

Agriculture 101

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NE Agriculture

<https://www.youtube.com/watch?v=GUSbOtfCRRs>



EPA Ag 101

<http://www.epa.gov/oecaagct/ag101/index.html>

Demographics

Economics

Land Use

Crop Production

Pork Production

Poultry Production

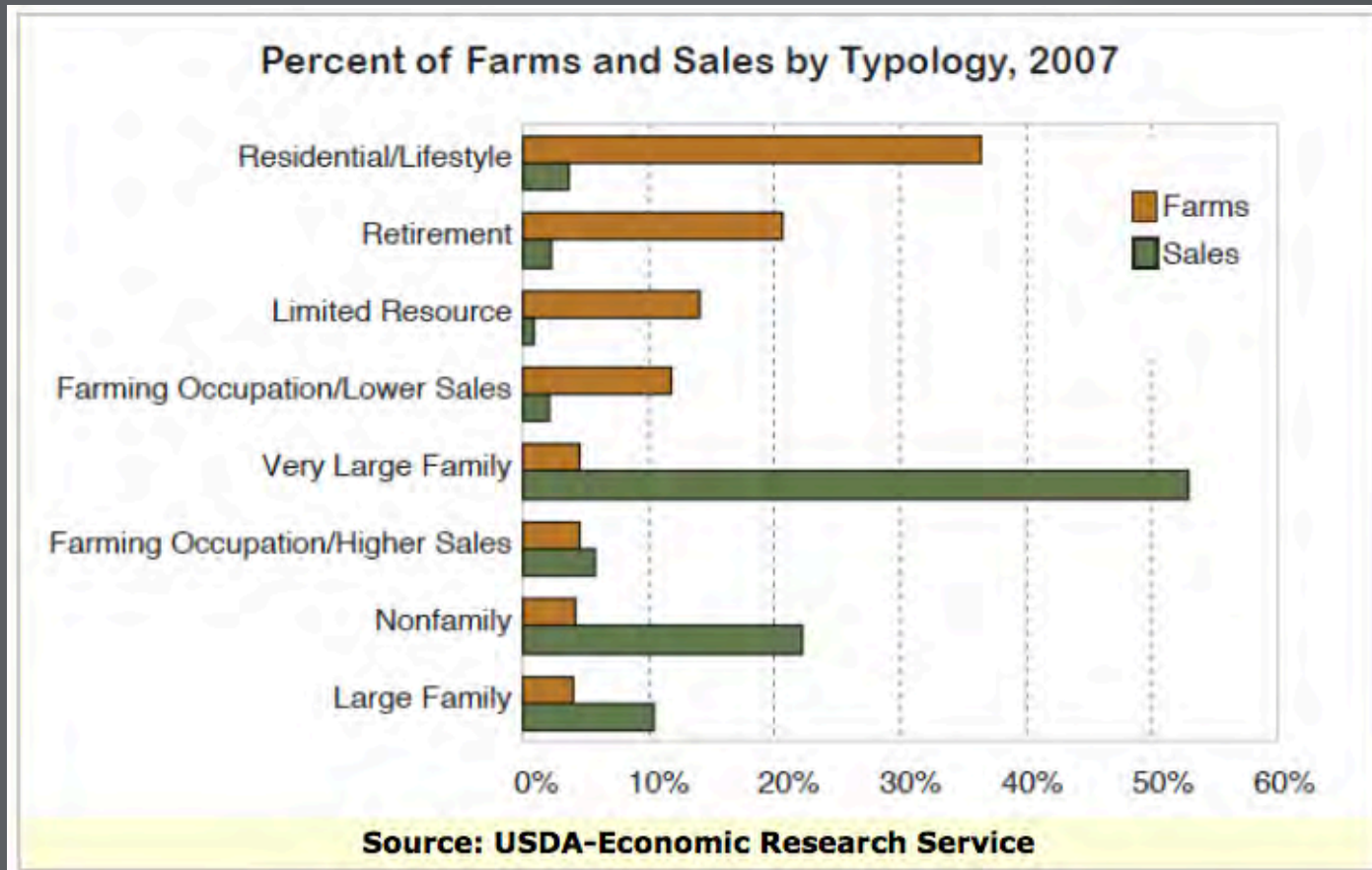
Dairy Production

Beef Production

Glossary



Demographics



Crop Production

Major Crops in the U.S.

Crop Production Systems

Crop Production Steps

Soil Preparation

Planting

Nutrient Management

Pest Management

Irrigation

Drainage

Harvest

Storage of Fuel and Chemicals

Agricultural Pesticide Use

Major agricultural crops produced in the United States in 2000 (excluding root crops, citrus, vegetable, etc).		
Crop	Harvested Area (million acres)	Cash Receipts from Sales (\$ billion)
Corn (grain)	72.7	15.1
Soybeans	72.7	12.5
Hay	59.9	3.4
Wheat	53.0	5.5
Cotton	13.1	4.6
Sorghum (grain)	7.7	0.82
Rice	3.0	1.2



Source: USDA - Natural Resources Conservation Service

NASS

<http://www.nass.usda.gov> - Search Safety

National Agricultural Statistics Service

This is an archive and email subscription service for reports issued by NASS. The official website is www.nass.usda.gov with other data services.

Agricultural Safety

This title aggregates several existing titles related to Agricultural Safety

These reports are the product of telephone surveys of farm operators to obtain information for the National Institute for Occupational Safety and Health.

- [Hispanic Adult Injuries](#)
- [Hispanic Youth Injuries](#)
- [Racial Minority Adult Injuries](#)
- [Racial Minority Youth Injuries](#)
- [Adult Agricultural Related Injuries](#)
- [Youth Agricultural-Related Injuries](#)
- [Farm and Ranch Safety Survey Report](#)

BLS/CFOI

<http://www.bls.gov/iif/>

Injuries, Illnesses, and Fatalities

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The **Injuries, Illnesses, and Fatalities (IIF)** program provides annual information on the rate and number of work related injuries, illnesses, and fatal injuries, and how these statistics vary by incident, industry, geography, occupation, and other characteristics.

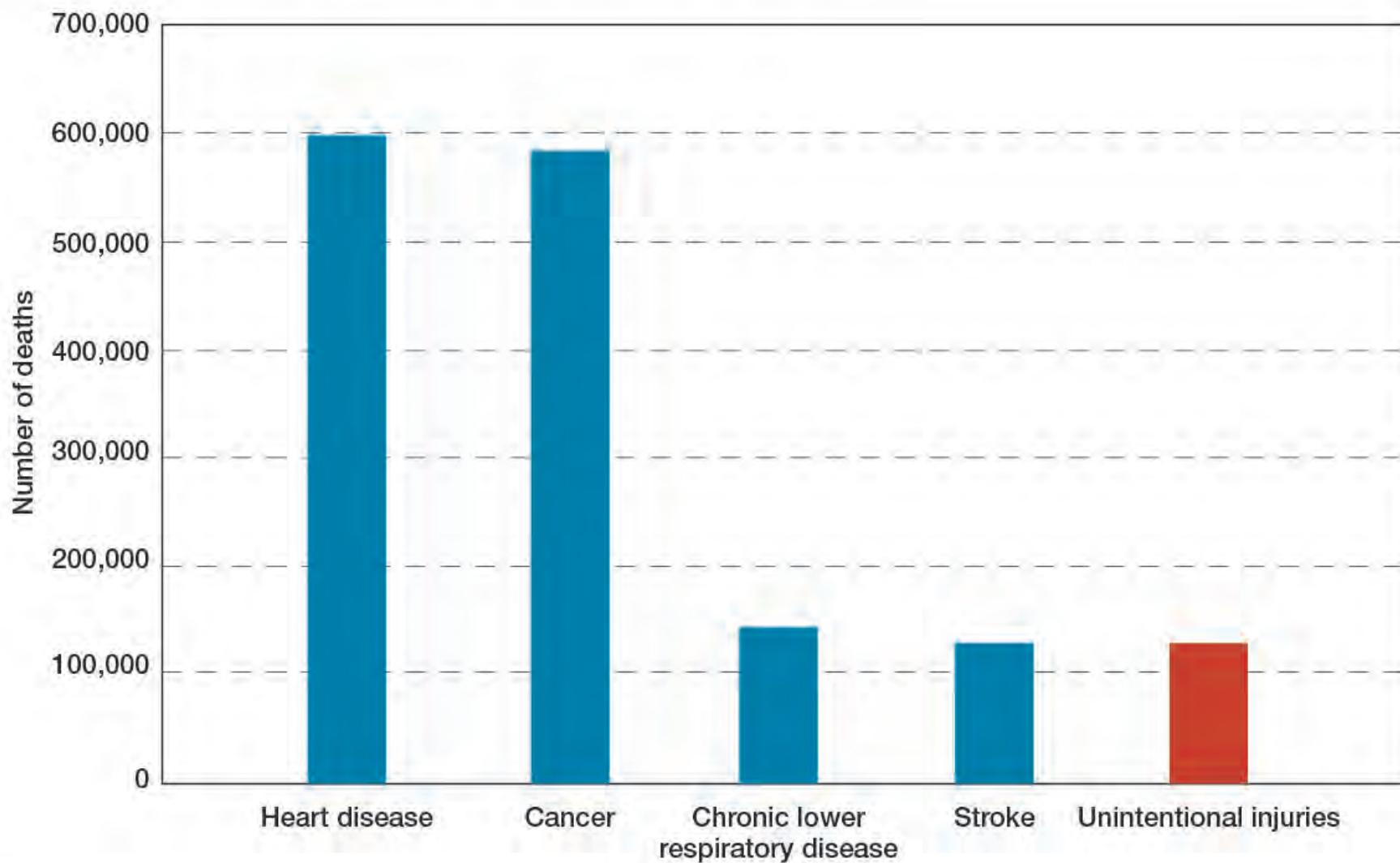
Corrections to Survey of Occupational Injuries and Illnesses data, 2011 and 2012

Because of data processing errors, incorrect U.S. national estimates of nonfatal occupational injuries and illnesses were published in news releases for reference years 2011 and 2012. For corrected data and additional information see http://www.bls.gov/bls/errata/iif_errata_1014.htm.

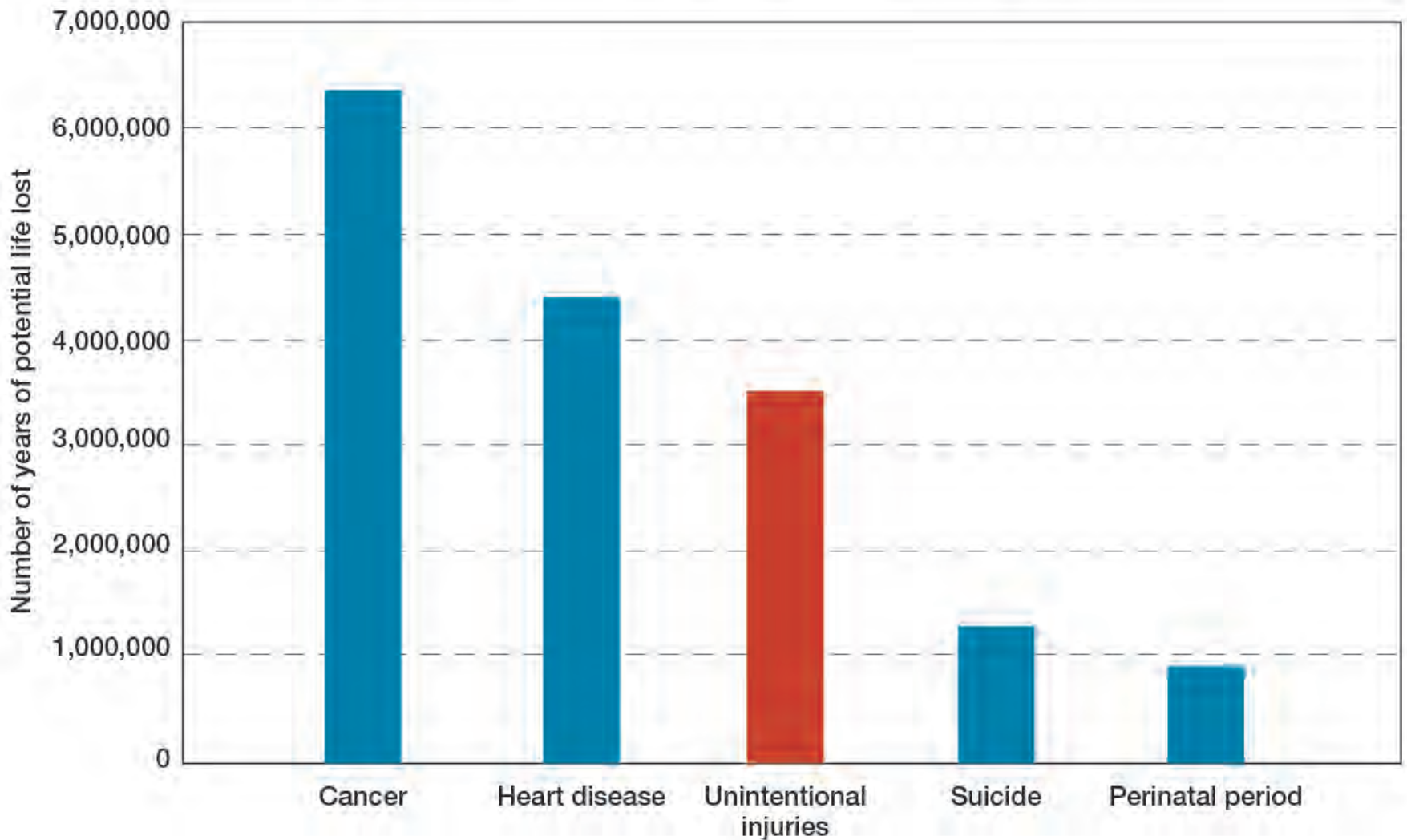
On This Page

- » [IIF News Releases](#)
- » [IIF Databases](#)
- » [Current Injury, Illness, and Fatal Injury Data](#)
- » [IIF Publications](#)
- » [IIF Documentation](#)
- » [IIF FAQs](#)
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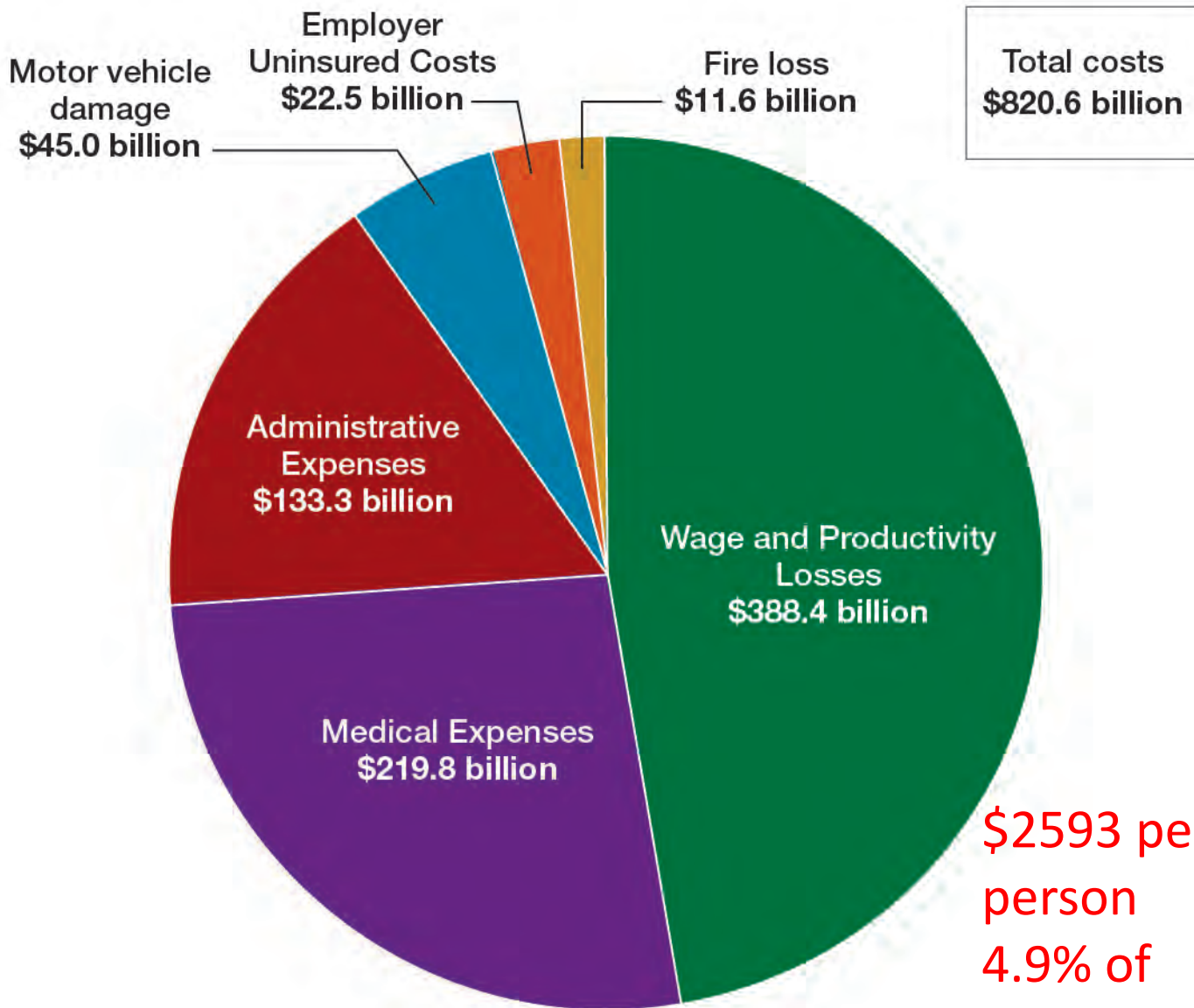
Five leading causes of death, United States, 2012



Five leading causes of years of potential life lost, United States, 2012



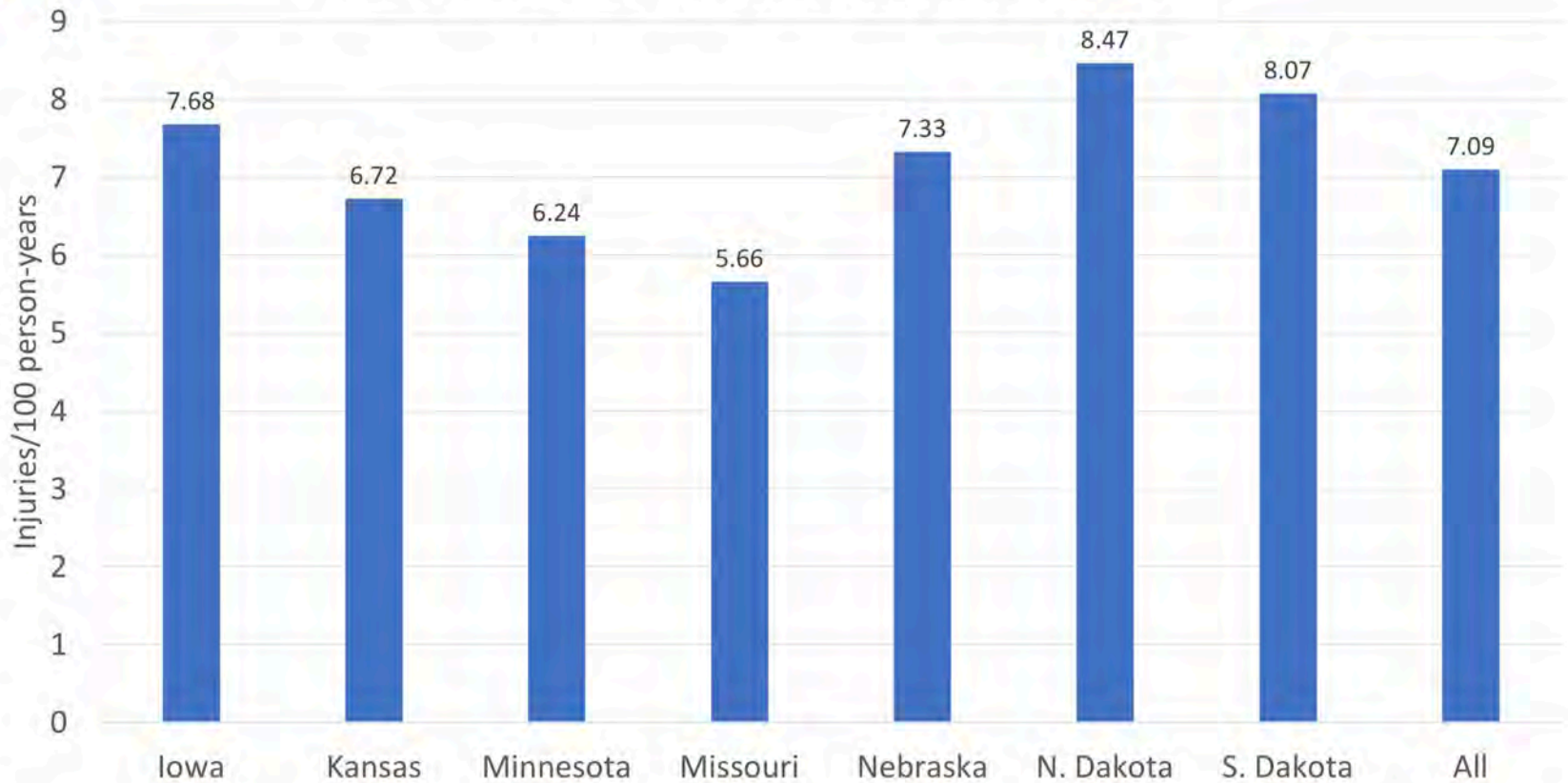
Costs of unintentional injuries by component, 2013



**\$2593 per person
4.9% of GDP
in 2013**

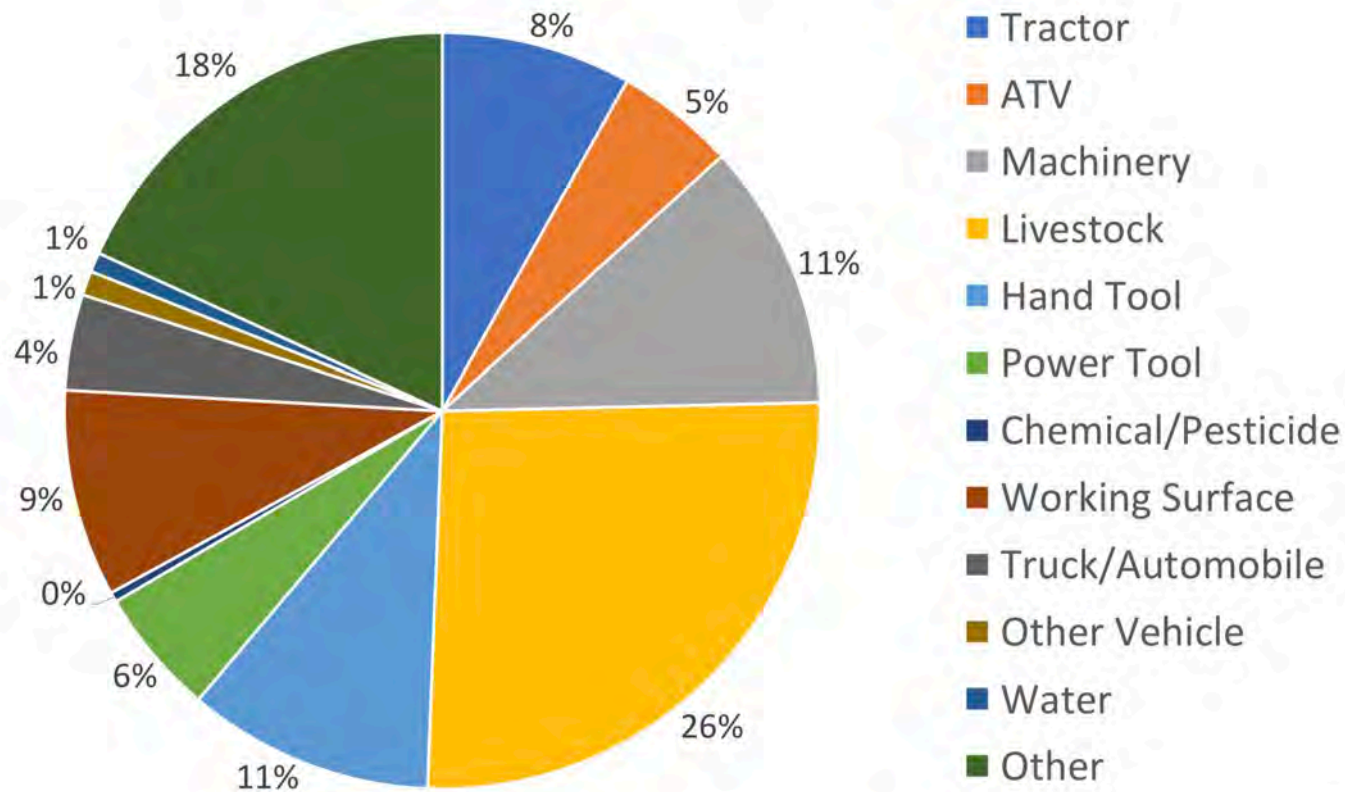


Injury rate for all operators by state, 2011-2015



Source: CS-CASH Injury Survey

Injuries by cause/source of injury



Source: CS-CASH Injury Survey

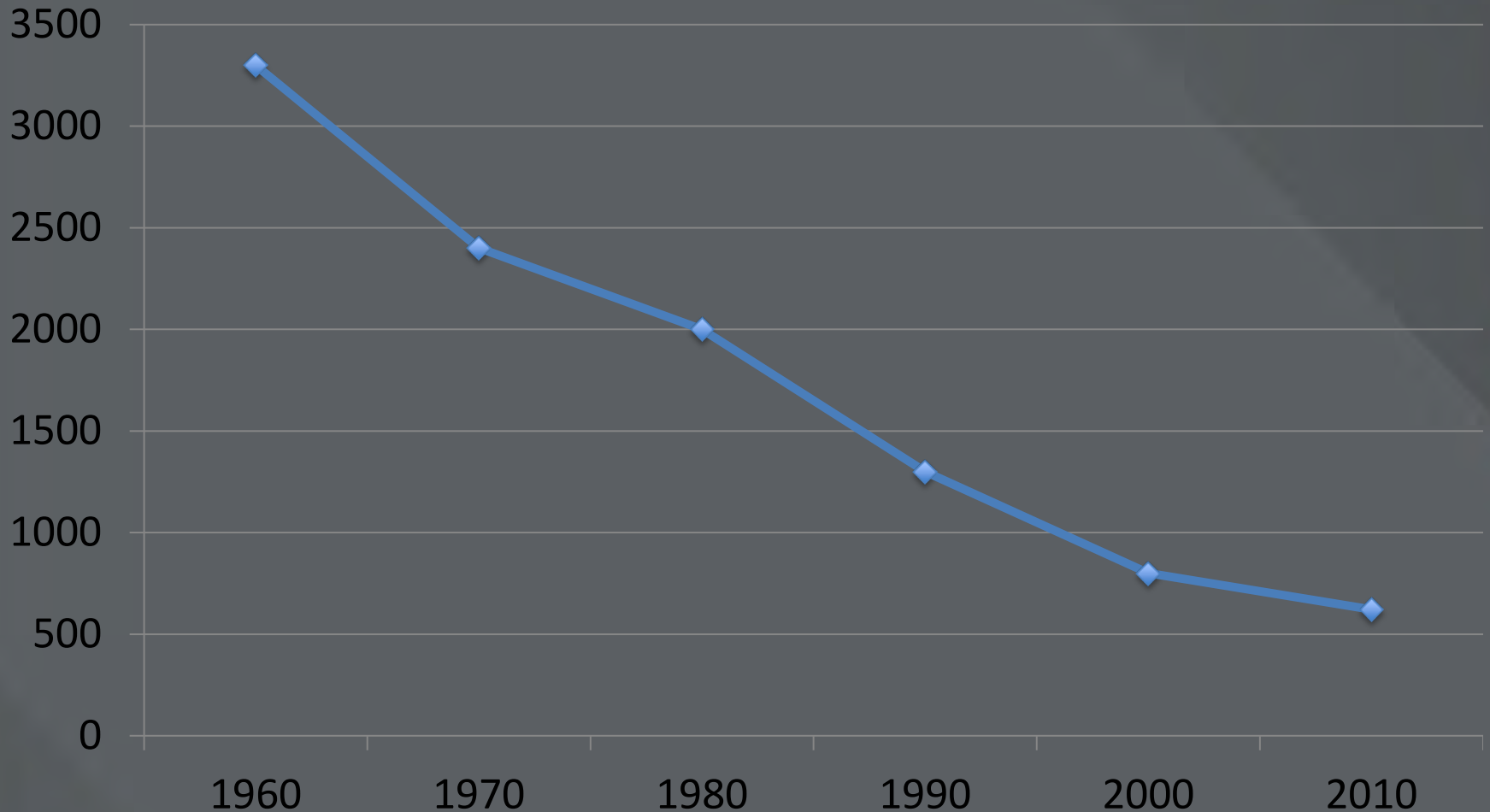
Summary of results; 2011-2015

- Response rates varied from 29% to 37%
- Avg. rate: 7.1 injuries / 100 operators per year
- Likelihood of injury to operator: 1 injury in ~14 years
- Average costs of injury:
 - Medical; out-of-pocket: \$1,513
 - Medical; covered by insurance: \$7,282
 - **Medical; combined: \$8,795**
 - Estimate, including lost productivity and indirect costs (4*): **\$35,180**

Fatal injuries

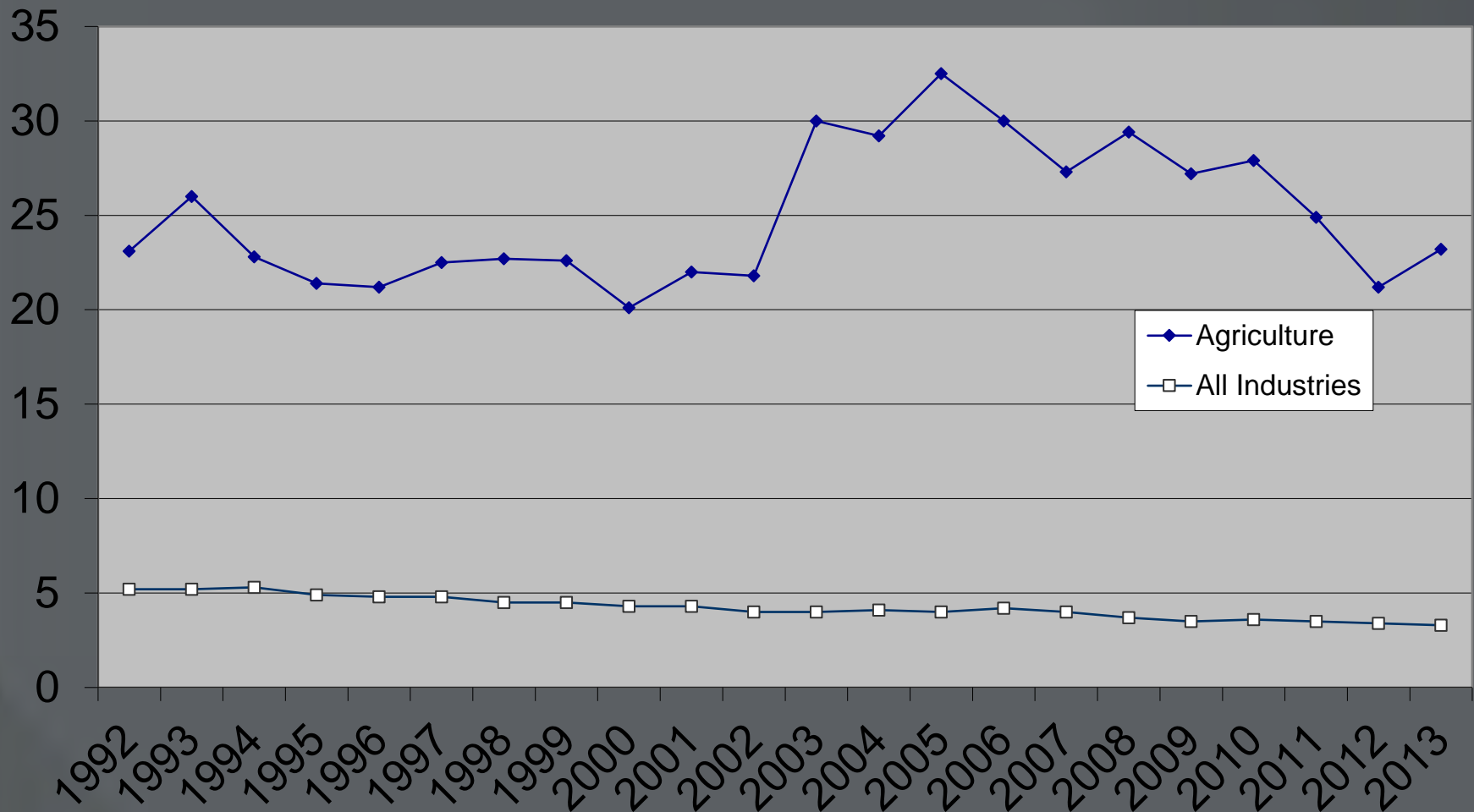


Fatal injuries - Agriculture, Forestry, and Fishing 1960 - 2010

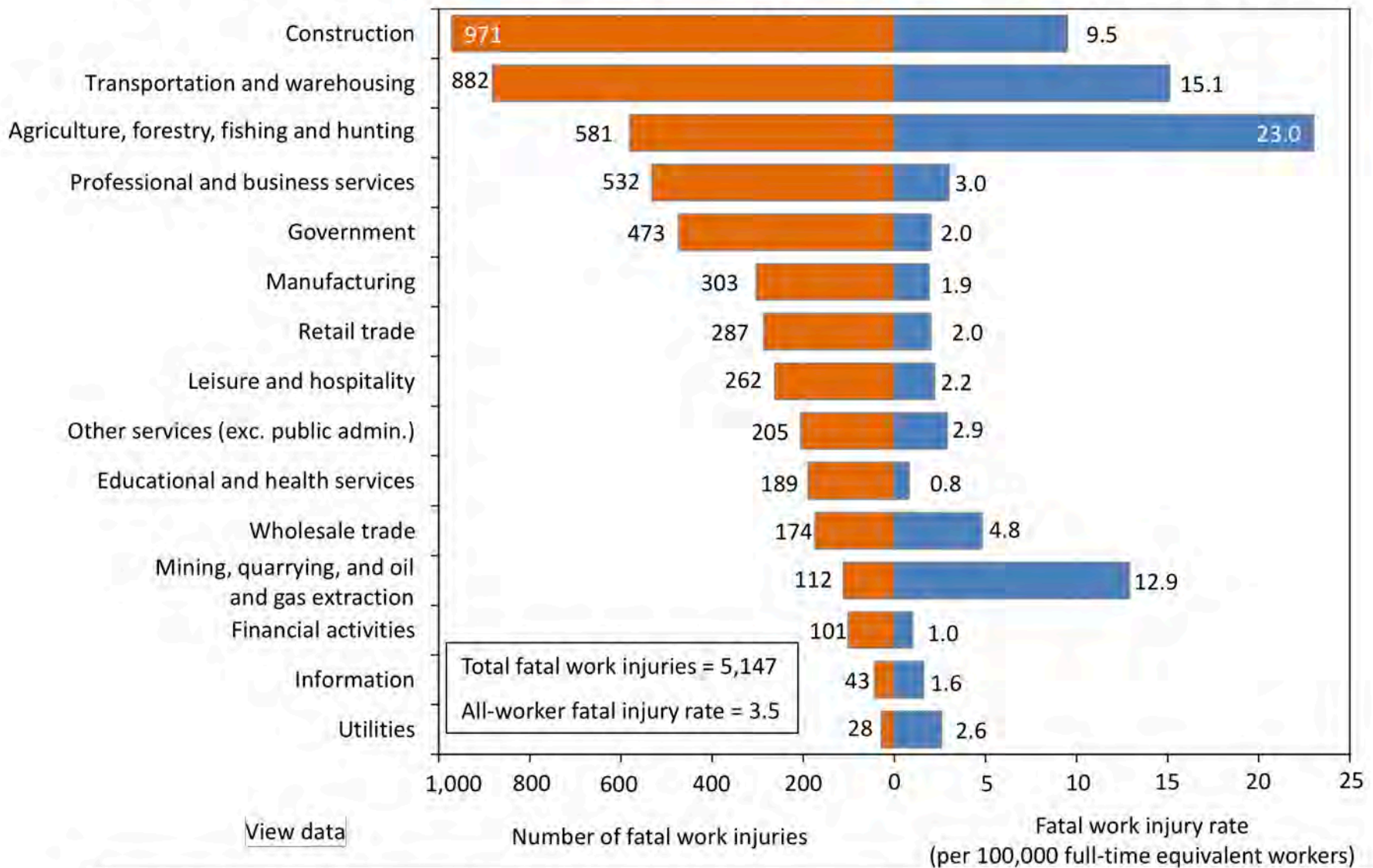


Occupational fatality rates in agriculture and all industries, 1992-2013. Fatalities / 100,000 workers per year.

Source: BLS CFOI



Number and rate of fatal work injuries by industry sector, 2017

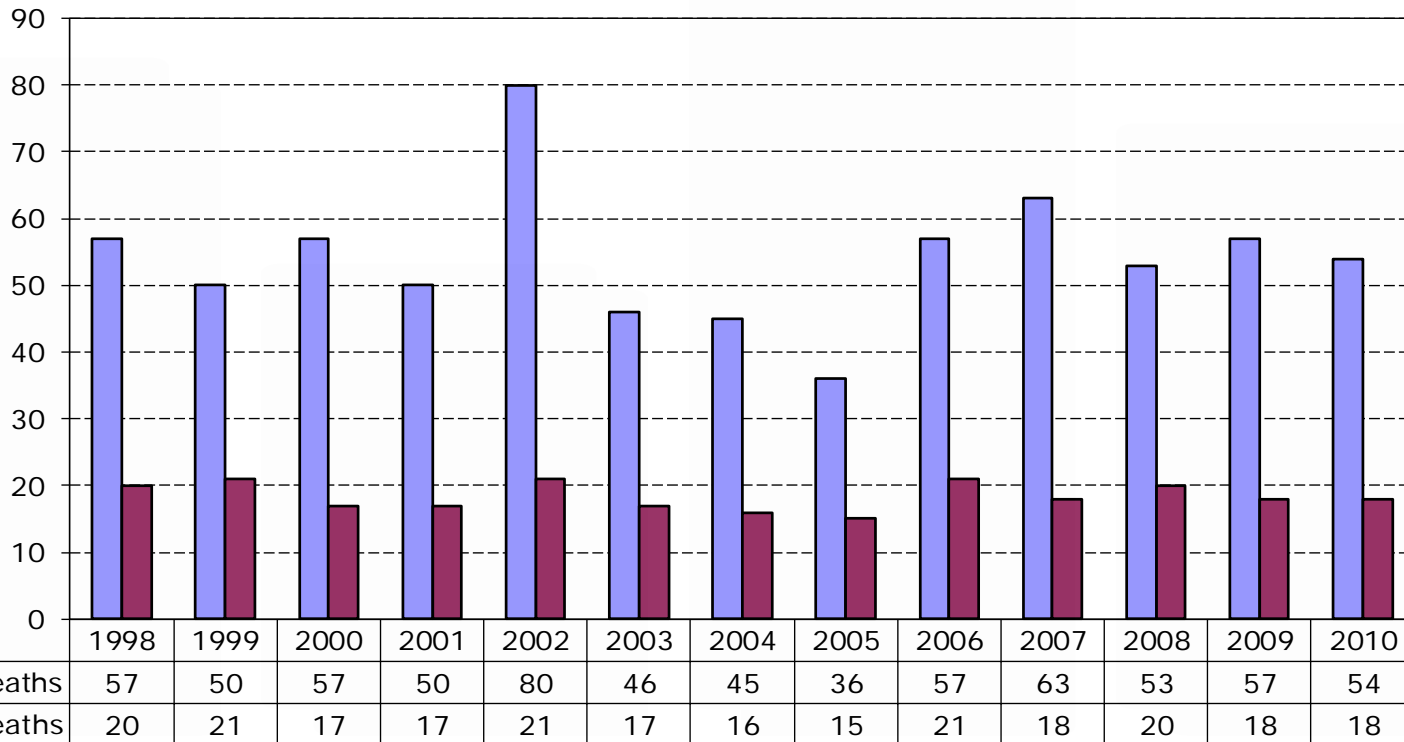


- Private construction had the highest count of fatal injuries in 2017, but the private agriculture, forestry, fishing and hunting sector had the highest fatal work injury rate.

Note: Fatal injury rates exclude workers under the age of 16 years, volunteers, and resident military. The number of fatal work injuries represents total published fatal injuries before the exclusions. For additional information on the fatal work injury rate methodology, please see www.bls.gov/iif/oshnotice10.htm.

Source: U.S. Bureau of Labor Statistics, Current Population Survey, Census of Fatal Occupational Injuries, 2018.

Nebraska Fatalities 1998-2010



Tractor overturns



Old machinery – often involved in injuries



Grain suffocations, falls from ladders



DANGER

YOU CAN SUFFOCATE OR DROWN IN THIS BIN


DO NOT ENTER WHEN THIS BIN IS BEING LOADED OR UNLOADED.

— IF YOU MUST ENTER THE BIN —

1. SHUT OFF AND LOCK OUT ALL POWER.
2. USE A SAFETY HARNESS AND SAFETY LINE.
3. WEAR A DUST RESPIRATOR.
4. AVOID THE CENTER OF THE BIN.
5. STATION A PERSON OUTSIDE THE BIN.

— THE DANGER IS FROM —

SPIDGED GRAIN AND FLOWING GRAIN



BRIDGE COLLAPSES **FLOWING GRAIN TRAPS**

GRAIN BIN MANUFACTURER'S COUNCIL OF FIEI

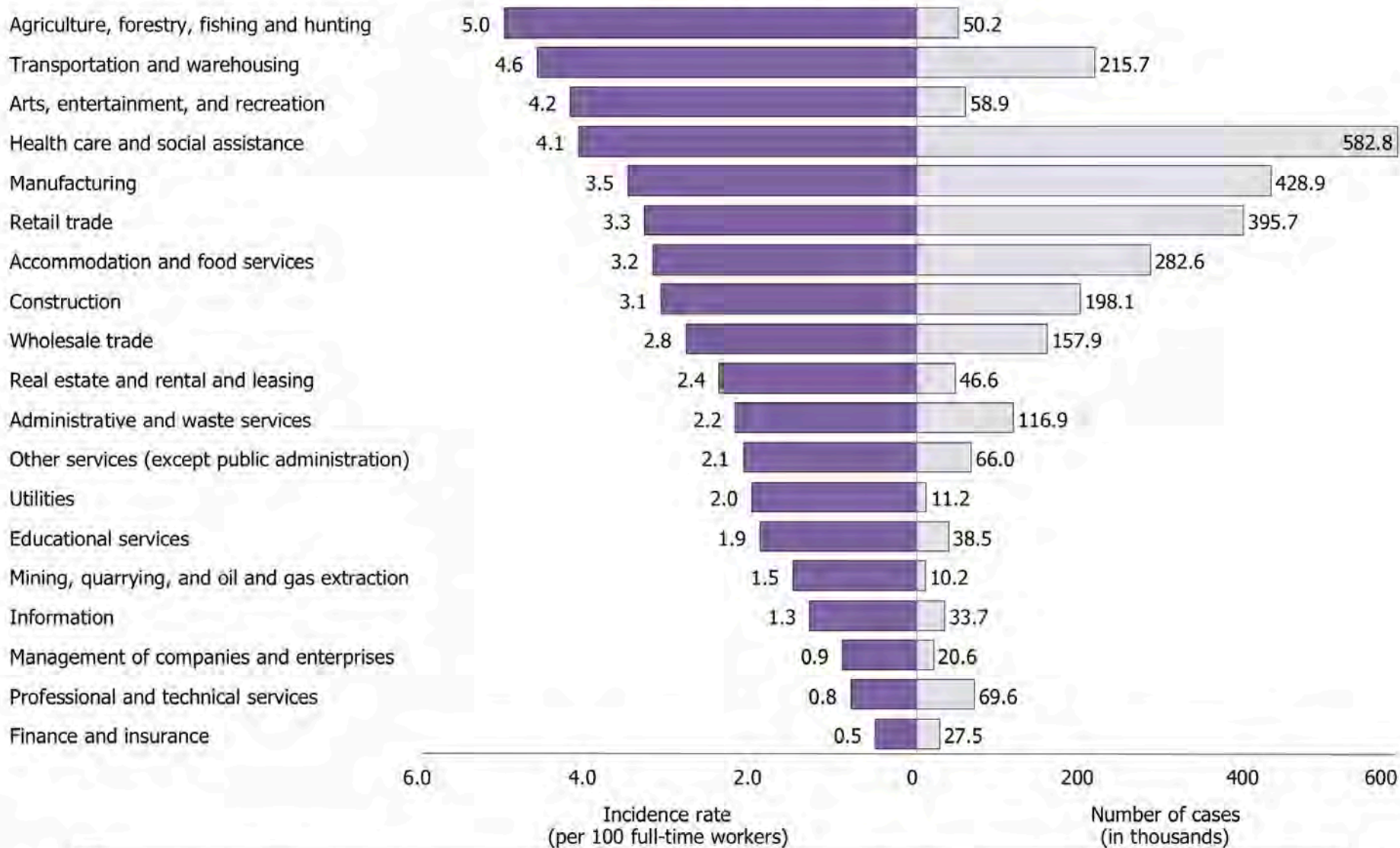
Press Clipping Data – Injuries in Nebraska Collected by Murray Madsen for CS-CASH

DATE	LOCATION	AGE	SHORT INCIDENT DESCRIPTION	CONSEQUENCE
31-Jan-14	Greeley	61	Pinned underneath from shoulders down while working on feed mixer/container when it tipped over	Fx hip then stroke
4-Mar-14	Chadron	77	Trapped under four-wheeler in pasture	F
11-Mar-14	Edgar		Engulfed while scooping corn inside grain bin	F
20-Mar-14	Palmyra	88	Clothes caught on fire stomping out grass and brush fire by burn barrel near buildings	F
29-Mar-14	Neligh		Assisting livestock operation when struck by unattended running pickup truck that moved	Fx ribs, pelvis
2-Apr-14	Roca	55	Sprayed by anhydrous ammonia when disconnecting pressurized hose from nurse tank	Anhydrous burns
	Atkinson		Burned when fumes from tractor at friends shop ignited catching shirt on fire	Burns to neck, chest
26-Apr-14	Gretna	3	Touched horse's stomach while standing by coral and was kicked	Hospitalized
26-Apr-14	Maxwell	52	Trapped underneath large round hay bale inside barn	F
1-May-14	Anselmo	82	Unspecified ATV incident while moving cattle	F
1-May-14	Grand Island	42; 61	Driver of WB pickup turning south struck by oncoming SUV obstructed by EB tractor with planter turning north	Trans-Rltd; Trans-Hosp
1-May-14	Anselmo	82	Opeator of ATV moving cattle in pasture when unspecified injury event occurred	F
12-Jul-14	Stromsburg	20	Driver of westbound auto struck by northbound self-propelled corn detasseler that failed to stop	F
17-Jul-14	Avoca		Operator fell from tractor but not runover while attempting to get leg over seat to apply brake	FX ribs, abrasion - face, arm
18-Jul-14	Stanton	87	Working around livestock water tank and later discovered drowned in it	F
19-Jul-14	Ithaca		Operator of ATV owned by irrigation firm ejected after exiting field hitting loose gravel and overturning	Transported - Shoulder
31-Jul-14	Concord	56	Pilot of Crop Production Svcs helicopter that struck electrical power lines while dusting crops	Trans - Nonlife-threatening
5-Aug-14	Dixon	60	Engulfed while attempting to dislodge corn inside grain bin	F
18-Aug-14	Winnetoon	89	Driver of pickup checking cattle in pasture drowned when pickup entered pond	F
21-Sep-14	Nelson	56	Oper fell back off tractor and was runover when seat broke after unloading rd bale	Stomach Laceration

Non-fatal injuries



Incidence rates and numbers of nonfatal occupational injuries and illnesses by private industry sector, 2017



The estimated rate of occupational injuries and illnesses across industry sectors ranged from 5.0 cases per 100 full-time workers in agriculture, forestry, fishing and hunting to 0.5 cases in finance and insurance. Health care and social assistance had the highest number of injuries and illnesses, accounting for approximately 1 in 5 injury and illness cases reported by private industry employers in 2017.

[View data](#)

Data from NIOSH OISPA Survey

Working populations in agriculture

Table AD-1. National estimates of adults (20 years and older) who work on US farms by type of adult worker



Type of Adult Worker	2001	2004	2009	2012
Household	4,440,318	3,535,666	3,526,321	3,651,077
Hired	2,991,806	1,759,246	1,158,502	1,170,301
Visitor	6,714,769	9,446,234	7,825,982	18,966,134
Total (1)	14,146,893	14,741,146	12,510,805	23,787,512



1 Estimates may not sum to total due to rounding




Source: Occupational Injury Surveillance of Production Agricultural Survey, 2001, 2004, 2009 and 2012.

Data from NIOSH OISPA Survey

Injuries to adults



Table AI-3. National estimates of agricultural work-related injuries to adults (20 years and older) on US farms by type of adult worker and sex

Type of Adult Worker	Sex	2001	2004	2009	2012
All working adults	Male	66,017	62,284	32,112	42,171
	Female	17,683	14,409	14,851	18,108
	Unknown	3,802	3,636	368	778
Household	Male 	43,452	46,017	22,700	28,842
	Female 	13,208	12,897	12,489	15,145
	Unknown	0	0	0	0
Other working adults (1)	Male 	22,565	16,267	9,412	13,329
	Female	4,475	1,512	2,362	2,963
	Unknown	3,802	3,636	368	778
Total (2)	All working adults	87,503	80,329	47,332	61,057
	Household	56,661	58,914	35,190	43,987
	Other working adults (1)	30,841	21,414	12,142	17,070

1 Includes work-related injuries to hired, visiting, and unknown adults
 2 Estimates may not sum to total due to rounding

Rates (injuries / 100 workers)
 Household: 1.20
 Other: 1.46



Source: Occupational Injury Surveillance of Production Agriculture Survey 2001, 2004, 2009 and 2012.

Data from NIOSH OISPA Survey

Injuries to household adults

Table AI-5b. National estimates of agricultural work-related injuries to household adults (20 years and older) on US farms by type of farm



Type of Farm	2001	2004	2009	2012
Crop 	13,564	21,963	12,660	18,019
Livestock 	43,097	36,951	22,530	25,968
Total (1)	56,661	58,914	35,190	43,987

1 Estimates may not sum due to rounding

Source: Occupational Injury Surveillance of Production Agriculture Survey, 2001, 2004, 2009 and 2012.

Rates (injuries / 100 workers):

Crop: 1.05

Livestock: 1.35

Data from NIOSH OISPA Survey

Injuries to household adults

Table AI-14. National estimates of agricultural work-related injuries to household adults (20 years and older) on US farms by source of injury

Injury Source	2001	2004	2009	2012
Persons/plants/animals/minerals	15,839	18,437	7,475	17,907
Structures/surfaces	15,472	15,490	6,567	8,930
Vehicles	4,778	4,732	2,056	6,623
Other sources (1)	20,573	20,255	19,091	10,527
Total (2)	56,661	58,914	35,190	43,987

1 Includes chemicals and chemical products, containers, furniture/fixtures, machinery, parts/materials, tools/instruments/equipment, and other/unknown sources

2 Estimates may not sum due to rounding

Source: Occupational Injury Surveillance of Production Agriculture Survey, 2001, 2004, 2009 and 2012.

Data from NIOSH OISPA Survey

Injuries to household adults

Table AI-12. National estimates of agricultural work-related injuries to household adults (20 years and older) on US farms by injury event

Injury Event	2001	2004	2009	2012
Contact with objects and equipment	23,618	18,220	10,654	10,476
Falls	13,495	15,268	6,069	7,195
Bodily reaction and exertion	5,228	9,087	5,182	7,731
Assaults and violent acts (1)	7,294	6,399	2,570	6,957
Other events (2)	7,025	9,941	10,715	11,629
Total (3)	56,661	58,914	35,190	43,987

1 On-farm assaults are predominantly assaults by animals

2 Includes exposure to harmful substances/environments, transportation accidents, fires/explosions, and other/unknown events

3 Estimates may not sum due to rounding

Source: Occupational Injury Surveillance of Production Agriculture Survey, 2001, 2004, 2009 and 2012.

Illnesses

<http://www.cdc.gov/nchs/nhis.htm>

National Health Interview Survey



Figure 14. Prevalence of exposure to vapors, gas, dust, or fumes among U.S. adults who worked in the past 12 months by Agriculture, Forestry, and Fishing subsector, 2010

*NHIS Question: This next question refers to the job you held the longest.
Were you regularly exposed to vapors, gas, dust, or fumes at work twice a week or more?*

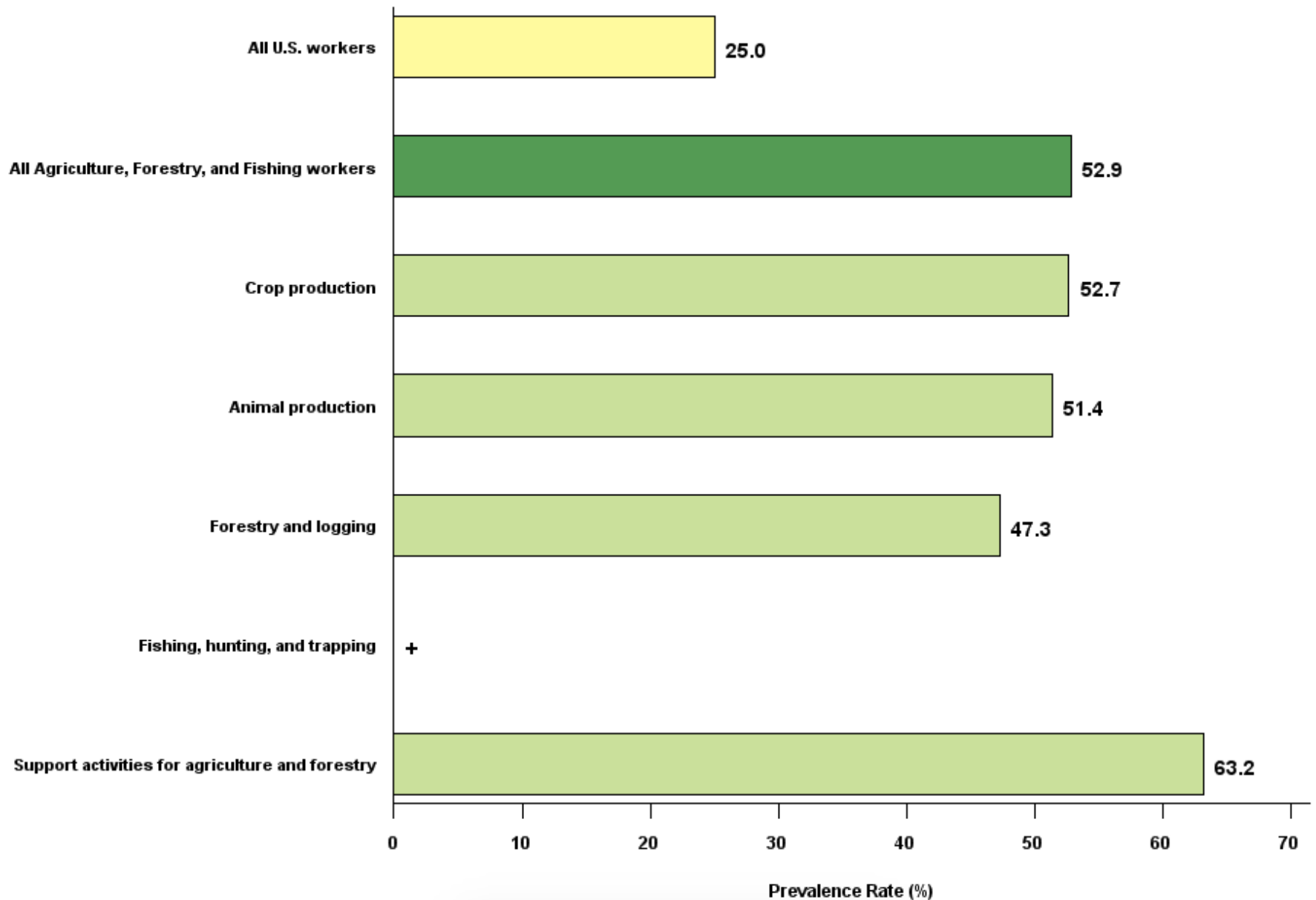


Figure 15b. Prevalence of Smoking among U.S. adults who worked in the past 12 months by Agriculture, Forestry, and Fishing subsector, 2010

NHIS Question: Do you now smoke cigarettes every day, some days or not at all?

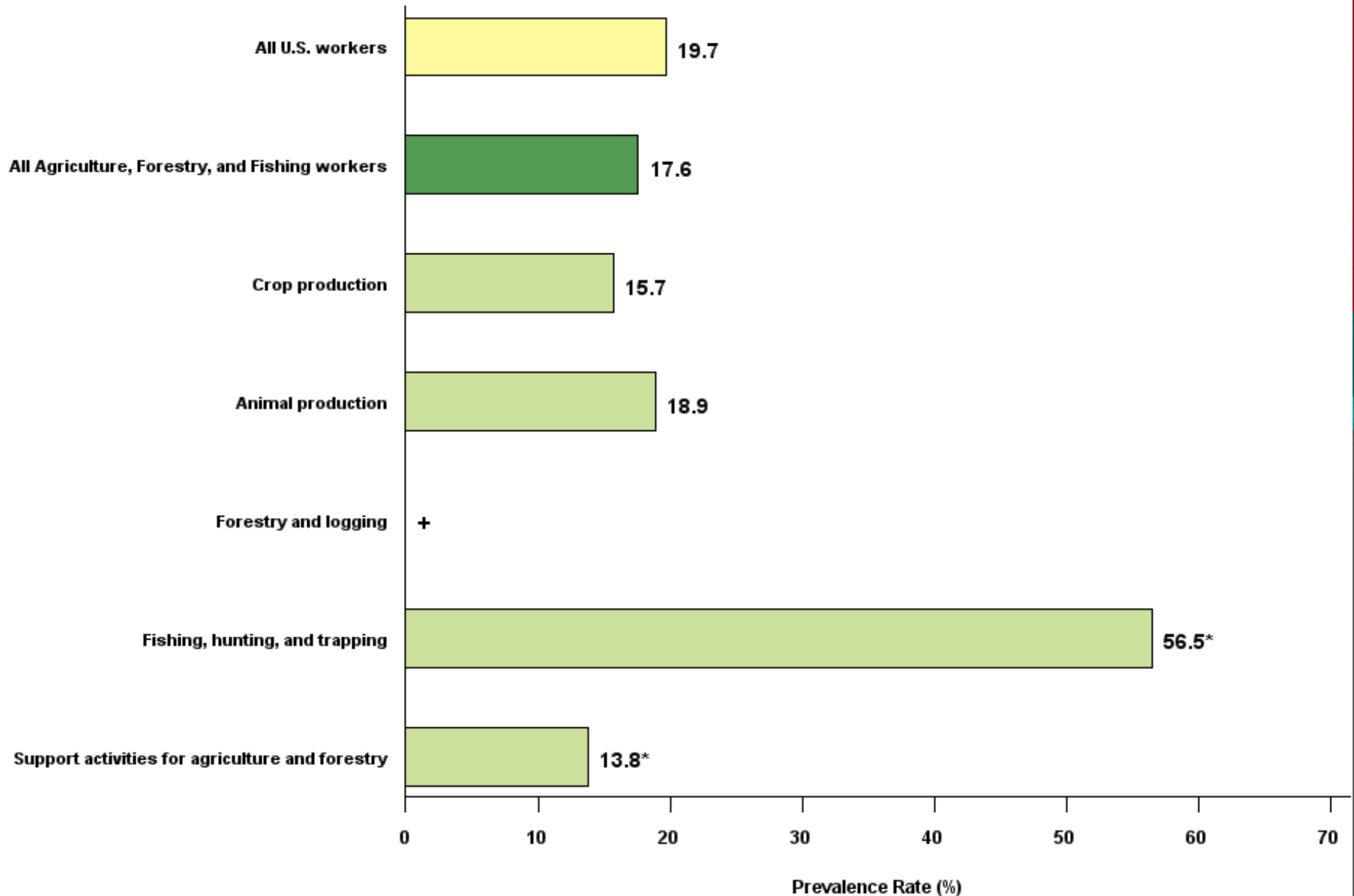


Figure 13. Prevalence of exposure to outdoor work among U.S. adults who worked in the past 12 months by Agriculture, Forestry, and Fishing subsector, 2010

NHIS Question: During the past 12 months, did you regularly work outdoors twice a week or more?

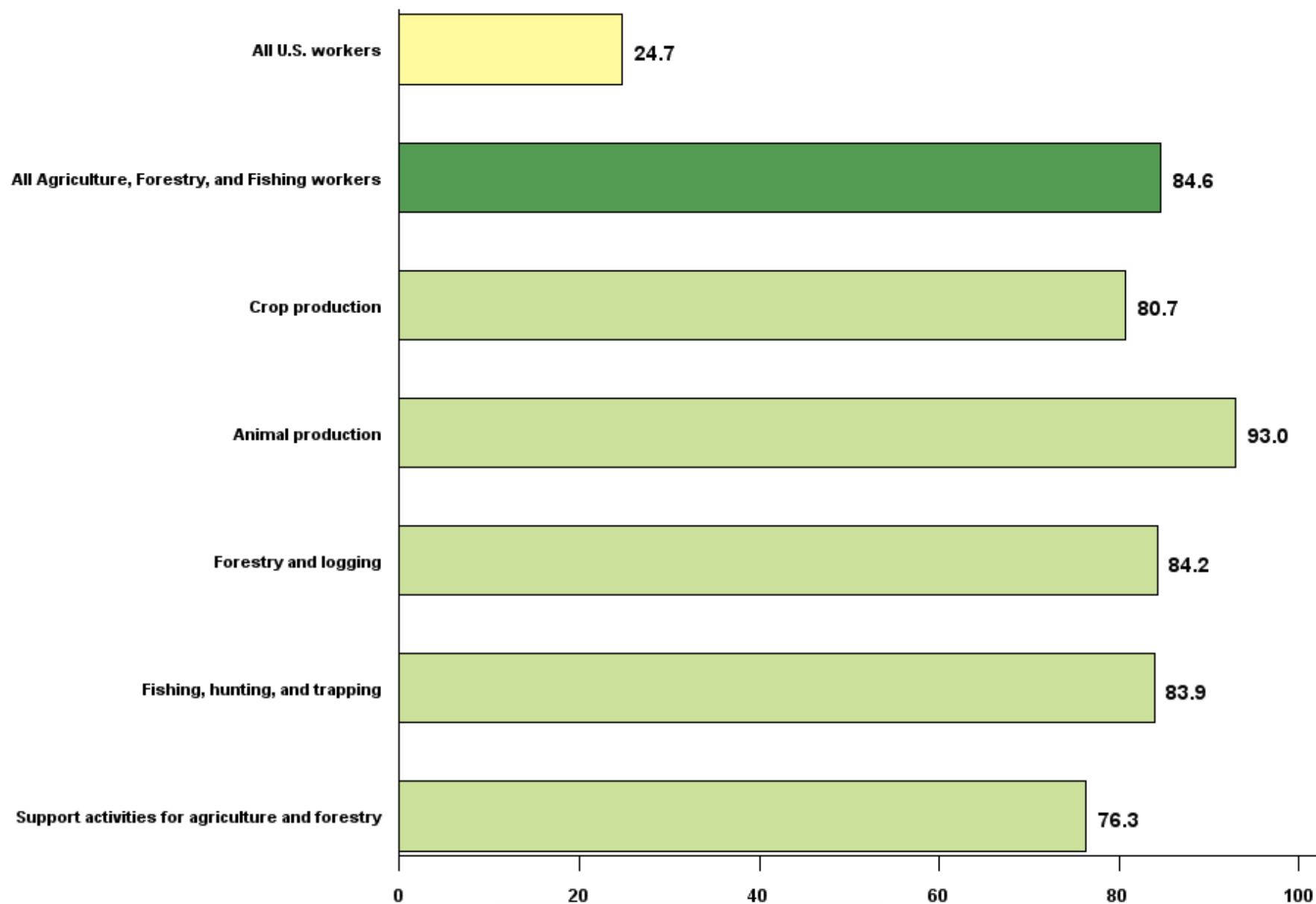


Figure 12. Prevalence of exposure to potential skin hazards at work among U.S. adults who worked in the past 12 months by Agriculture, Forestry, and Fishing subsector, 2010

NHIS Question: During the past 12 months, did you regularly handle or were you in skin contact with chemical products or substances at work twice a week or more?

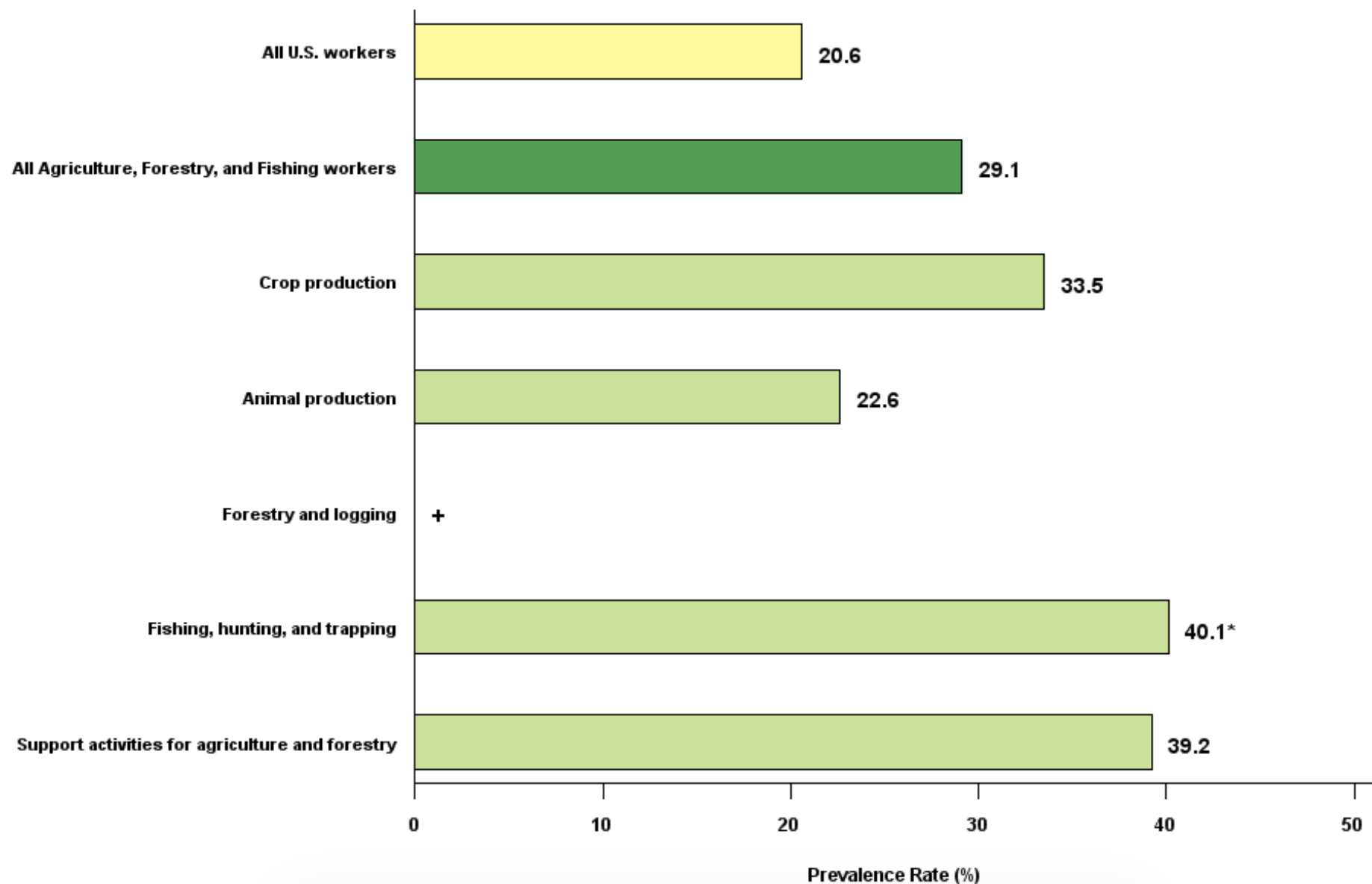


Figure 11. Prevalence of hostile work environments among U.S. adults who worked in the past 12 months by Agriculture, Forestry, and Fishing subsector, 2010

NHIS Question: During the past 12 months, were you threatened, bullied, or harassed by anyone while you were on the job?

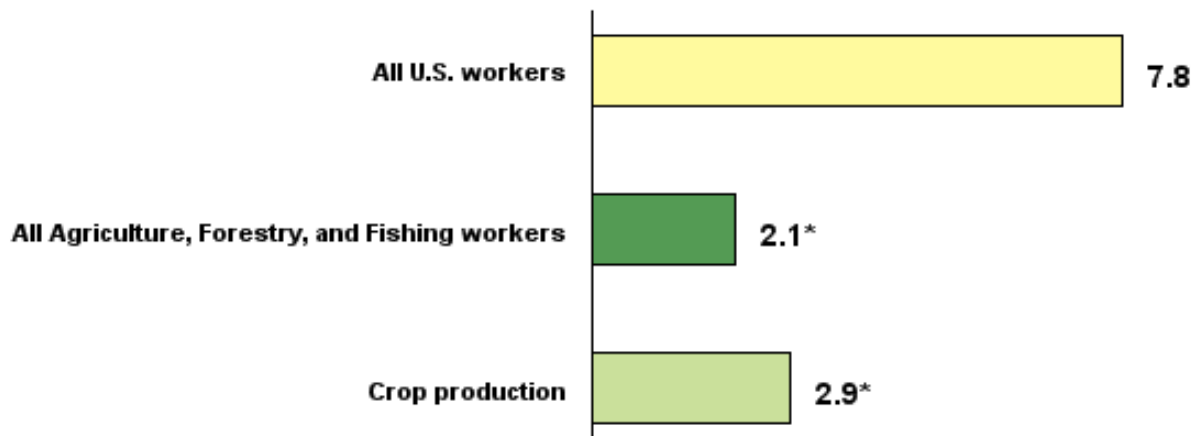
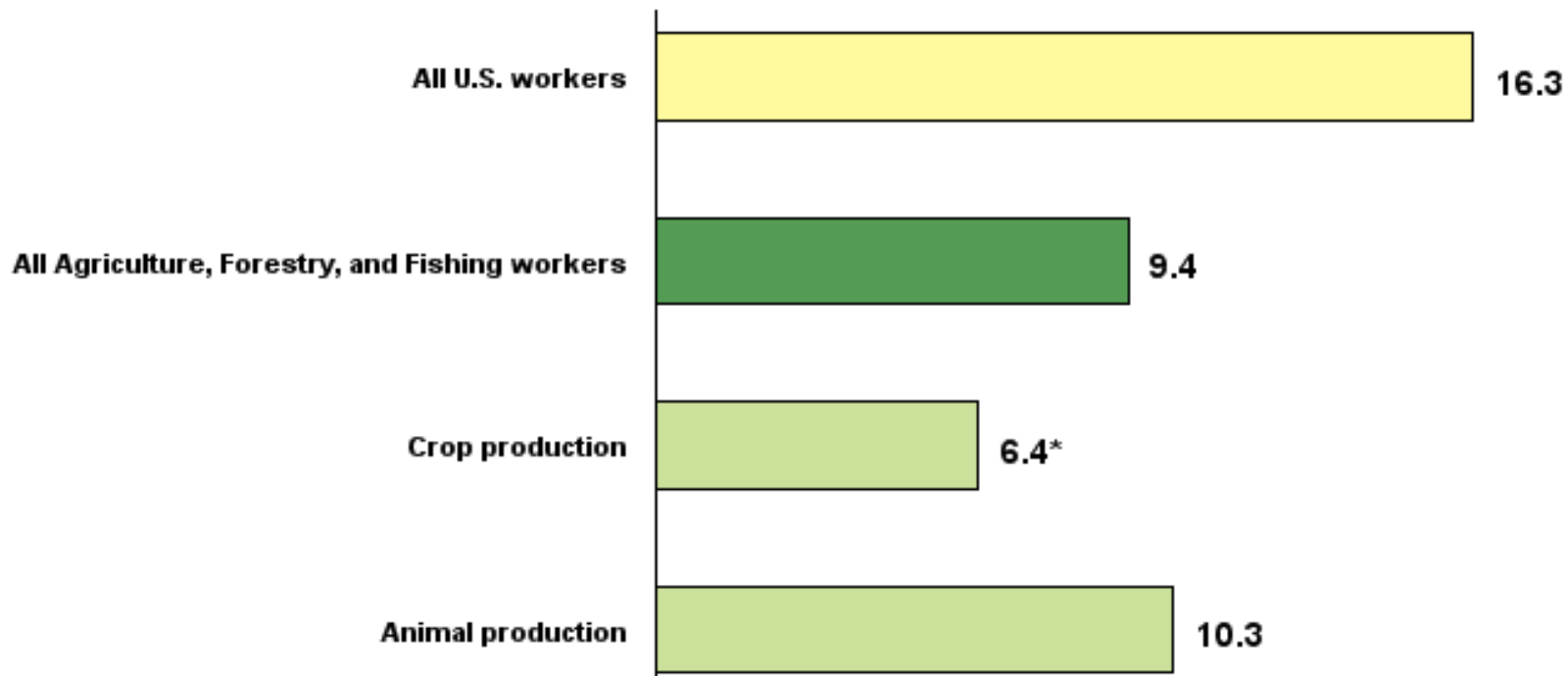


Figure 10. Prevalence of work-family imbalance among working U.S. adults by Agriculture, Forestry, and Fishing subsector, 2010

*NHIS Question: It [is/was] easy for me to combine work with family responsibilities.
(Work-family imbalance = disagree or strongly disagree)*



Agriculture, Forestry and Fishing Sector Profile - Figure 9

Figure 9. Prevalence of job insecurity among working U.S. adults by Agriculture, Forestry, and Fishing subsector, 2010

*NHIS Question: I [am/was] worried about becoming unemployed.
(Job insecurity = strongly agree or agree)*

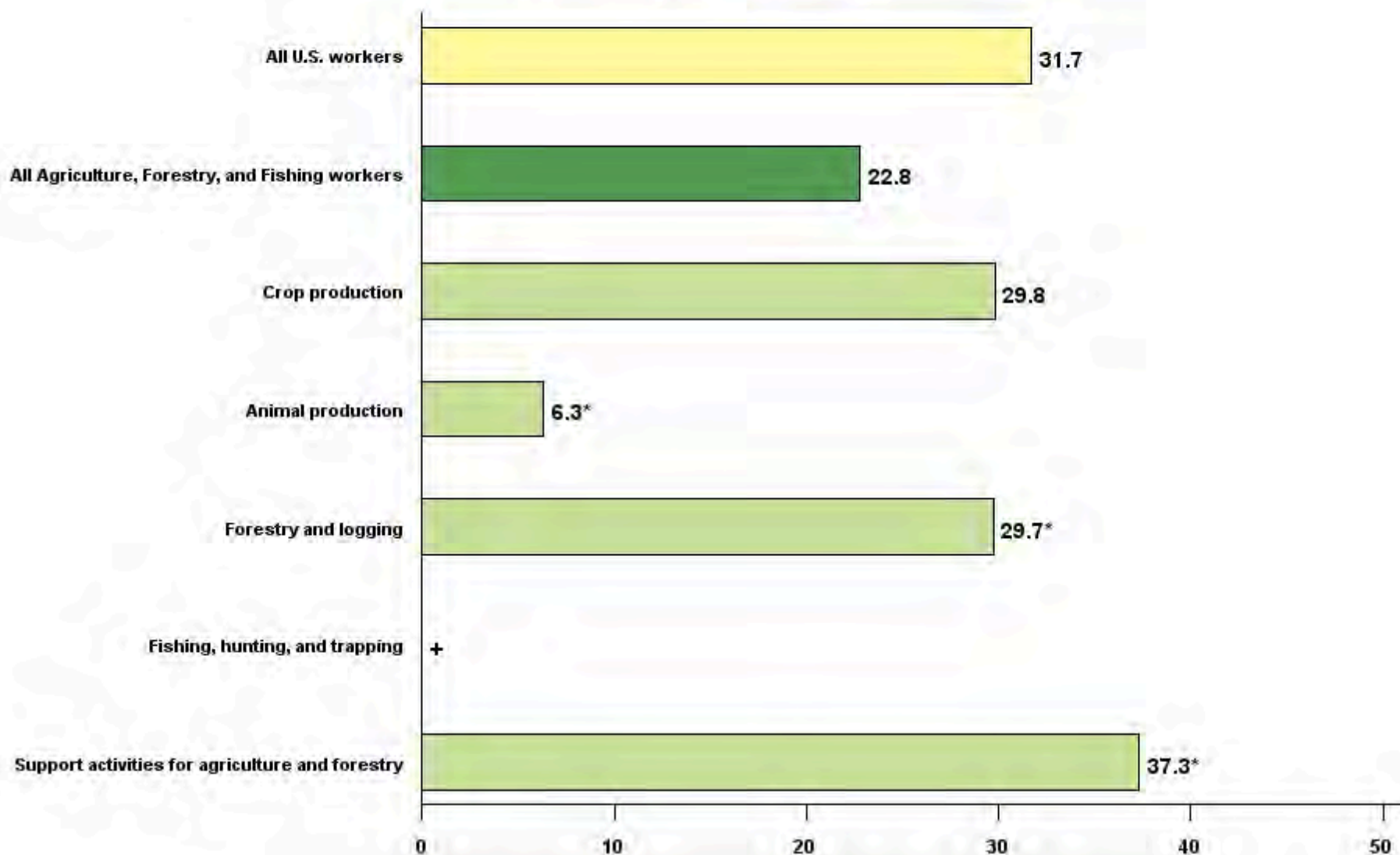
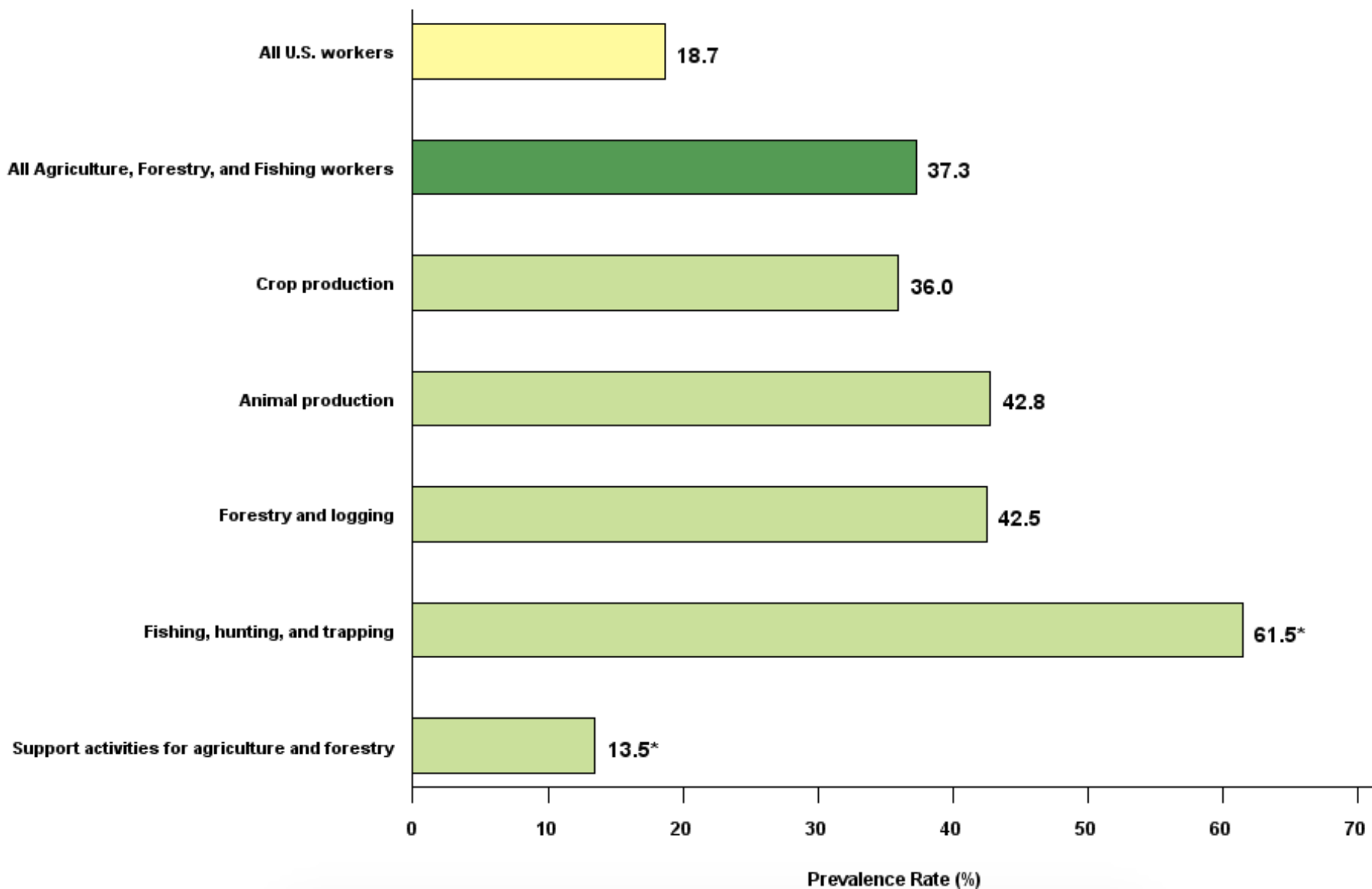


Figure 5. Prevalence of Working 48 hours a week or more among U.S. adults working one job at the time of interview by Agriculture, Forestry, and Fishing subsector, 2010

*NHIS Question: How many hours did [person] work last week?
(This question may have been answered by proxy because it was part of the Family Questionnaire. If the person was not at work last week, the person/proxy was asked about average work hours per week.)*



Work related illnesses, Agriculture; BLS data

Rate of occupational illnesses in 2013:

- All industries: 18.8 / 10,000 workers
- Agriculture: 36.7 / 10,000 workers
(highest rate)

Common illnesses in agriculture (rate)

- Skin disorders (8.8)
- Respiratory disease (5.9)
- Poisoning (1.2)
- Hearing loss (0.8)
- All other (20.0)

Questions?

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