

Purdue University

Agricultural Safety and Health Program

2024 Indiana Farm Fatality Summary with Historical Overview¹

Compiled by the Purdue University Agricultural Safety and Health Program

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Abstract

Purdue University's Agricultural Safety and Health Program has been monitoring farm-related fatalities in Indiana for nearly 60 years. It remains one of the oldest continuing surveillance of farm-related fatalities in the U.S. The earliest identified summary of cases, published in 1966, examined 76 fatalities reported during 1963.² Purdue's fatality database, though acknowledged as not being comprehensive of all farm-related deaths, provides a unique historical perspective to explore trends that have occurred over several decades. During that time, the total number of farms and the number of people directly involved in production agriculture has declined considerably, while production technology and farming practices have transformed dramatically. During the 1940's and early 1950's the leading identifiable cause of death was livestock, primarily horses and bulls. These animal-related injuries and deaths have largely been replaced, at a much lower frequency, with tractors and machinery. The annual number of farm-related fatalities continues to show a general downward trend that parallels the decline in the number of farm operations. The reduction in the number of farm operations has likely contributed more to the reduction in farm-related fatalities than any other single factor³, even as Indiana farmers have become more productive than ever. In other words, the state is producing more grain, meat, eggs, and other agricultural products at a lower rate of fatalities and injuries than at any time in its history. While the total number of farm-related deaths has gradually declined the fatality rate per number of workers remains one of the highest of all Indiana occupations.

Publication of this annual summary is intended to make the public aware that our food comes at a cost of lives, health, and well-being that is not necessarily reflected in the prices we pay at the grocery store or farmer's market.

¹ Appreciation is extended to Executive Director Stacy Wart, BLS Coordinator Joseph Black, and Survey Assistants Richard Clark and Rhapsody Owens with the Indiana Department of Labor Quality Metrics & Statistics Division for contributing to this report.

² Mitchell, Bailey W. (1966) Indiana Farm Accident Report 1963-1965. Purdue University, West Lafayette, IN.

³ Data from USDA National Agricultural Statistics Service

https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=INDIANA

https://www.nass.usda.gov/Statistics_by_State/Indiana/Publications/Annual_Statistical_Bulletin/index.php

In 2024, there were 28 reported fatalities, which is the highest of the past five years and an increase of 13 or 87% from 2023. There were three victims under the age of 18, and 16 individuals aged 60 and older were documented to have lost their lives in farm-related incidents in 2024. Incidents involving individuals in these two age groups now make up 67% of all documented cases. Tractors continue to be the most common cause of farm-related fatalities, accounting for as many as 38% of all documented cases in the last ten years, with 12 reported cases in 2024. Throughout the last six decades years, tractor overturns have consistently been the primary contributor to fatalities in farm-related incidents, even though Rollover Protection Structures (ROPS) have been mandatory on new tractors since 1985. In 2024, one female farm-related fatality was reported. The average age of all victims was 57.6 years—higher than the current average age of Indiana farmers, which is 55.5. Amish and Old Order communities in the state continue to account for a disproportionate number of farm-related deaths. Findings suggest that over the past decade, the range of agents involved in these fatalities has grown more diverse. Key hazards requiring targeted attention include the use of older tractors without ROPS (Roll-Over Protective Structures) and self-propelled mowers on steep slopes; tree felling and working in wooded areas; ATV and UTV operation on farms; working with livestock such as horses and bulls; and carrying extra riders on equipment. The results of this summary help guide the allocation of resources for injury prevention efforts.

Methods of Data Collection

The 2024 Indiana Farm Fatality summary was compiled by Purdue’s Agricultural Safety and Health Program from a variety of sources, including published news reports, web searches, voluntary reporting from Extension educators and others, and voluntary feedback from witnesses, family, or responders. No additional cases were identified from sources outside of the state, including federal government sources such as the Census of Fatal Occupational Injuries or Bureau of Labor Statistics. Data were compared with findings by the Indiana Department of Labor and adjusted to reflect differences due to data interpretation, data collection sources, and occupational classification. There is no claim made that the presented data are comprehensive but rather represent the best assessment currently available.⁴

Farm-related fatalities and injuries remain underreported and are hard to distinguish, in some cases, from other worker categories. In Indiana, unlike most industries regulated by OSHA, there is no requirement to centrally report such incidents for most farms. No national initiative currently aims to improve the accuracy of Indiana farm injury and fatality data beyond these annual reports. While the Bureau of Labor Statistics tracks fatalities, its data combines farming with fishing, forestry, and hunting, and often omits small farms, children, and unpaid family workers.

Several other Midwestern states no longer have the capacity to document and report on these incidents beyond the limited data available from the Census of Fatal Occupational Injuries, which has historically underreported farm-related fatalities. Some key agricultural states have eliminated or diminished their land grant university-based farm safety efforts and, due to prohibitions in federal appropriation language, federal and state OSHAs have generally maintained a hands-off approach to most agricultural production sites.

The most recent data from the Indiana Department of Labor documented 15 fatalities in 2023 and classified agriculture as the state’s third most hazardous industry.⁵ Differences in fatality reporting between Purdue and the Indiana Department of Labor stem from variations in how workers and events are classified. For instance, Purdue typically excludes motor vehicle crashes unrelated to transporting farm equipment or crops, while including children involved in farm labor—who are often omitted from Department of Labor

⁴ Differences may be found in reporting of prior years due to the addition of previously unidentified cases to the database.

⁵ [DOL: Workplace Fatalities](#)

reports due to being classified as non-employees. As shown in the annual Census of Fatal Occupational Injuries, farm-related fatalities in Indiana consistently make up a disproportionately large share of the state's workplace deaths.

Description of 2024 Farm-related Fatalities

Table 1 provides the descriptions, dates, and locations of the 28 fatalities documented as agricultural workplace incidents. However, this list may be incomplete due to inconsistent reporting requirements, cases involving Indiana residents who died in out-of-state medical facilities, or delayed deaths from injury-related complications. The list excludes fatalities from: (1) motor vehicle incidents involving farm vehicles unless they occurred during active farm work, (2) preexisting health conditions such as heart attacks, and (3) medical issues from long-term workplace exposures like chronic pesticide use. Data on the impact of such factors—especially agricultural chemicals—on Indiana farmers and farmworkers remains limited.

Table 1. Description of Documented 2024 Farm-Related Fatalities

Date	County	Age	Sex	Description
3/3	Hendricks	63	M	Farming incident
3/12	Jay	68	M	Tractor overturn
3/14	Allen	60	M	Horse incident
3/30	Scott	81	M	Farm equipment runover
4/6	Huntington	72	M	Anhydrous ammonia exposure
4/6	Cass	23	M	Tractor rollover
5/6	Parke	59	M	Tractor rollover
5/11	Fulton	82	M	Fell from tractor
5/18	Fayette	65	M	Tractor - motorcycle collision
7/5	Shelby	78	M	Tractor - motor vehicle collision
7/11	Parke	35	M	Crushed by large hay bale
7/22	Benton	35	M	Crop-dusting plane crash
7/29	Clay	79	M	Grain entrapment
8/5	Spencer	32	F	Mower overturn
8/20	Parke	85	M	Tractor overturn
8/28	Elkhart	69	M	Fell from hay loft
9/4	Kosciusko	1	Unknown	Forklift runover
9/11	Putnam	74	M	Tractor overturn
9/20	Jay	64	M	Tractor overturn
10/4	Miami	59	M	Farming incident
10/5	Parke	8	M	Front-loader runover
10/7	Elkhart	Young child	Unknown	Farming incident
10/18	Clinton	67	M	Combine fire
11/14	Hendricks	49	M	Tractor runover
10/26	Greene	67	M	Tractor overturn
12/2	Lake	45	M	Grain entrapment
12/20	Wayne	68	M	Farming incident
12/30	Posey	66	M	Excavator incident

Summary of Findings

In 2024, 28 farm-related fatalities were documented in Indiana, which is below the long-term annual average of 29 since 1970. As shown in Figure 1, the lowest annual total was 8 deaths in both 2006 and 2023, while the highest were 54 in 1981, 49 in 1990, and 44 in 2016. Although the overall trend has shown a decline in annual fatalities over the past six decades, spikes in 2016, 2017, and 2018 briefly disrupted this pattern. While yearly numbers have fluctuated, the long-term decline remains notable, especially considering that earlier incidents were likely underreported due to limited access to records, such as online sources.

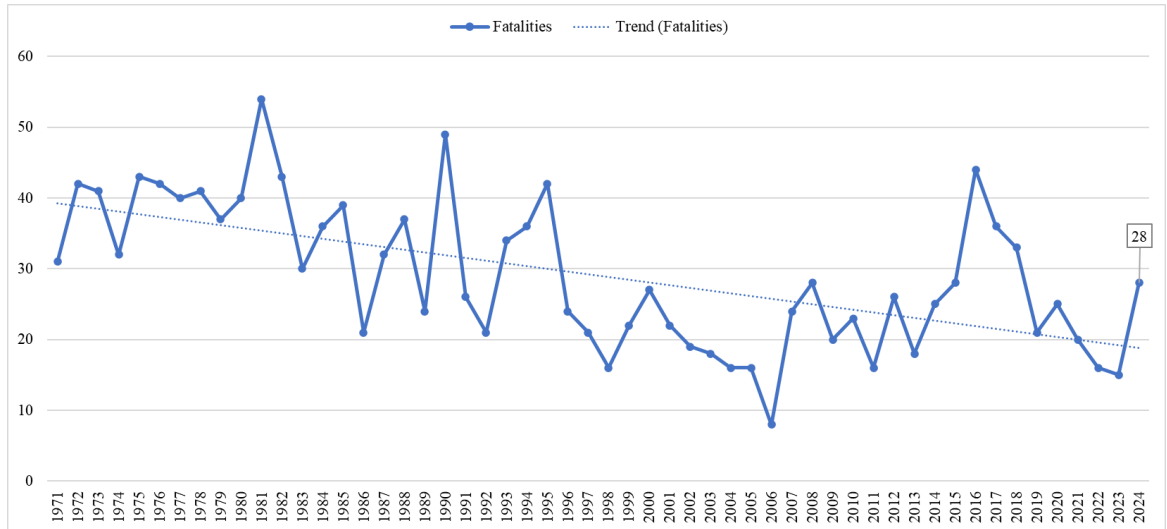


Figure 1. Farm-related fatalities: 1970-2024

No specific factor has been identified that contributed to the reoccurring spikes (or declines) in frequency. Other than incidents involving tractors and farm machinery, agents of injury have varied widely. This lack of consistency makes targeting limited prevention resources difficult, except for tractor-related incidents. The continued occurrence of tractor-related incidents, such as overturns and runovers, indicates that a greater focus on the value of Rollover Protection Structures (ROPS) - especially on older tractors used for mowing - could prove beneficial.

In 2024, the age range of the victims spanned from 1 to 85, with an average age of 57.6 (Figure 2). This average age is higher than the current average age of Indiana farmers, which stands at 55.5. However, it's important to note that a direct comparison may not be entirely accurate because the average age of Indiana farmers does not include individuals under the age of 18. This omission raises questions about the extent of children and youth involvement in farm-related work and exposure to associated hazards. Notably, within some families, particularly in the Amish community, young individuals may play a significant role in farm activities. Historically, farm-related injuries have been disproportionately common among farmers aged over 60, even those who work part-time. Recent increases in fatalities among older farmers over the past decade highlight the need for special attention to this demographic.

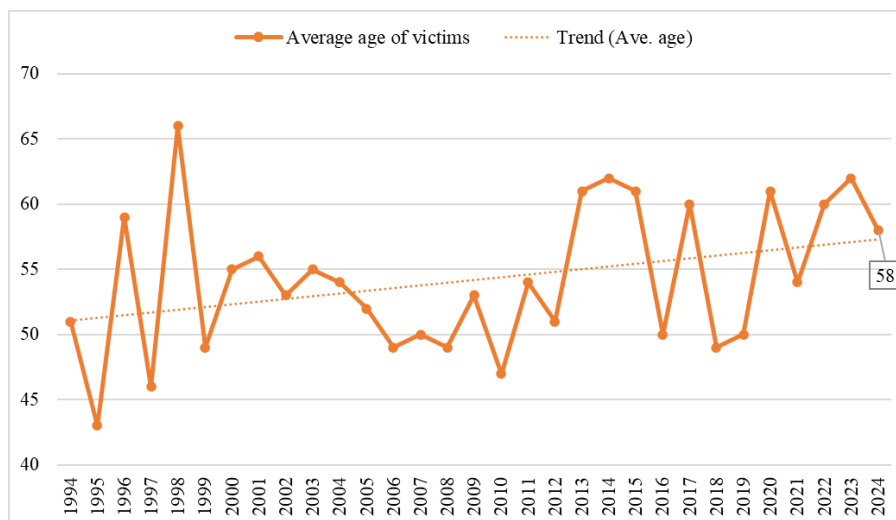


Figure 2. Average Age of farm-related fatalities 1994-2024

In 2024, three farm-related fatalities involved children and youth under the age of 18 (Figure 3). One high-profile case in October involved an 8-year-old farm helper who fell from a front loader and suffered fatal injuries. Historically, children and youth have made up a disproportionately high share of farm fatalities, with some years seeing nearly one-third of all cases in this age group. This is no longer the case in Indiana.

Over the past 40 years, Indiana has placed strong emphasis on improving safety for children and youth in agricultural settings. This shift reflects changing attitudes among parents and the public, leading to fewer children engaging in hazardous farm work. Greater compliance with child safety regulations, such as the Hazardous Occupations Order for Agriculture, and the use of larger, more complex equipment, often unsuitable for young or inexperienced workers, have also contributed to fewer incidents. Additionally, the overall decline in farm operations and the number of children living on farms has likely played a role, aligning with the broader trend of decreasing annual farm fatalities.

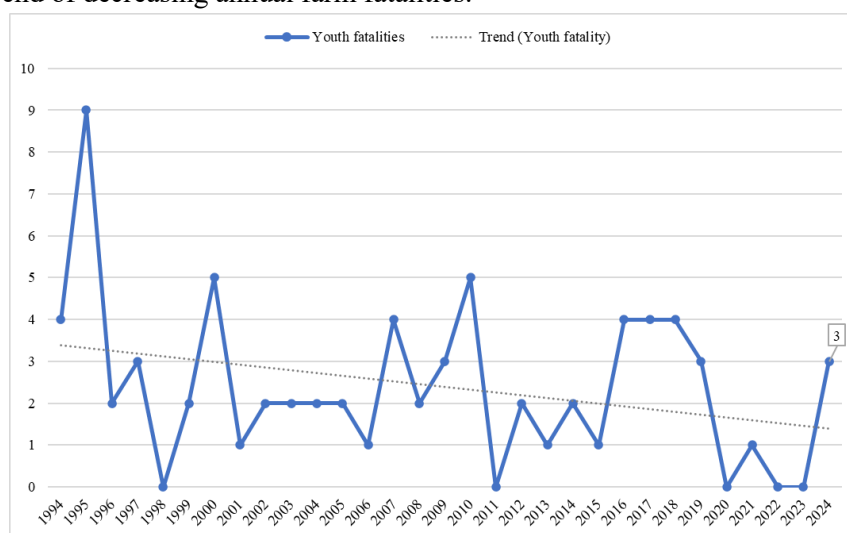


Figure 3. Number of youth farm-related fatalities: 1994-2024

Table 2 summarizes documented incidents during the period 1994 to 2024 involving youth and those 60 and older. For the past 31 years, there were no fewer than 733 fatalities, of which 76 cases were under the age of 18 and 359 were age 60 and older. Again, these two groups have historically represented a disproportional share of the total deaths, accounting for nearly 68% of the total. In 2024, these two age groups accounted for 11% and 57% of documented fatalities.

Table 2. Analysis of "youth" and "over 60" fatalities as percentage of total farm-related fatalities

Year	Deaths	Youth Deaths as % of Total	Deaths	Over 60 Deaths as % of Total	Deaths of Both Youth & Over 60	Percent of Both Youth and Over 60 Deaths	Average Age of Victim	Total Farm- Related Fatalities
	Ages		Age					
	1-17		60+					
2024	3	11%	16	57%	19	68%	58	28
2023	0	0%	4	50%	4	50%	62	15
2022	0	0%	10	63%	10	63%	60	16
2021	1	5%	8	40%	9	54%	54	20
2020	2	8%	13	52%	15	60%	61	25
2019	3	14%	11	52%	14	66%	50	21
2018	4	12%	16	48%	20	61%	49	33
2017	4	9%	18	50%	22	61%	60	36
2016	4	11%	15	33%	19	42%	50	44
2015	1	4%	16	57%	17	61%	61	28
2014	2	8%	17	38%	19	76%	62	25
2013	1	6%	10	56%	11	61%	61	18
2012	2	8%	9	35%	11	42%	51	26
2011	0	0%	8	50%	8	50%	54	16
2010	5	22%	9	39%	14	61%	47	23
2009	3	15%	12	60%	15	75%	53	20
2008	2	7%	11	39%	13	46%	49	28
1994- 2007	39	17%	150	42%	189	58%	53	311
Total	76	10%	359	49%	435	59%	54	733

During the past 31 years, tractors were involved in 319 or 44% of the total of all Indiana fatalities. The most frequent incidents involved tractor upsets or overturns followed by runovers. There is a trend towards fewer tractor-related fatalities, both in terms total annual numbers and the percentage of total farm-related fatalities. This trend was significantly disrupted by the 12 tractor-related incidents in 2024. The widespread use of ROPS or cab-equipped tractors is contributing to reduced fatalities, even in the event of tractor rollovers. While tractor-related incidents are declining, it appears that there may be a corresponding increase in the diversity of agents involved in farm-related fatalities. (Table 3).

Table 3. History of Indiana tractor-related fatalities

Year	Number of Tractor- Related Fatalities	Number of All Farm Fatalities	Percent of Tractor Related Fatalities in Total Fatalities
2024	12	28	43%
2023	2	8	25%
2022	9	16	56%
2021	6	20	30%
2020	9	25	36%
2019	8	21	38%
2018	12	33	36%
2017	13	36	36%
2016	16	44	36%
2015	11	28	39%
2014	13	25	52%
2013	6	18	33%

2012	12	26	46%
2011	6	16	38%
2010	11	23	48%
2009	11	20	55%
1994-2008	159	339	47%
Total	319	733	44%

With approximately 52,000 productive farms in Indiana, it was estimated that in 2024 one out of every 1,857 farms experienced a farm-related fatality.⁶ Using a population of 94,282 (represents what? Just operators?) farm producers in Indiana, the death rate in 2024 was approximately 29.7 per 100,000 farm workers, compared to 18 per 100,000 in 2020.⁷ Indiana is often referred to as an agricultural state, although less than 1% of the workforce is employed in production agriculture. However, the agriculture industry has traditionally been responsible for one of the highest annual numbers of work-related fatalities in the state (Indiana Department of Labor, 2018). The estimated fatality rate of 29.7 per 100,000 Indiana farm workers in 2024 compares to an estimated national death rate of 5.1 per 100,000 for full-time workers in all industries and approximately 22.7 per 100,000 for those engaged in agricultural production nationwide (2023).⁸

It is believed that both Indiana and national farm-related fatality rates would be lower if unpaid family laborers were included in the population considered regularly exposed to farm hazards. For instance, older family members often continue participating in farm work but are not counted as employed, often to maintain Social Security eligibility. Additionally, while the National Safety Council and the Census of Fatal Occupational Injuries have historically excluded children under 16 from rate calculations, Purdue's Agricultural Safety and Health Program includes them if they were involved in, or exposed to, farm-related activities.

Figure 4 shows the distribution of documented farm-related fatalities over the past 40 years when the county of location was known. Every county in the state has experienced multiple documented farm fatalities. The 11 counties with the highest number of documented cases are as follows:

- Elkhart-38
- LaGrange-33
- St. Joseph-25
- Dubois-24
- Greene-25
- Franklin-22
- Daviess-20
- Adams-20

Elkhart and LaGrange counties are home to the state's largest Amish/Old Order populations. These groups have historically accounted for a disproportionate share of farm-related fatalities. In one recent annual summary, Amish/Old Order farmers and family members accounted for approximately one-third of all documented fatalities. The continued use of horses as a primary power source, bulls for breeding, older machinery that does not meet current safety standards, and the greater number of children engaged in farm work are significant contributors to higher frequencies of fatalities in this community.

⁶ Estimated number of farms from the final report of the [nr2511 in.pdf](#)

⁷ Estimated farm population of producers and hired workers on farms from the final report of the 2022 U.S. Census of Agriculture. This number does not include unpaid family labor such as retired family members and children. [cp99018.pdf](#)

⁸ Estimated death rates from the U.S. Bureau of Labor Statistics (2023). [Fatal injury rates\(1\) by state of incident and industry\(2\), all ownerships, 2023 : U.S. Bureau of Labor Statistics](#)

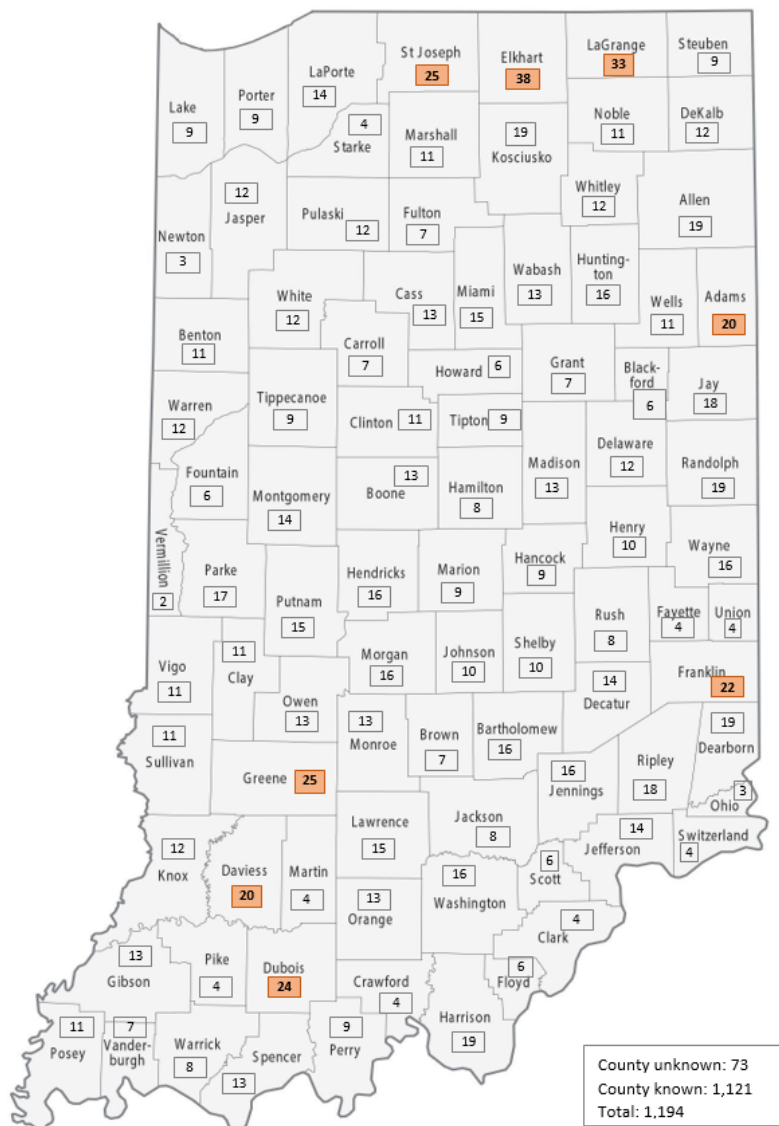


Figure 4. Geographic distribution by county of Indiana’s farm-related fatalities from 1980 through 2024

Summary of Indiana’s Farm-Related, Non-Fatal Incidents and Their Economic Impact

While the Purdue Agricultural Safety and Health Program makes a strong effort to track farm-related fatalities, non-fatal injuries are not well documented by any agency in Indiana. As a result, little is known about the true frequency, severity, or causes of farm work-related injuries each year. In 2024, six serious non-fatal injuries were identified through fatality surveillance efforts. These incidents often involved severe trauma, such as amputations or head injuries, and required airlift transport to trauma centers. Based on prior research, it is estimated that approximately one in nine Indiana farms experience a farm-related injury requiring medical attention annually. However, most of these incidents are not reported in the media and there is no requirement to report them not even in severe cases. This highlights the ongoing need for a comprehensive trauma registry that includes farm-related injuries to better inform and focus injury prevention efforts.

Summary of Amish/Old Order Buggy-related Incidents

Indiana has the third largest Amish/old Order population in the U.S., and this demographic group is growing faster than the general population. This community relies heavily on horse drawn buggies and implements and continues to experience a growing number of buggy and motor vehicle collisions. Compared to motor vehicle incidents, these collisions result in a disproportionate number of fatalities. Table 4 describes 6 documented incidents that occurred in 2024, resulting in 15 injuries and two fatalities. The ages of victims ranged from 2 to 81 years. It is believed that there may be additional unreported incidents.

Currently, Indiana state law requires red flashing lights on horse drawn vehicles used on roadways after dark. Most, but not all, Amish/Old Order communities have adapted the use of the SMV emblem. In some cases, the use of the light and SMV emblem are inconsistent with strongly held religious beliefs.

Table 4. Description of 2024 Amish buggy-related incidents

Date	County	Description	Injury	Fatality
4/22	Adams	Buggy and motor vehicle collision	3	
5/1	Elkhart	Buggy hit an object, throwing the victim off	0	1
8/12	Adams	Buggy and motor vehicle collision	4	
9/23	Kosciusko	Buggy and motor vehicle collision	5	1
11/11	Elkhart	Buggy and motor vehicle collision	1	
11/24	Elkhart	Buggy and motor vehicle collision	2	

From 2015 to 2024, 216 buggy-related accidents were documented in Indiana, resulting in 20 fatalities. Most of the incidents involved a collision between a motor vehicle and a buggy, and many resulted in multiple victims. It should be noted that this type of occurrence is under reported and access to incident reports may be difficult to obtain. There is a need to give more attention to incidents involving Amish/Old Order horse-drawn vehicles on public roadways, as well as farm work-related injuries among this population.

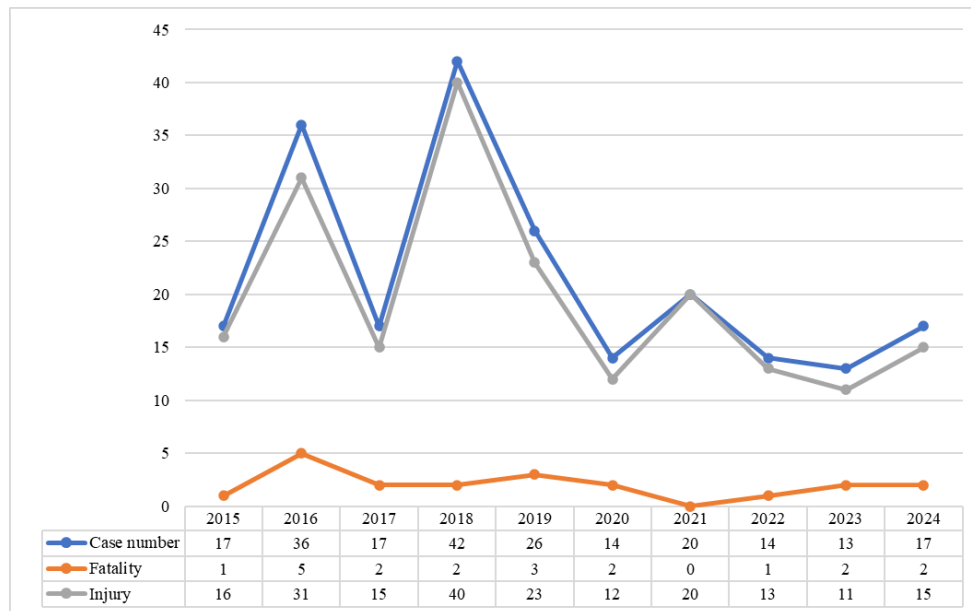


Figure 5. Amish buggy-related incidents, 2015-2024

Wood Cutting/ATV Incidents

In 2024, five documented cases—both fatal and nonfatal—were caused by tree limbs falling on victims, all of whom were men between the ages of 54 and 72. These incidents involved individuals engaged in tree-cutting or trimming activities, often in farm or wooded areas, and highlight the risks associated with

such tasks—particularly for older adults. Another fatality involved a 70-year-old man in an ATV overturn, and a 61-year-old woman died in a UTV–motor vehicle collision. These cases underscore the ongoing dangers of off-road vehicle use and tree or wood lot-related work in agricultural environments. Prevention efforts should prioritize safe tree-felling techniques, the use of protective equipment, and proper vehicle operation practices. Surveillance efforts are ongoing, and this dataset may not yet be complete; newly identified cases will be added as data collection continues.

The Changing Agricultural Workforce

The increase in small farms is a significant shift in rural communities. Part-time or hobby farmers have distinct educational needs compared to large commercial operations. Recent fatality data indicates that these smaller farms account for a disproportionately high number of deaths, often due to the use of older, less safe machinery like tractors without ROPS. In some cases, horses are considered as a "greener" alternative to tractors, without recognizing that horses were once a leading cause of farm-related fatalities.

Recent claims regarding the increasing numbers of women engaged as owner/operators of Indiana farms cannot be proven by any significant increase in the number of women dying or being injured as the result of being involved in farm work. Historically over 95% of all farm workplace fatalities have been male. Considering that an estimated 5,600⁹ principal farm operators in Indiana are female, it could be expected that there would be a larger number of fatalities or work-related injuries involving women, if all these women were actually engaged in production-related activities. Of the 265 total documented fatalities over the past ten years only 18 (6.8%) were female. There were no documented female fatalities in 2019 and only one each in 2020, 2021 and 2024. However, there were four female fatalities in 2016, 5 in 2017, and 5 in 2018, each representing an unusually high number of incidents when compared with historical data.

Incidents Involving Agricultural Confined Spaces

Since 1978, Purdue University has been documenting agricultural confined space incidents throughout the United States. About 2,429 cases have been documented and entered into Purdue's Agricultural Confined Spaces Incident Database. For an annual summary of these incidents visit www.agconfinedspaces.org.

Indiana ranks number one historically in the number of documented grain entrapments. In 2024 there were two documented fatal entrapments. It is believed that Indiana's high national ranking for this type of fatality has more to do with the aggressive nature of Purdue's on-going surveillance efforts in the state over the past 40 years rather than the actual number of incidents that occur in other states.

Farmer Suicides

There continues to be strong interest in addressing the problem of farmer suicides. Substantial investments have been made to raise awareness of the problem and increase resources available through rural mental health clinics, County Extension Offices, rural churches, and Secondary Agriculture Educators. For example, an instructional unit covering the impact of farm stress on youth has been developed for the "Gearing Up for Safety: Agricultural Production Safety for Youth" curriculum available at www.agsafetyforyouth.info. A new national suicide prevention toll free line (988) was implemented in July 2022, with trained professionals available to assist callers through difficult times. There remains, however, no reliable data to suggest that Indiana farmers are at a significantly higher risk of suicide than the general population. Regardless, the increased attention being given to mental and behavioral health among rural populations yet through not substantiated by reliable data, the increased role of alcohol and drug use in agricultural workplace injuries and fatalities cannot be ignored and challenging economic conditions is appropriate.

⁹ https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=INDIANA

INPrepared.org

Two of the most significant contributors to the reduction in the frequency of Indiana's farm-related fatalities, beyond the introduction of safe technology, has been the increased capabilities of rural emergency first responders and rapid access to high quality emergency medical services. Injuries that were not survivable 20 or 30 years ago are being successfully addressed by better-trained first responders and rapid deployment of air transport medical services.

To further enhance the capacity of Indiana's farm and rural families to respond to typical emergencies, PUASHP has develop and promoted the www.INPrepared.org website. This tool is designed to enable users to be better prepared for respond to and recover from potentially harmful events. One critical preparation activity that is being encouraged is to complete a "Stop-the-Bleed" training that has demonstrated success in preventing loss of life due to blood loss.

Conclusion

Farm safety and health are not, nor will it ever be, topics that will make the front page of the paper, turn the heads of legislators, or generate an outpouring of public support. However, no fewer than 1,604 Indiana farm families that have experienced the loss of a family member since 1970, including the 28 in 2024. Each of these families know personally that the effects these events last a lifetime.

If you are interested in learning more or supporting the work of Purdue's Agricultural Safety and Health Program, please feel free to call 765-494-1191 or visit www.farmsafety.org.

Other online resources that may be helpful include:

- www.agrability.org
- www.agconfinedspaces.org
- www.youtube.com/USagCenters
- www.agasafety4youth.info
- www.necasag.org
- www.inprepared.org