

2022 Fact Sheet

Childhood Agricultural Injuries



#1

Agriculture had the leading number of occupational fatalities across industries for youth age 17 and younger from 2011-2020.

Population at Risk

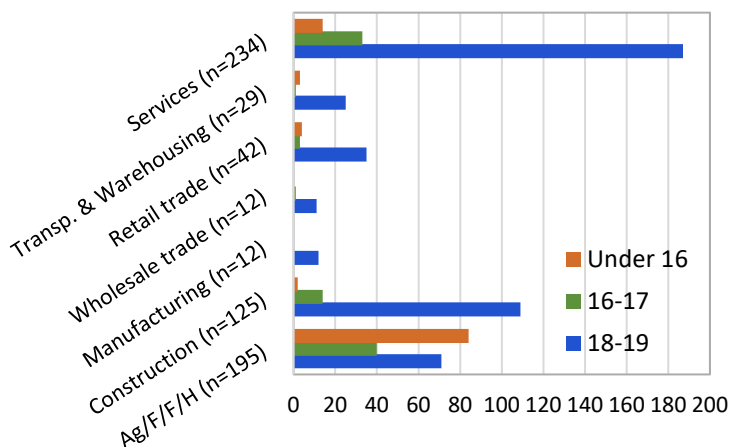
Farms	<ul style="list-style-type: none"> In 2021, there were approximately 2.01 million farms in the United States.¹ The number of large farms is increasing, small- to mid-size farms are decreasing, and life-style farms (with children) are increasing²
Children	<ul style="list-style-type: none"> About 893,000 youth lived on farms in 2014 and more than half (51%) worked on their farm.³ More than 265,600 non-resident youth were hired in agriculture in 2014.³ An estimated 25 million youth visit farms with 95% being frequent or occasional visitors.⁴ Rural communities are highly diverse including Hispanic, Anabaptist, American Indian, Black or African, and Asian residents. They have a disproportionate level of financial, housing and food insecurity, along with social isolation and compromised access to health care and broadband internet.⁵

Fatal Childhood Agricultural Injuries

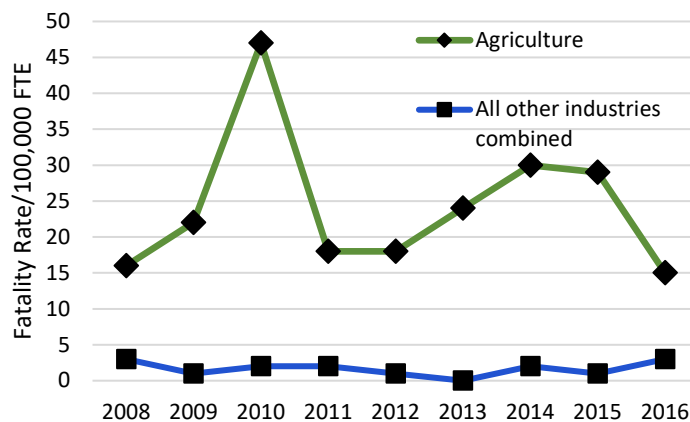
All Youth	<ul style="list-style-type: none"> A child dies in an agriculture-related incident about every 3 days.* Youth under age 16 have 12 times the risk of ATV injuries (fatal and non-fatal), compared to adults.⁶
Working Youth	<ul style="list-style-type: none"> From 2001 to 2015, 48% of all fatal injuries to young workers occurred in agriculture.⁷ In 2016, young workers were 7.8 times more likely to be fatally injured in agriculture when compared to all other industries combined (14.57 per 100,000 FTE vs 1.87 per 100,000 FTE).⁷ Tractors and ATV/UTVs are the or leading sources of fatal events.⁷ Of the leading sources of fatalities among all youth, 47% involved transportation (including tractors), 20% involved contact with machinery, and 13% involved violent contact with animals and other humans.⁸

Fatalities for Young Workers Across Industries

Number of Occupational Youth Fatalities by Industry: 2011-2020



Ages 15-17 by FTE, 2008-2016



Ag/F/F/H = agriculture, forestry, fishing, and hunting; FTE = full-time equivalent; Transp. = transportation⁹. Data from US Bureau of Labor Statistics Census of Fatal Occupational Injuries.

* From reported 115 agriculture-related deaths annually from 1995 to 2000.⁸

** From estimated 11,942 injuries in 2014.¹⁰

† Household youth are youth who live on a farm.

†† Converted from published 2005 dollars to 2022 dollars

NOTE: There is no central repository of childhood agricultural injuries. This fact sheet draws from the best available data.

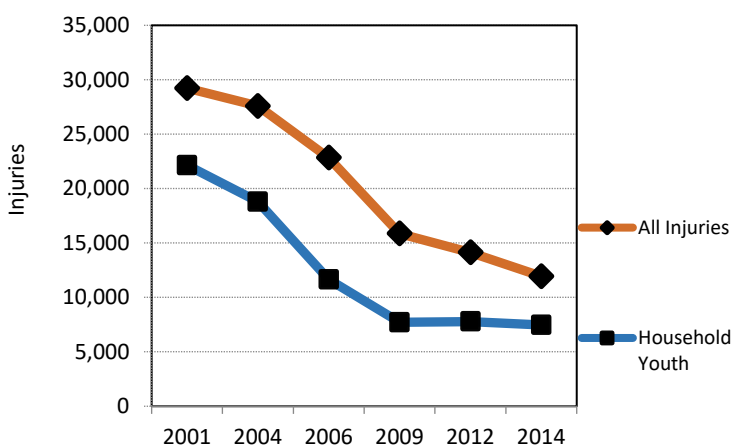
Cost

- All Youth
- In 2021, the annual cost of childhood ag-related deaths was \$605 million.^{††,11}
 - In 2021, the annual cost of non-fatal childhood ag injuries was \$1.4 billion.^{††,11}
 - Only 9.3% of costs are due to medical expenses; 37.2% are work and productivity hours lost and 53.5% is quality of life lost.¹¹

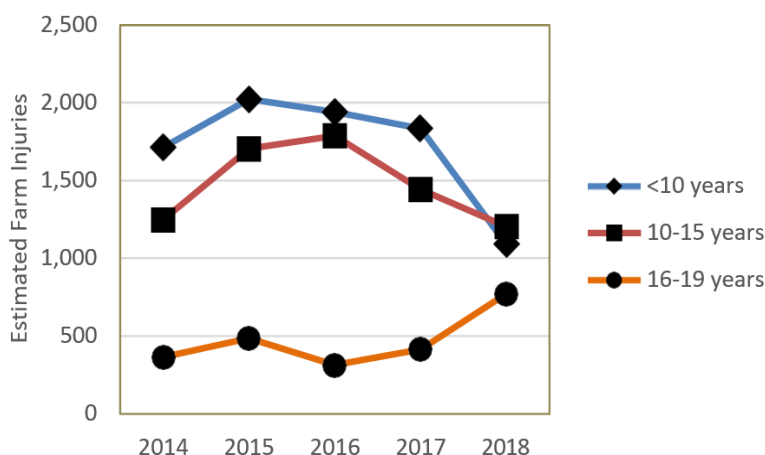
Nonfatal Childhood Agricultural Injuries

- All Youth
- Every day about 33 children are injured in agriculture-related incidents.^{**}
 - From 2015-2017, as many as 79% of youth under age 18 were not working when injured on a farm.¹²
 - About one third of agriculture-related emergency room visits are child injuries.¹³
 - In 2014, an estimated 7,469 household youth[†] were injured on a farm and 60% of them were not working when the injury occurred.¹⁰
 - An estimated 738 hired and 3,735 visiting youth were injured on farms in 2014.¹⁰
 - Vehicles were the leading source of injury for household working youth, including ATVs.¹⁰
 - For non-working youth and visitors, animals were the leading source of injuries.¹⁰

Nonfatal Injuries – All Youth



Nonfatal Youth[†] Injuries by Age



Note: Data (left) from the Childhood Agricultural Injury Survey (CAIS) do not include injuries to contract laborers. Data (right) from United States Consumer Product Safety Commission National Electronic Injury Surveillance (NEISS), 2018.

It is estimated that there are over 4 times more occupational injuries than are reported. As many as 88% of agricultural injuries and illnesses are not captured by traditional surveillance methods.¹⁴



Visit CultivateSafety.org for information and resources to prevent child agricultural injuries.



Visit AgInjuryNews.org to monitor and explore the latest injury reports, news stories, and trends.

Suggested Citation:

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- ¹USDA, NASS publications: Farms and Land in Farms, 2021 Summary, February 2022. Available at: <https://downloads.usda.library.cornell.edu/usda-esmis/files/5712m6524/6h441w232/vx022h58v/fnlo0222.pdf> (accessed on 1 March 2022).
- ²Farm Equipment. <https://www.farm-equipment.com/articles/15960-number-of-us-farms-declines-while-size-of-farms-increases> (accessed on January 5, 2022)
- ³Childhood Agricultural Injury Survey (CAIS) Results. Available at: <https://www.cdc.gov/niosh/topics/childag/cais/demotables.html>
- ⁴Hendricks KJ, Hendricks SA, Layne LA. (2021). A National Overview of Youth and Injury Trends on U.S. Farms, 2-1-2014. *JASH* 27(3) 121-134.
- ⁵Bradford J, Coe E, Enomoto K, White M. *COVID-19 and rural communities: Protecting rural lives and health*. <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/covid-19-and-rural-communities-protecting-rural-lives-and-health>. Published Mar 10 2021. Accessed May 17 2022.
- ⁶Rodgers GB, Adler P. Risk factors for all terrain vehicle injuries: a national case control study. *Am. J. Epidemiol.* 2001;153, 1112–1118. PMID: 11390331
- ⁷NIOSH [2019]. Analysis of the Bureau of Labor Statistics Census of Fatal Occupational Injuries microdata. Morgantown, WV: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. Unpublished.
- ⁸Perritt KR, Hendricks K, Goldcamp E. (2017). Young worker injury deaths: a historical summary of surveillance and investigative findings. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. <https://www.cdc.gov/niosh/docs/2017-168/pdfs/2017-168.pdf>
- ⁹U.S. Bureau of Labor Statistics. Census of Fatal Occupational Injuries (2011 forward): Fatal Occupational Injuries in Crop Production, Animal Production, and Support Activities for Crop and Animal Production for Age Groups: under 16, 16 to 17, and 18 to 19 years. Available online <https://www.bls.gov/iif/data.htm> (accessed on 26 January 2022).
- ¹⁰NIOSH (2016). Analyses of the 2014 Childhood Agricultural Injury Survey (CAIS). Morgantown WV: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Division of Safety Research. Unpublished.
- ¹¹Zaloshnja E, Miller, TR, Lee BC. Incidence and cost of nonfatal farm youth injury, United States, 2001-2006. *J Agromedicine*. 2011, 16(1):6-18.
- ¹²Weichelt B, Gorucu S, Murphy D, Pena AA, Salzwedel M, Lee BC. Agricultural Youth Injuries: A Review of 2015-2017 Cases from U.S. News Media Reports, *Journal of Agromedicine*, 2019;24(3):298-308. doi:10.1080/1059924X.2019.1605955
- ¹³Gorucu S, Michael J, Chege K. Nonfatal Agricultural Injuries Treated in Emergency Departments: 2015-2019, *J. of Agromedicine*. 2022, 27(1):41-50. DOI: 10.1080/1059924X.2021.1913271
- ¹⁴Leigh JP, Du J, McCurdy SA. An estimate of the U.S. government's undercount of nonfatal occupational injuries and illnesses in agriculture. *Ann Epidemiol.* 2014;24(4):254–259. doi:10.1016/j.annepidem.2014.01.006