover while mowing steep bank of a reservoir dam
	Farm tractor rollover
	Victim was packing trench silo, tractor rolled over onto victim
	Fell into the PTO shaft of a tractor
Industrial vehicles, material hauling and transport—powered	Man killed in forklift crash
Off-road passenger vehicles—powered	Farmer killed in an ATV crash on his farm
	Passenger on an ATV that rolled over pinning her underneath the ATV
	ATV overturned
	Man dies after weekend ATV crash
Plant and industrial vehicles—nonpowered	2-year-old child killed after falling off the wagon filled with onions

Table 5 continued...

Primary Source Secondary Source	Description of Incident
MACHINERY (N=26, 19%)	
Agricultural and garden machinery, unspecified	Pinned to wall by farm equipment
	Poultry feed cart and feed fell on victim who was visiting farm with his father.
Harvesting and threshing machinery	Farm accident (hay rake fell from tractor mounted forks while moving hay rake)
	Fell from harvester was struck/runover by same
	Being struck by a falling combine header
	Pinned under the combine harvester
Mowing machinery	Farmer killed by mower
	Fell from moving tractor and run over by bush hog mower.
	Victim fell from tractor in rough terrain and was run over by bush hog.
	Hydraulic hose failed on corn stalk chopper; machinery fell on victim
Plowing, planting, and fertilizing machinery	Child struck, killed by a manure spreader
	Pinned under a tractor harrow while attempting to perform maintenance
Other agricultural and garden machinery	Child died after falling into feed mixer machine
Loaders	Pinned under bucket of skid steer when checking malfunction.
	Killed after falling under a skid loader when he was pushing manure into a pit
	Killed after falling off a skid steer while doing farm work
	Farming accident, skid loader crushed his head where the bucket attaches
	Tractor rollover pinning victim beneath front-end loader
	The decedent was backed over by a skid steer on a private driveway
	Child runover by skid steer (3 children in three different incidents)
	Victim killed after skid loader went into agricultural waste pond
	Killed after driving the skid steer he was operating into a manure pit
	Skid loader crushed the victim while attempting repair
	Victim was hit by bucket of front-end loader
PERSONS, PLANTS, ANIMALS, AND MINERALS (N=17, 12%)	
Sheep, goats, and other caprids	Victim was trampled by a sheep
Bees, hornets, wasps	Stung by bees while moving grass
Cattle and other bovines Gates	Farming accident while moving steer - struck by steer & gate
Cattle and other bovines Gates	Struck by bull and pinned between gates
Cattle and other bovines	Attacked by a bull while he was checking oil/gas well on a farm field
	Cattle farmer: trampled to death loading beef cattle
	Decedent was crushed between cattle and cattle coral
Horses and other equines	Injured in an equestrian accident

Table 5 continued...

Primary Source Secondary Source	Description of Incident
PERSONS, PLANTS, ANIMALS, AND MINERALS (cont)	
Trees, logs, limbs	While cutting trees decedent was struck by falling tree
	Struck by falling tree limb while cutting down tree
	Employee struck in the head and killed by a tree
	Tree fell on decedent while he was cutting it
	A tree fell on victim while logging
	Worker died after being struck by tree
Trees, logs, limbs Farm tractor	Tree fell on decedent
Trees, logs, limbs Farm tractor	While clearing timber with tractor in a ravine, tree fell on victim.
Trees, logs, limbs Trailer	Fell from pile of trees on trailer to ground
OTHERS (N=21, 15%)	
Gasoline, diesel fuel, jet fuel	Gasoline ignited in the barn causing barn fire
Bundles, bales	Impacted by massive fallen hay bale
Elevators, hoists, aerial lifts, personnel platforms—except truck- mounted	Fell from aerial lift after hitting head on steel beam.
Pipes, ducts, tubing, unspecified	Youth killed after hit with a pipe while farming with a mule
Tires, inner tubes, wheels, unspecified	Caught in explosion while inflating tire on farm equipment
	Caught in explosion while inflating tire on farm equipment
Trailers	Fall into corn trailer
Structures and surfaces, unspecified	Farm accident – dairy farmer killed after a bin fell on his head
Silo, grain bin interiors	Victim fell inside silo while trying to unplug silo blower.
Barn	Fell from barn (2 victims in two different incidents)
Scaffolds, staging	Worker fell from defective scaffolding board during silo construction.
Existing floor opening	Farmer fell from hay loft
Water bodies—natural	Child drowns in Mercer county
	Fell into deep farm pond and was unable to get out and drowned
	Fell through ice into water on a farm
	Child fell into farm pond off dock while fishing
Fire, flame	Caught in barn fire
	Spilled gasoline on clothes which caught fire during brush burning. Deceased two weeks later.
Undeterminable	Victim killed while clearing trees from his Christmas tree farm
	Farming accident

Table 6 lists the number and percentage of fatalities occurring to youth age 14 and under, teens and young adults ages 15-24, adults ages 25-64, and to senior farmers age 65 and over by major category of primary source of the fatality. This helps to identify differences in type of incidents among major age groups.

For 65 and older age group, vehicles accounted for 55% of the fatalities followed by machinery and persons, plants, animals, and minerals by 14% each. Other sources for the age group include structures and surfaces, containers, etc. For youth age 14 and under, the majority of the fatalities were due to vehicles (44%) and machinery (36%). Adults ages 25-64 were mostly killed by vehicles (60%) followed by persons, plants, animals, and minerals (mostly trees, logs, limbs and animals).

Table 6. Fatality Primary Source Categories by Four Age Groups

Primary Source	14 and under		15-24		25-64		65 and over	
	No.	%	No.	%	No.	%	No.	%
Vehicles	11	44%	-	-	35	60%	27	55%
Machinery	9	36%	3	60%	7	12%	7	14%
Persons, plants, animals, and minerals	-	-	-	-	10	17%	7	14%
Others	5	20%	2	40%	6	10%	8	16%

FATALITIES BY COUNTIES

The Commonwealth of Pennsylvania is comprised of 67 counties. The map in Figure 3 shows the number of fatalities and percentages by county. At least one fatality occurred in 52 of the 67 counties (78%) while nine counties had four or more fatalities each.

While a person may suspect that there may be more danger in these twelve counties, a fairer way to look at the data is to also identify the number of farms in these nine counties. Table 7 lists the counties where four or more fatalities occurred between 2015-19. These nine counties had 47% of the fatalities but only 27% of the farms. Lancaster County had almost 14% of the deaths but has just under 10% of the farms.

Table 7. Counties with Four or More Fatalities

County	Fatalities		Farms*	
	Number	Percent	Number	Percent
Lancaster	19	13.9%	5,108	9.6%
Huntingdon	8	5.8%	714	1.3%
Berks	7	5.1%	1,809	3.4%
Bradford	7	5.1%	1,449	2.7%
Bedford	6	4.4%	1,159	2.2%
Franklin	5	3.6%	1,581	3.0%
Blair	4	2.9%	496	0.9%
Dauphin	4	2.9%	692	1.3%
Erie	4	2.9%	1,162	2.2%
Sub-total	64	46.6%	14,170	26.7%
Others counties	73	53.3%	38,987	73.3%
Total	137	100.0%	53,157	100.0%

*2017 Census of Agriculture (www.nass.usda.gov)

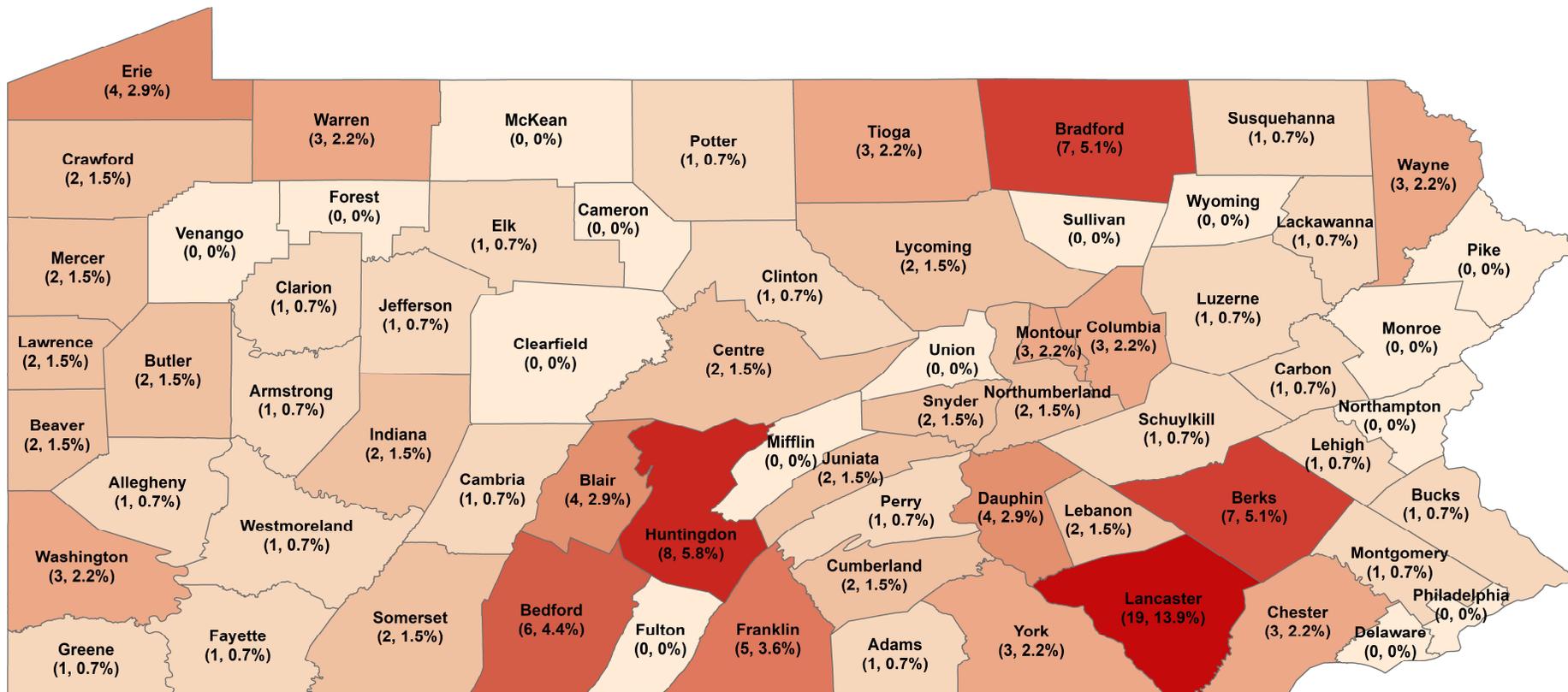


Figure 3. Number and Percentage of Fatalities by County-PA: 2015-2019

FOR MORE INFORMATION

The Agricultural Safety and Health Program in the Department of Agricultural and Biological Engineering offers many fact sheets, publications, videotapes, CDs, DVDs, and educational programs to help prevent and control the types of fatal injury incidents described in this report. Most of these are available at <http://www.agsafety.psu.edu> or by contacting the department. Many are also available by contacting county Cooperative Extension offices (<http://extension.psu.edu/counties>).

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APPENDIX
FARM AND AGRICULTURAL INJURY CLASSIFICATION (FAIC) CODE
ASAE S575.3 MAY2020

FAIC-1, Farm/Ranch Production Work (NAICS 111, Crop Production; 112, Animal Production).

Victim engaged in work activity related to agricultural production.

Examples include, but are not limited to:

Persons using:

- tractors or machinery in farm/ranch work;
- all-terrain vehicles or horses for farm/ranch work;
- cars or trucks in a farm/ranch work activity (including transport of produce, delivery of products, travel to purchase supplies, etc.);
- structures, such as grain bins, elevators, livestock housing, silage bunkers, farm ponds, etc., for farm/ranch work (excluding home in most instances).

Persons working:

- on constructing or maintaining farm/ranch machines or structures (excluding hired contractors — see FAIC-5);
- with farm/ranch animals, including showing at fairs or exhibitions for economic gain;
- to cut or clear trees, brush, logs, etc., to prepare land for production or to sell firewood for income;
- on a fish, frog, or other aquaculture farm or hatchery;
- on a nursery products farm;
- gathering maple syrup;
- on Christmas tree farms or other short rotation tree farms;
- on farm/ranch-related work done off farm/ranch property such as selling produce at a roadside market;
- at feedlots (beef, hogs, lambs);
- moving farm/ranch machinery on public roads (excludes using machinery for non-farm/ranch work transportation — see FAIC-6).

Also includes:

- intentional injuries (murder, assault, etc.) occurring during occupational work-related activity.

Excludes:

- workers/employees associated with or employed by contracted services for crop, animal, and forestry production such as farm labor contractors, custom tillage, planting and harvesting operators, contracted farm management services, breeding services for livestock, and consulting on value of timber stands or reforestation — see FAIC-4.

FAIC-2, Forestry and Logging (NAICS 113).

Victim engaged in work related to growing and harvesting timber on a long production cycle (i.e., of 10 or more years).

Examples include, but are not limited to:

- timber tract operations;
- forest nurseries for re-forestation;
- gathering forest products;
- commercial logging which includes cutting timber, cutting and transporting timber and producing wood chips in the field.

Also includes:

— intentional injuries occurring during forestry and logging occupational work-related activities.

Excludes:

— forest fire fighting — see FAIC-4;

— collecting maple sap — see FAIC-1;

— persons working for establishments primarily engaged in trucking timber (nonagricultural activity).

FAIC-3, Fishing, Hunting & Trapping (NAICS 114).

Victim engaged in a work activity related to commercial fishing, hunting or trapping (NAICS 114).

These industries involve harvesting fish and other wild animals from their natural habitats and are dependent upon a continued supply of the natural resource.

Examples include, but are not limited to, persons

— engaged in operation of fish and game retreats and preserves;

— commercial catching or taking of fish, finfish, shellfish and other marine animals;

— commercial hunting and trapping.

Also includes:

— intentional injuries occurring during commercial fishing occupational work-related activity.

Excludes persons:

— injured on fish, frog, or other aquaculture farm/ranch or hatcheries — see FAIC-1.

FAIC-4, Support Activities for Agriculture and Forestry (NAICS 115).

Victim engaged in custom hired services, or was a contracted agricultural laborer, (NAICS 11511–115310).

Examples of such services include, but are not limited to:

— aerial dusting and spraying;

— cotton ginning;

— cultivating services;

— farm/ranch management services;

— planting crops;

— vineyard cultivation services;

— crop harvesting;

— breeding services for animal production;

— boarding horses;

— dairy herd improvement livestock spraying;

— estimating timber;

— forest firefighting;

— forest pest control.

Also includes:

— intentional injuries occurring during occupational work-related activity.

Excludes:

— persons employed for nonagricultural services such as:

— veterinarians, except when they are primarily engaged in breeding services or boarding horses — see FAIC-5;

— persons employed at grain elevators or terminals (NAICS 493130);

— persons employed at livestock auctions (NAICS 424520);

— persons employed at stockyards (NAICS 488999).

FAIC-5, Farm/Ranch Hazard Exposure, Outside Services.

Victim associated with an NAICS nonagricultural business or service and injured on a farm/ranch while providing services to the farm/ranch.

Examples include, but are not limited to:

- veterinarians (NAICS 541940), except those primarily providing breeding services or boarding horses;
- farm machinery repairpersons;
- silo and grain bin erectors;
- builders and construction workers;
- electricians;
- feed salespersons;
- fire fighters and emergency medical technicians, etc.

Excludes:

- persons custom hired for agricultural work — see FAIC-4, Support Activities for Agricultural & Forestry.

FAIC-6, Farm/Ranch Hazard Exposure, Non-workers: Equipment, Tools, Objects & Products.

Victim engaged in an activity involving agricultural machines, equipment, tools, products, etc., but not related to farm/ranch production operations.

Examples include, but are not limited to, persons:

- using tractors to pull a stranded motorist from a ditch;
- operating tractors for a hayride;
- restoring old farm machines or tractors;
- operating a tractor at a tractor pull or county fair;
- using a tractor to pull vehicles at a mud bog race or other recreation activity;
- operating tractors for highway construction;
- using a tractor or chain saw to pull, drag or cut miscellaneous trees, brush, or logs, or to obtain firewood for the home;
- children or adults injured as a bystander while in or near a work area.

Excludes:

- workers on racehorse farms — see FAIC-1;
- victims who were providing building services (i.e., new construction, repairs, maintenance) at time of injury — see FAIC-7;
- victims from farms/ranches injured while tending to their livestock/animals at fairs or exhibitions see FAIC-1;
- children who are working — see FAIC-1.

FAIC-7, Farm/Ranch Hazard Exposure, Non-workers: Structures and Landscape.

Victim not actively engaged in a work activity but injured as a result of exposure to hazards of farm/ranch structures and landscape.

Examples include, but are not limited to:

- children playing on or around farm/ranch structures including barns, silos, holding tanks, etc.;
- youth playing in hay mow;
- non-working persons climbing on silos or feed bins;
- children, aged persons or other individuals unintentionally falling into farm ponds;
- person using barns to store antique automobiles.

FAIC-8, Farm/Ranch Hazard Exposure, Non-workers: Animals.

Victim not actively engaged in a work activity but injured as a result of exposure to farm/ranch animal hazards.

Examples include, but are not limited to:

- children playing in or around animal pens;
- showing or working with animals at fairs for pleasure only;
- pleasure riding, handling horses or other animals;
- petting animals while visiting a farm/ranch or fair.

Excludes:

- victims injured while attending to animals at fairs or exhibitions if events support economic activity of farm/ranch — see FAIC-1;
- victims injured while riding or handling horses at a riding stable (NAICS 713990).

4.9 FAIC-9, Farm/Ranch Hazard Exposure: Roadways.

Victim not actively engaged in a work activity but injured as a result of collision or other incident with farm/ranch hazard (e.g., farm machine; livestock) on roadway.

Examples include, but are not limited to:

- pedestrian;
- persons operating or riding as a passenger in a motor vehicle (car, truck or motorcycle);
- person operating an all-terrain vehicle (ATV), multi-use vehicle (MUV), or side-by-side utility task vehicle (UTV); passengers on an ATV, MUV or UTV;
- person riding a human powered bicycle;
- horses;
- rail vehicle occupants.

Excludes:

- persons using farm/ranch equipment on public roadways during work activity — see FAIC-1;
- persons using: motor vehicles, ATVs, MUVs, UTVs, human powered bicycles, or horses for farm/ranch work activities — see FAIC-1, 2, 3 or 4;
- victims injured in rural roadway incidents that just happen to end up on farm or ranch property. These are non-agricultural cases.

FAIC-10, Undetermined.

Case is clearly farm- or agriculturally-related but there is insufficient detailed information available to clearly assign a more explicit FAIC code.

**For questions, contact Judd Michael (jh-michael@psu.edu)
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