



# Interacting with Employers to Enhance Child and Youth Safety in Agriculture

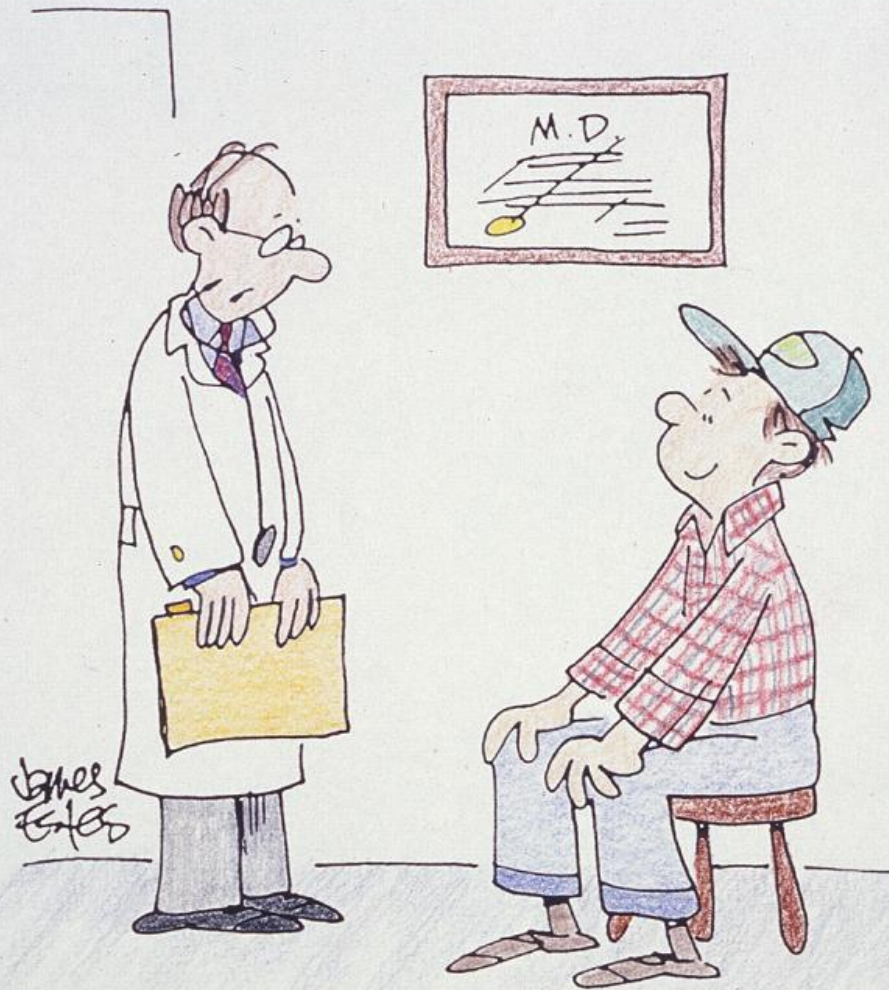
Barbara C. Lee, RN, PhD

National Children's Center for Rural & Agricultural Health & Safety

*March 27, 2019*







“Your lab work is back. I’m afraid farming is in your blood.”



## I. Background

A. National Children's Center

B. Data: Child Ag Injuries/Fatalities

## II. Child Ag Safety Interventions

A. Guidelines for Work

B. Guidance for Play, Child Care

## III. Case Studies

## IV. Socio-Ecologic Model

## V. Employers/Producers

A. Perspectives

B. Engagement

# Our Center



National Children's Center  
for Rural and Agricultural Health and Safety

## National Farm Medicine Center

- 1981 - NFMC formally established
- 1997 - National Children's Center funded
- 2005 - Home of *Jnl Agromedicine*
- 2012 - Partnered with UMASH
- 2019 – Largest US agromedicine center



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for Rural and Agricultural Health and Safety



UMASH Upper Midwest  
Agricultural Safety  
and Health Center

# About NCCRAHS



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- Injury data
- Consensus development of guidelines (work, play, media)
- Intervention testing/evaluation
- Knowledge mobilization

Ag Injury News Clippings

Filter Options

- Keywords
- Incident Year
- Article Source
- Publication Month
- Incident State
- Incident Location
- Grain Involved
- Farm Type
- Injury Agent
- Victim Age
- Gender
- Working/Not Working
- Fatality Status
- Demographic
- FAIC Code

Articles

1 - 10 of 2482 articles

- Man charged by fall in Wares (8510)
- Ware, IA (VHDM) - A man is in the hospital after he was charged by a bull here in Ware, Wednesday. The man, the 52-year-old pastor of the farm, was...
- Courtland VFD responds to farm vehicle accident (8514)
- 4/20/17 - Courtland, VA
- Courtland Volunteer Fire Department units responded to a farm machinery accident on Tuesday. Station 4 was dispatched at 10:38 a.m. to the 10100 block.
- Man Who Died Yesterday in Tractor Accident Identified (8506)
- 4/20/17 - Sanders County, CA
- COARSEGOLD - The man who died in a tractor violence has been identified to the Habersham Co.
- Tractor mishap kills man at his Culpeper (8500)
- 4/20/17 - Culpeper County, VA
- A Culpeper man was killed Sunday when his 81a 8000 tractor was struck by a neighbor. His...
- Farm worker hit in drive-by shooting (8500)
- 4/19/17 - Riverside, CA
- West Ridge Road rancher Gary Astland voiced a worker homicide of 33 a.m. on his ranch that a...
- Kansas man hospitalized after semi hit (8500)
- 4/19/17 - Seaward County, MS
- A Seaward County man was hospitalized Saturday Kansas struck a low accident to a Kansas...

NORTH AMERICAN  
GUIDELINES FOR



children's  
AGRICULTURAL TASKS

Cultivate SAFETY

Home Work Play Accidents Resources Online Tools

AgInjuryNews

A publicly available interactive database of more than 3,000 farm-related injury reports.

Safe Agritourism

Provides information and over 200 free resources to help Agritourism operators keep visitors safe.

Farm Mapper

Digitally identify and map hazards through a bird's-eye or augmented reality view.

Safe Return to Work

Empowering clinicians to provide injured workers with effective and adaptive return to work options.

Safer Farm

Allows anyone the ability to accurately recognize and resolve potential farm hazards.

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National FarmMedicine Center

# About NCCRAHS



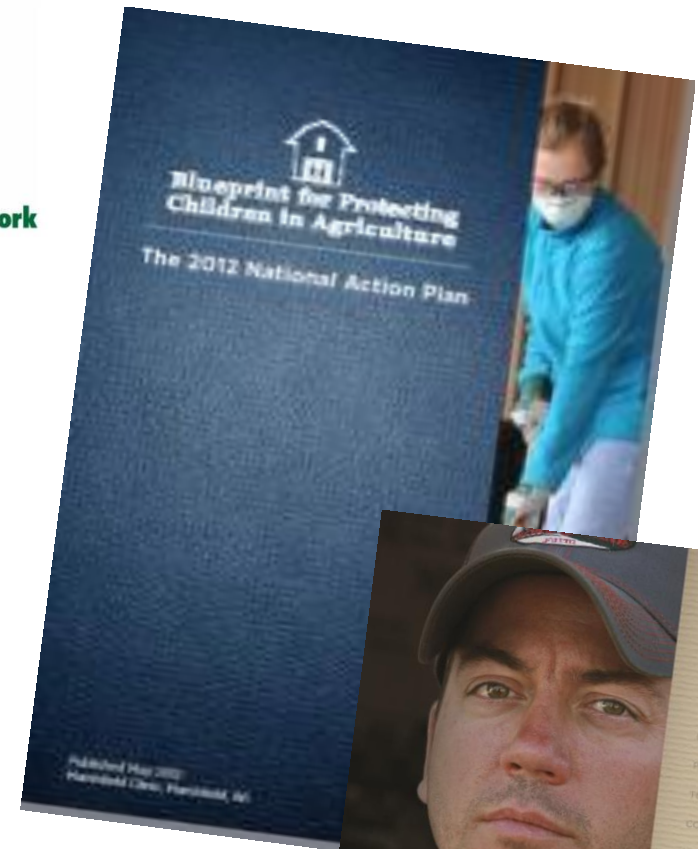
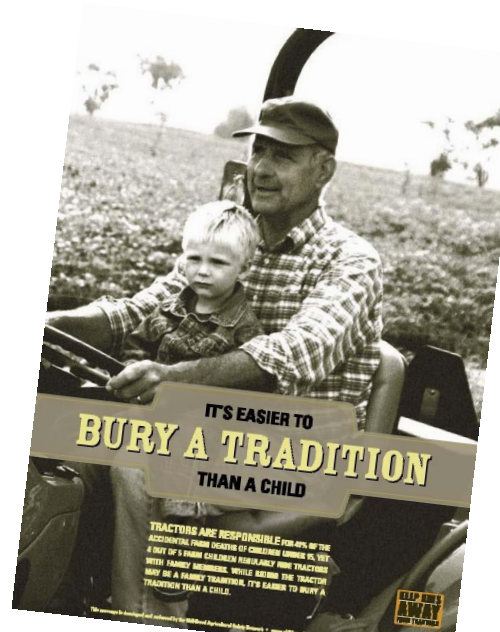
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- Partnerships



- Leadership

- Advocacy





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# FACTS STORIES AGRICULTURE





# Background



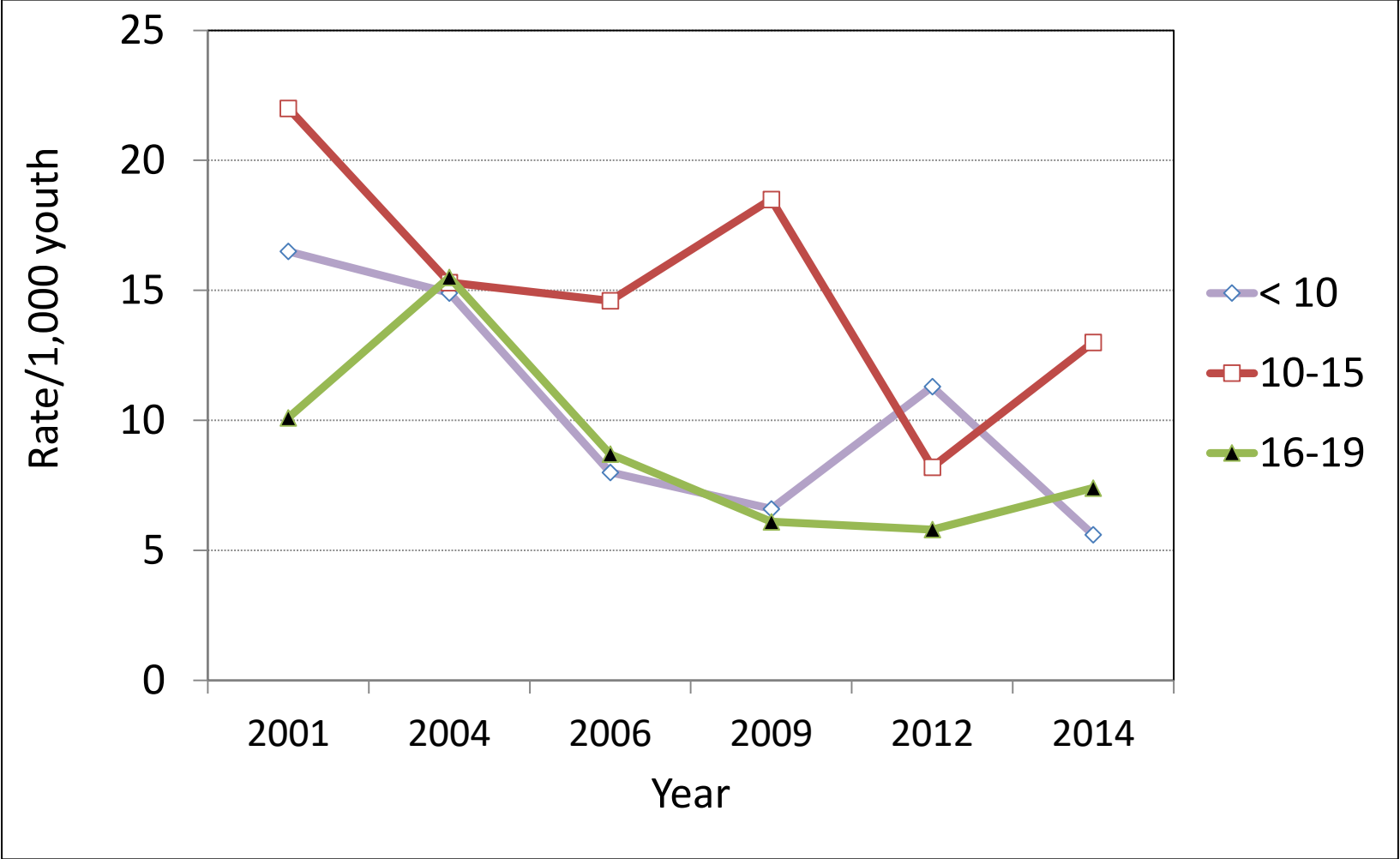
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## FACTS:

- About 2 million farms in U.S.
- About 900,000 youth live on farms  
of these, 51% work on their farms
- > 265,000 youth hired to work in  
agriculture
- About 24 million youth visit on farms

# Nonfatal Family Farm

## Household Youth Injury by Age



Source: 2018 Childhood Agricultural Injury Fact Sheet:

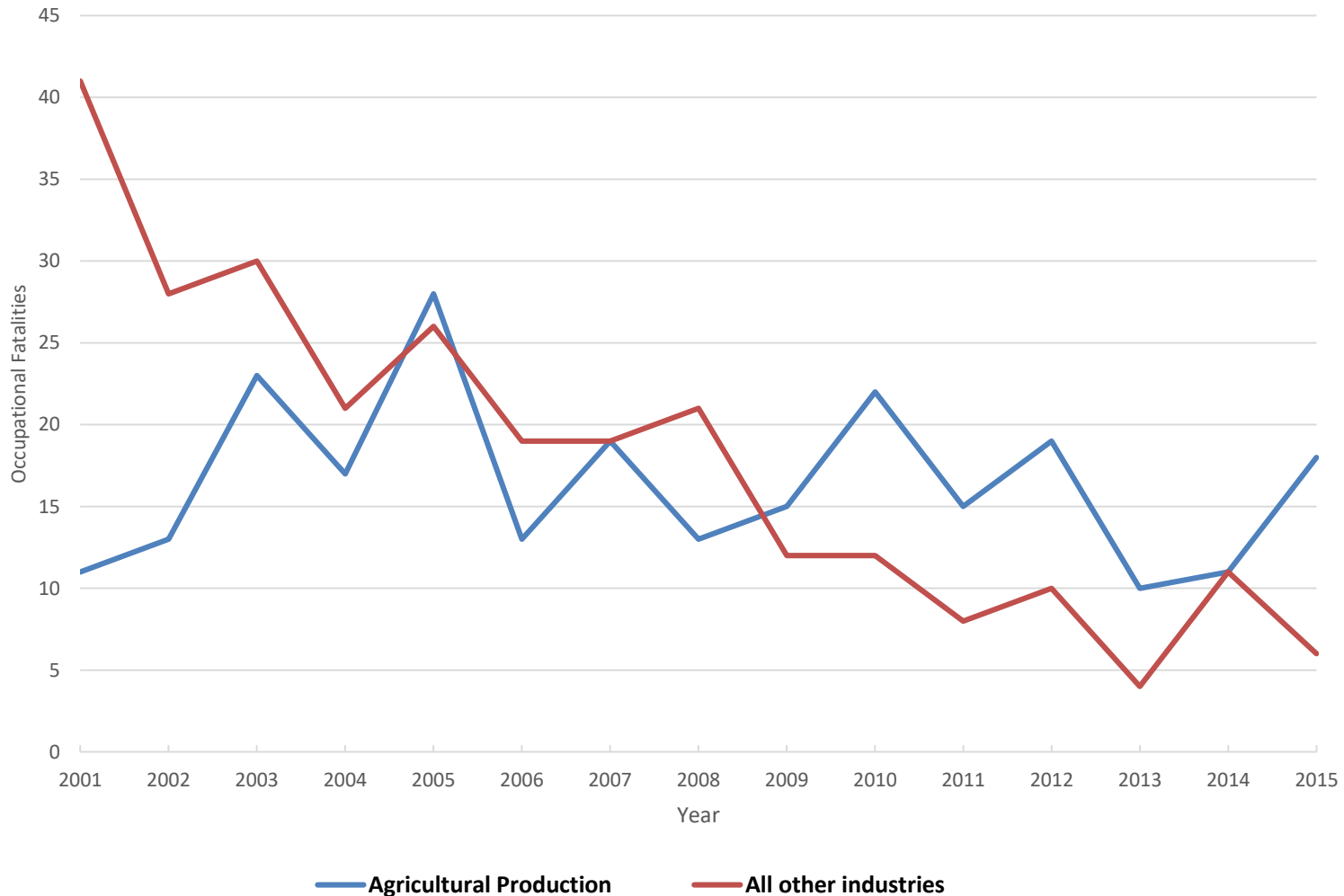
<https://www.marshfieldresearch.org/Media/Default/NFMC/PDFs/2018-Child-Ag-Injury-Fact-Sheet.pdf>

# Fatal -Working < 18



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## Occupational Fatalities to Young Workers less than 18 years of age in the US, 2001-2015



# Agents of Injury/Fatality



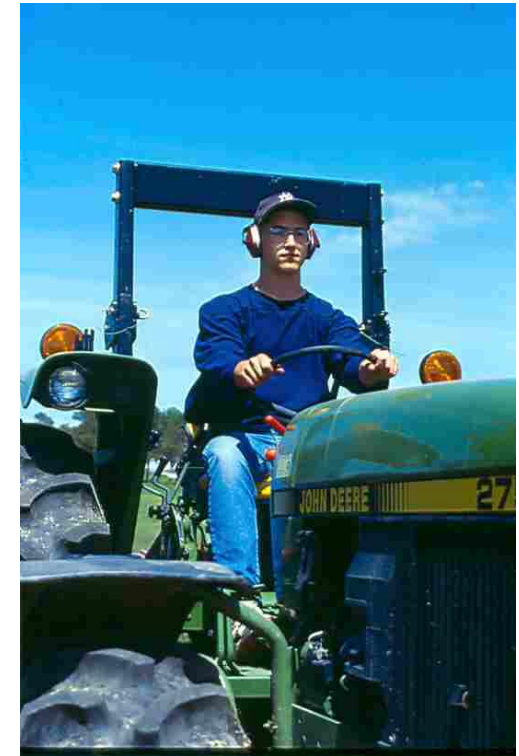
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## Fatalities

1. Tractors
2. Vehicles, machinery (includes ATVs)
3. Drowning/Asphyxiation
4. Structures, surfaces – falls from
5. Livestock

## Non-fatal injuries

1. Structures, surfaces, vehicles – falls from
2. Machinery entanglements, cuts, etc.
3. Livestock





## FACTS Re: Child (0-17) Agricultural Injuries

- Youth working on farms are 45x more likely to die at work than youth at other jobs
- Tractors account for >50% fatalities
- > 60% youth injured on farms are NOT working
- Nearly all non-working child were “supervised”
- Cost >\$1 billion/year with 26% medical bills





# Mechanism tears arm from teenager changing irrigation wheel-line at ranch field near Crane

Calm courage and clear thinking sends the boy for help

WAUSAU — A 15-year-old Edgar area youth is in serious condition this morning after suffering injuries in a farm accident. According to the Marathon County Sheriff's Department, Bunkelman, 15, of 4680 Road, was chopping hay at the intersection of Highway 15 and Elderberry Road, some 1/2 mile away from his home, some time after 4:20 p.m. when the chopper stopped for an undetermined reason. The youth has been taken to the hospital.

# Edgar youth 'serious' after farm accident

# Harvest claims young lives

Midwestern farms proving unusually dangerous

# Toddler drowns in farm's stock tank

SEYMOUR, MO (AP)—A 19-month-old boy drowned after falling into a stock tank containing about two feet of water on his family's Webster County farm.

# Tractor flips, killing Neillsville boy, 12

NEILLSVILLE — A 12-year-old rural Neillsville boy was killed Monday after the tractor he was operating flipped into a small creek and trapped him, authorities said. The Clark County Sheriff's Department said the boy was apparently pinned under the tractor in a creek. Schleifer pronounced the boy dead.

# Youth killed in tragic farm accident

On Friday, August 4 Justin Kunze, age 3, died as a result of injuries suffered in a tragic accident at the family farm in the Town of Hull.

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# News Briefs

## Boy injured in farm accident

WEST BEND, Oct. 21 — A 9-year-old boy was severely injured in a farm accident when his arm was severed in a fall. According to the Washington County Sheriff's Department, the boy was riding on a tractor when it hit a bump. The boy's name has not been released.

## Boy, 3, dies after fall from tractor on farm

TOWN OF HULL — A 3-year-old boy was pronounced dead at a hospital after falling from a tractor on a farm. The boy was riding on a tractor when it hit a bump. The boy's name has not been released.

# 3-year-old listed as critical after surgery to reattach his arm

Two others were seriously injured Tuesday evening when a tractor climbing a steep hill flipped backward onto a wagon in rural Jefferson County. The accident occurred about 7:30 p.m. at North Lake Drive in the town of Sumner. The 10-year-old girl and another child were injured.

# Girl dies in tractor accident

A 2-year-old boy who was riding a tractor when it flipped backward and pinned him under the tractor in a creek. Schleifer pronounced the boy dead.

# Child has arm amputated in farm accident

FRANKLIN (AP) — A 4-year-old girl was hospitalized in fair condition Wednesday after an arm became caught in a corn chopper, police said. Sgt. Joe Spake said the child wandered away from her backyard sandbox and into a corn field where her father was harvesting corn. The father was looking at what he was doing and did not see the child.

The National Safety Council consistently ranks agriculture as among the most dangerous jobs in the world.

# Boy dies in farm accident

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~~Accident~~

Injury Incident

# E's of Injury Prevention



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- **Education**
- **Engineering (remove the hazard)**
- **Enforcement (regulations/policies)**
- Enlighten through the media
- Environmental change (social expectations, normative behavior)
- Economic incentives





## AGRICULTURAL YOUTH WORK GUIDELINES

- Voluntary guidelines
- Used by supervisors/parents
- Assign tasks based on ability
- Mobile friendly website
  - Interactive
  - Read
  - Download
  - Print



### Operating a Tractor

#### Can youth do this job safely?

- Youth must be able to do have all of the following to perform this job safely:
- Reach and operate controls while wearing a seatbelt
  - Strength to repeatedly operate controls
  - Tall enough for **good field of vision** when seated on tractor
  - Understand and consistently repeat a 10-step process
  - Recognize a hazard, problem solve, and respond appropriately
  - React quickly to hazards
  - **Mature** enough to consistently do what is expected
  - **Think through** actions and consequences before acting
  - Avoid loose clothing, clothes with strings, tie back long hair
  - Comply with the [working outdoors guideline](#)
  - Safely demonstrate the job 4 to 5 times
  - Maintain [two-way communication](#) link



#### Adult Responsibilities

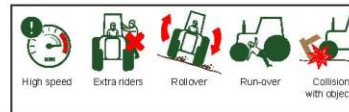
- Ensure tractor is mechanically sound and safety features are in place, including ROPS
- Review [developmental guidelines](#) to verify youth's ability to operate tractor
- Demonstrate how to safely drive tractor
- Provide appropriate training
- Educate youth to mount tractor using 3 points of contact
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Ensure youth does not operate tractor after dark/in bad weather
- Train youth to call an adult if equipment malfunctions

#### Supervision

*Note: Ensure tractor is sized appropriately for youth. Youth must be 16+ years to drive an articulated tractor. See [Tractor Operations Chart](#) for guidance.*

14-15 years	Intermittent supervision progressing to periodic
16+ years	Periodic supervision

#### Hazards



#### Protective Strategies



# Model Policy: Hired Youth in Agriculture



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Adopted: 6.17.14

## Model Policy: Youth Employment in Agriculture

### Background

Agricultural operations are hazardous by nature and special protections need to be in place to address the hazards found in specific jobs, locations, and conditions. Adequate supervision, occupational health and safety training, and developmental level of the learner, and consistent instruction can provide safe and valuable introductory work opportunities. In many cases, farm work may provide unique opportunities available for adolescents. These early employment experiences in motivating young people to seek a career in the agricultural industry, food processing, food marketing, landscaping, and robust post-secondary education provide a pathway to the future of American agriculture and continue to support the local food supply.

Journal of Agromedicine, 19:249-257, 2014  
Copyright © Taylor & Francis Group, LLC  
ISSN: 1059-924X print/1545-0813 online  
DOI: 10.1080/1059924X.2014.887487



### ORIGINAL RESEARCH

## Developing a Model Policy on Youth Employment in Agriculture

Mary E. Miller, RN, MN  
Barbara C. Lee, RN, PhD

**ABSTRACT.** The goal of this project was to develop a model policy that agricultural employers could adopt specific to youth employment, including age-appropriate assignments, training needs for adolescent workers, ideal supervision, and mentoring by adult workers. Methods included discussions at a national conference of agricultural employers, a survey of employers' perspectives on young workers, forming a task force to draft a model policy, and finalizing the policy document. The process resulted in a template that can be used by agricultural employers for immediate adoption, or to be customized and adapted for their unique company. Given new trends in agriculture to use certification systems, safety audits, and voluntary safety standards in addition to the regulatory process, there is value in having a voluntary "best practice" model policy that can be adopted in settings where safeguarding young farm workers is a priority.

**KEYWORDS.** Agriculture, model policy, youth

### INTRODUCTION

There remains a misconception that young workers are not only prevalent in US domestic agricultural production, but are a necessary component of the agricultural workforce. Yet, in reality, the predominant practice among many growers and producers is to avoid hiring adolescents under age 18 and prohibit children

from being brought into the fields by their parents. According to data in 2012, there were 258,835 youths less than 20 years of age hired directly by the farm operator.<sup>1</sup> A 2007 survey of 333 agricultural employers with labor-intensive crops confirmed that more than half had no intentions of hiring adolescents for agricultural work in the near future, citing concerns about too many regulations as their justification for

Mary E. Miller is a child labor specialist at Washington State Department of Labor and Industries, Olympia, Washington, USA.  
Barbara C. Lee is affiliated with the National Farm Medicine Center and National Children's Center for Rural and Agricultural Health and Safety, Marshfield, Wisconsin, USA.  
*Disclaimer:* The findings and conclusions in this paper are those of the authors and do not represent the views of the Washington State Department of Labor and Industries.  
Address correspondence to: Mary E. Miller, RN, MN, Washington State Department of Labor and Industries, Olympia, WA 98504-4510, USA (E-mail: mary.miller@lni.wa.gov).

## Voluntary Guidelines for Youth Employment

These voluntary guidelines pertain to hired adolescent workers ages 14 to 17 years.

### Training and Supervision

- Youth under age 18 should always work under direct visual supervision (close proximity) of at least one responsible adult supervisor who is physically present at the worksite/location.
- Training for young hired workers should include clear communication and documentation of the allowed and prohibited work activity in and around the workplace, as well as the rights and responsibilities for themselves and others in the work environment.
- Training for all supervisors of hired workers under 18 should include instruction about:
  - Existing age-based work rules
  - Physical and cognitive abilities of youth
  - Need for extra supervision and frequent training
  - Basic emergency response practices, both general and specific to the workplace
  - Harassment prevention, including sexual harassment

### Job Assignments: General

- All farms that intend to employ youth should implement a formal worksite hazard assessment program, including regularly updated safety checklists, accident prevention programs, and regular review of health and safety procedures to ensure they are current with existing requirements and recommendations.
- All manufacturer directions/manuals and applicable local, state, and federal laws and regulations must be followed. This includes, but is not limited to, those with age, size, training and certification requirements.
- Job assignments for 14- and 15-year-olds should occur in non-hazardous work only. Work conditions should include specific protections relative to livestock, machinery, and crop protection products, and with written parental consent. There should be assurances that schooling is not disrupted.
- There should be increased but still limited employment opportunities for 16- and 17-year-old youth with restrictions on performing hazardous work activities. These activities can be expanded for those enrolled in approved technical or vocational programs such as FFA or other work-based learning programs, in which instruction in the use of powered equipment and safe work practices around livestock is provided, tested, and certified. Written parental consent must also be obtained.
- Those under age 18 should not be the onsite/in-field designated "responsible" party for emergency response (unless specifically trained/certified as an emergency first-aid responder).
- Noise exposure is a recognized hazard in farming and as such, youth should be provided with appropriate hearing protection and training in hearing conservation strategies (i.e., walk away, turn it down, or wear protection).



## Off-farm Child Care

## Safe Play Areas on Farms

- Interactive Website
- Hands-on Demonstrations

## Agritourism Safety

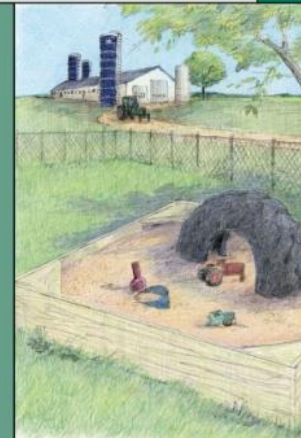
- Walk-throughs, Policies
- [www.safeagritourism.com](http://www.safeagritourism.com)



A ROADMAP FOR DELIVERING  
**CHILD CARE IN  
AGRICULTURAL  
COMMUNITIES**



**Creating Safe Play  
Areas on Farms**  
Second Edition



National  
**FarmMedicine**  
Center

MARSHFIELD CLINIC  
Research Foundation



INTEGRATING SAFETY INTO  
**AGRITOURISM**

# Case Study 1



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## Boy, 3, dies in Clark County farming accident



# Case Study 1



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## **Fatal Work-Related - May, 2017, Clark County, WI**

- Mother and 4 sons (3-8 yrs.) picking rock, using skid steer to pick & transfer rocks
- 5 yr. old operating skid steer
- 3 yr. old carrying rocks into bucket - crushed
- Contributing factors

**Prevention - Education, Engineering, Policy ?**

**Penalty - Social Services, Farm Safety Audit**

# Case Study 2



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## Non-fatal Working

- 6 yr. old
- De-gloved leg  
in hydraulic bucket
- Father present
- Other brothers'  
close calls
- Lifetime medical  
issues
- Media coverage



**Prevention** – Education, Engineering, Policy ?

**Penalty** – No legal penalties; but tremendous costs



## Cortland County farm owner pleads guilty to child labor violations after teen's death

Fatal, Work Related, upstate New York, Oct. 2018

- 14 yr. old working on neighbor's farm
- Worked 60 hrs./week; paid "off the books"
- No workers compensation
- Was found crushed under heavy equipment

**Prevention** – Education, Engineering, Policy ?

**Penalty** – 60 days jail, 3 yrs. probation, \$10,500

# Case Study 4



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Police & Fire

## Toddler Killed In 'Tractor Incident,' Sheriff Says

A 2-year-old was killed in rural Clackamas County over the weekend. Law enforcement has not identified anyone involved.

By Travis Loose, Patch

ESTACADA, OR — A 2-year-old boy was killed over the weekend in what Clackamas County Sheriff's deputies described as a "tractor incident" in a rural farm area between Oregon City and Estacada. Law enforcement has not released the identities of anyone involved.

The sheriff's office was dispatched to the 20000-block of South Mattoon Road, west of Estacada, just before 10 a.m. Sept. 29. When first responders arrived, they reportedly learned the boy sustained fatal injuries during an incident involving a tractor on the property.

The Clackamas County Sheriff's Office Child Abuse Team is reportedly investigating.

**Prevention** – Education, Engineering, Policy ?  
**Penalty:** Child Abuse/Negligence review





## The “Es” of Injury Prevention - Findings

- **Education** - limited impact on behaviors
- **Engineering (removing the hazard)**
  - limited impact on exposure of young children
- **Enforcement (regulations/policies)**
  - Application of child labor laws
  - Voluntary company, business policies
  - Civil penalties



# Paradigm Shift



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- Decrease emphasis on basic, etiologic research
- Increase emphasis on priority issues
- Accept limitations of evidence-based interventions
- Engage spheres of influence





# Socio-Ecologic Model

- Introduced in 1970s with many updates
- Used by WHO, CDC, many organizations
- Depicts multiple dimensions and complex human interactions to influence human behaviors





## Definitions

**Policy:** Federal/state regulations with enforcement such as child labor restrictions, workers compensation, immigration, OSHA rules

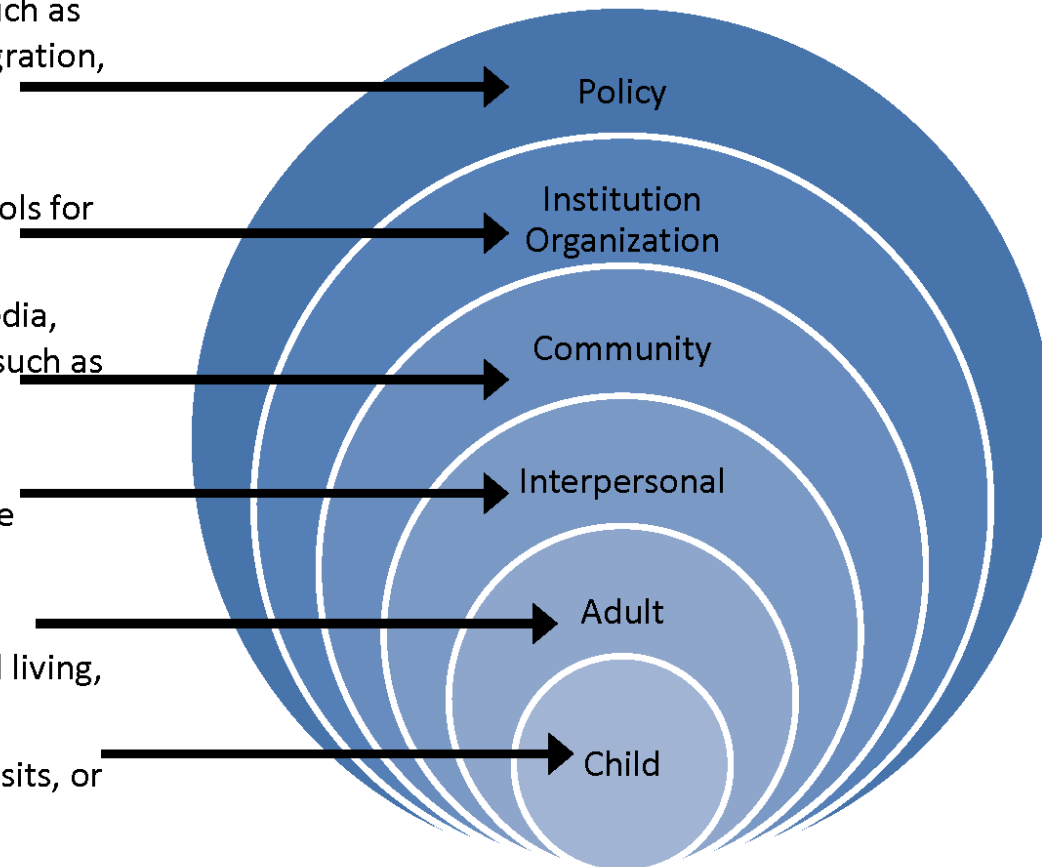
**Institution/Organization:** Corporations, national organizations, agencies that set standards and protocols for their trade agreements, employees and members.

**Community:** Childcare centers, schools, churches, media, advocacy groups and community-level organizations such as farm cooperatives or FFA chapters.

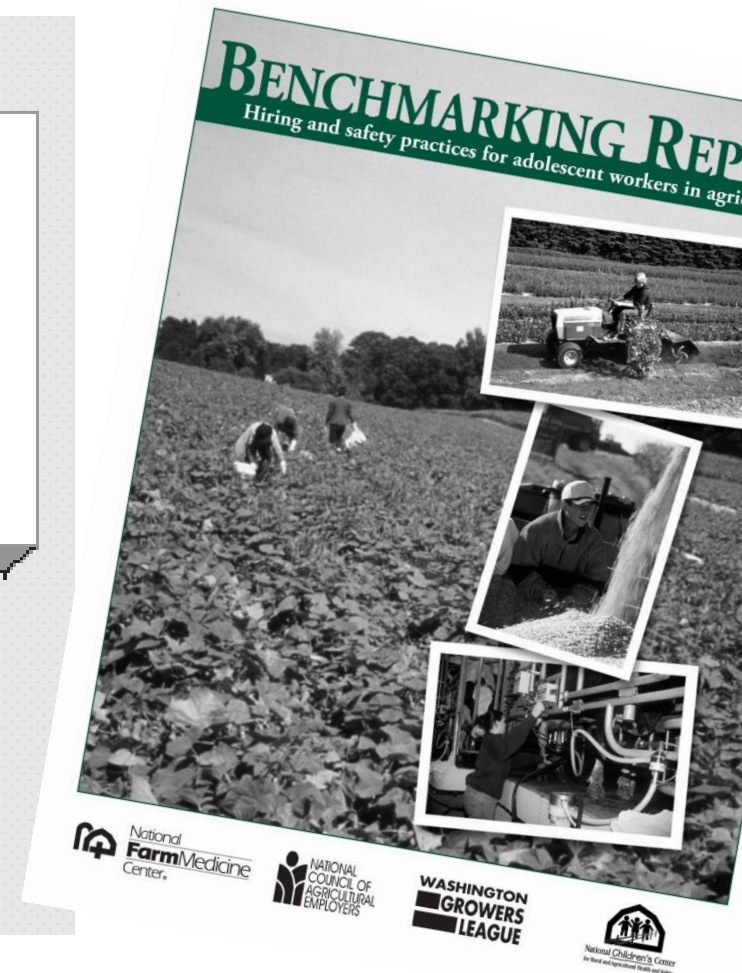
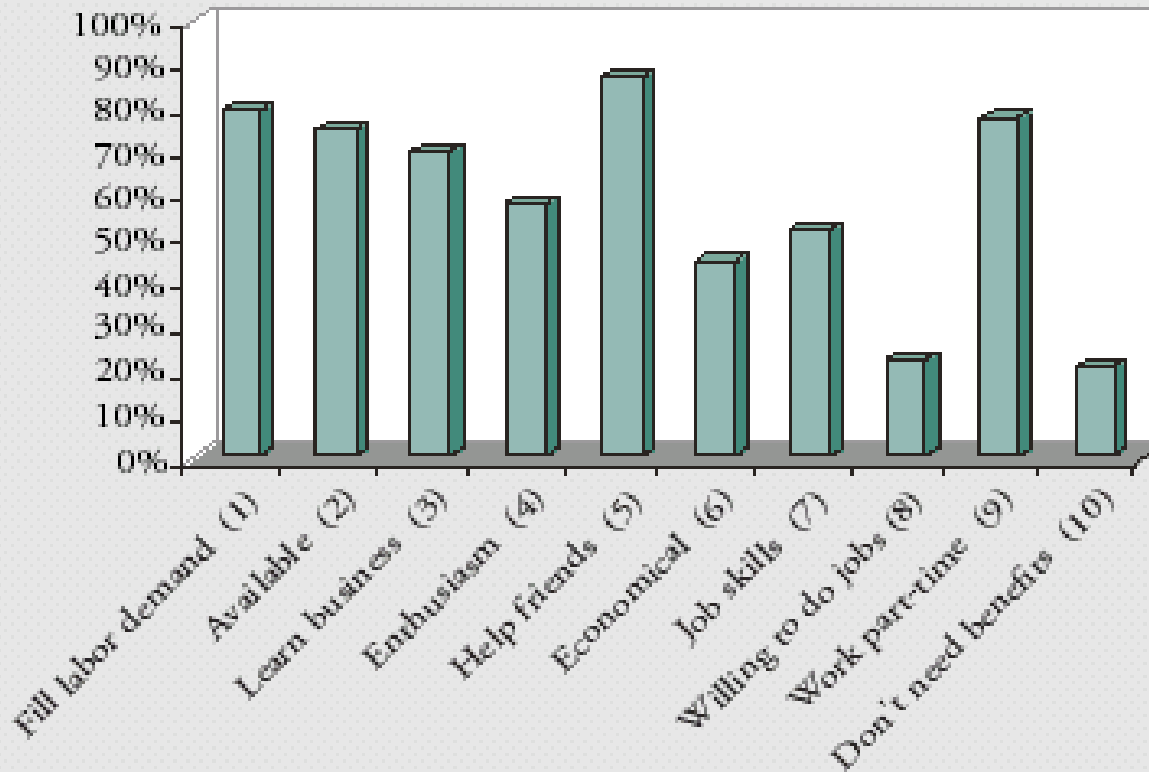
**Interpersonal:** Persons with close relationships to the immediate family such as relatives, friends, healthcare providers, or peer groups.

**Adult:** Parent, guardian, farm owner, employer, other individual who bears primary responsibility for a child living, visiting, or working on an agricultural production site.

**Child:** An individual 0-18 years-of-age who lives on, visits, or is hired to work in an agricultural production site.



## Research – Teen Workers n=151



LeeBC, WestabyJD, ChyouPH, Purschwitz MA (2007). Agricultural Employers' Hiring and Safety Practices for Adolescent Workers. *JASH* 13(1): 25-32





Agricultural Employers, HR Directors (n=102) want:

- No children in worksite
- Improve employee morale
- Retain high-skilled workers
- Increase available work hours
- Enhance company reputation
- Increase female workforce
- Reduce worker distraction



# Challenges w/ Employers



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- Gaining entry into the conversation with person(s) in position to influence change
- Gaining trust, confidence
- Sharing passion for safety
- Overcoming suspicion: OSHA, fines, negative media
- Business requests easy, quick programs
- Accessibility of relevant interventions
- Addressing “agricultural privileges”
- Culturally relevant options for employees



## AGRIBUSINESS TRENDS

- Growing agricultural enterprises – global trade, increased “business” focus
- Trends: more common safety, risk managers
- Corporate Social Responsibility
- “Be Safe | Be Profitable” campaigns
- Big Box retailers’ audits, expectations
- Vertical integration of safety policies
- Marketing employment opportunities to attract shrinking labor pool



## BUILDING PARTNERSHIPS

- Understand past “bad blood” and commit to moving forward
- Identify a champion (individual/company)
- Build a team - Examples:
  - Idaho Dairyman’s
  - RCMA w Florida F&V
  - Fire Fighters’ Assn.





## BUILDING PARTNERSHIPS (cont.)

- Conduct needs assessment
- Plan and pilot test a program
- Facilitate corporate funding (w/ match)
- Assess progress, evaluate
- Share the stories
- Garner media coverage
- Applaud/share success







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Additional support from:

Marshfield Clinic Research Institute

National Farm Medicine Center, Marshfield, WI

**Connect with us!**

[Lee.barbara@marshfieldresearch.org](mailto:Lee.barbara@marshfieldresearch.org)

[www.MarshfieldResearch.org/NFMC](http://www.MarshfieldResearch.org/NFMC)

[www.CultivateSafety.org](http://www.CultivateSafety.org)



# Our Core Staff



National Children's Center  
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Kate  
Barnes



Casper  
Bendixsen



Marie  
Fleisner



Scott  
Heiberger



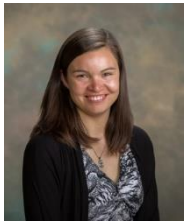
Kyle  
Koshalek



Barbara  
Lee



Barbara  
Marlenga



Melissa  
Ploeckelman



Emily  
Redmond



Josie  
Rudolphi



Marsha  
Salzwedel



Kathie  
Smith



Erin  
Teague



Bryan  
Weichelt

## Our Collaborators

