Guide to Effective Review of Farm-Related Child Deaths
Presentation objectives

The learner will:

• Be able to identify at least 6 risks to children on farms
• Know how to find expert input for reviews
• Be able to identify interventions that can be taken to prevent child farm deaths
• Know where to look for additional prevention information
Children living on farms

In 2012, more than 900,000 children lived on farms, and more than half of them worked on their family farms.
Children employed on farms

In 2012, more than 250,000 non-resident youth were hired to work on farms in agriculture.
Farms are hazardous workplaces

• One of the most dangerous industries in terms of fatal injuries
• Unlike most occupational settings, there is an intermingling of the home and worksite, and children are exposed to agricultural hazards at work and at play
• 95% of farms exempt from most safety regulations and child labor laws
Farm related deaths

• Every 3 days a child dies, and every day 38 children are injured on farms
• The group most at risk are children ages 0-6
• Boys have a higher risk than girls, but the gap is narrowing
• There are numerous risks to children on farms
Mechanism tears arm from teenager changing irrigation wheel-line at ranch field near Crane

Calm courage and clear thinking sends the boy for help

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.

Tractor flips, killing Neillsville boy, 12

NEILLSVILLE — A 12-year-old rural Neillsville boy was killed Monday after the tractor he was operating flipped and trapped him.

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

Girl dies in tractor accident

BOONE, Iowa (AP) — A 9-year-old girl who was riding in a wagon when a tractor hit it is in critical condition after surgery to reattach her arm.

Harvest claims young lives

Midwestern farms proving unusually dangerous

BY ANITA JOHNSON

Nineteen-year-old Jason W. Hengehold of West Bend, who was driving the tractor, was cited for reckless operation of a tractor. The accident occurred about 8:30 a.m. at N30 W6250, near West Bend.

Parker Sehens, 3, has been battling infection since the accident occurred. Earlier, doctors to remove the boy's right hand.

The boy was injured Sept. 18 in a grain auger his father's farm in Milnor, N. D.
Supervision

• Because farms can be risky places, accompanying a parent working on a farm can be dangerous for a young child
• The parent gets distracted by work, and the child does not understand the hazards
Specific hazards
Tractors, other heavy machinery, and motor vehicles (cont.)

- 50% of child deaths on farms involve motor vehicles, (including tractors and ATVs)
Tractors, other heavy machinery, and motor vehicles

- Tractors lack safety features
- Unsupervised children get too close to the tractor and are run over
- Children who are too young are driving the tractor, or fall off when riding as a passenger
Tractors, other heavy machinery, and motor vehicles (cont.)

• 25% of child farm deaths involve other farm machinery
Water hazards

• 16% of child farm deaths are caused by drowning in farm water hazards
• Farms have ponds/creeks/rivers, but they also have water tanks, irrigation ditches, water troughs, and other water-holding features
• Unsupervised children are at risk
Falls

- Children can be enticed by ladders or silos or haylofts
- Falls also occur from equipment
- Working on ladders, scaffolding, or structures with openings or on roofs
Confined spaces

- Since 2007, 14 teenage boys have died in silo incidents
- Grain acts like quicksand, and a person can drown in less than 1 minute
- Silo gas caused by fermentation of silage is also a serious hazard
- Family farms are exempt from OSHA standards for silos
Chemicals/Pesticides

- On farms, chemicals may be on plants, in soil, in water, drifting on the air, or in containers
Electrocution

- Commonly overlooked, but 3.6% of farm-related deaths of individuals under 20 are electrocution
Livestock

- Frightened, breeding, hurt or sick animals may be dangerous
- Falling off horses is also a cause of child death
Tips for an effective review

• Gather records
• Invite experts
  • Extension services in counties or land grant universities are a good source
Questions for discussion

If the child died on or around a tractor:

• Was child riding? Was there a separate seat for the child? Was the child using a seatbelt?
• Was the tractor being driven safely?
• Did the tractor have safety items installed?
• Ask farm expert what could or should have been done differently
Questions for discussion (cont.)

Tractors (cont.):

• If the child was older, had he/she received tractor safety training? Driving with or without permission? If without, was the key left in the tractor or otherwise easily available?

• If child wasn’t riding, the issue is supervision. How did supervision fail?

• If a child died as passenger, was the driver also a child?
Questions for discussion (cont.)

• If child died on ATV or other vehicle, the questions are similar to those surrounding death while riding a tractor
• If death was due to machinery, was machinery safely stored?
• If child drowned, did water hazard have fence/top or other barrier, and, if so, how was the barrier breached?
• If child ingested farm chemicals, how/why was child able to get to them?
Questions for discussion (cont.)

If child died in a silo/grain bin:

- Did farm have safety procedures for the silo/grain bin and were they followed?
- Had workers been trained on silo safety?
- Was safety equipment present?
- Ask farm expert for description of safety training and available/recommended safety equipment.
Questions for discussion (cont.)

If the child’s death was caused by an animal:

• Was the animal penned adequately to keep out children?
• If so, how did the child breach the barrier?
• If death occurred from horse riding, did child have helmet and did child know how to ride?
Children employed on farms

Nov 4, 2009

Wal-Mart, Kroger and Meijer have suspended business with at least one of the farms; a large blueberry grower in southwestern Michigan, after authorities found children as young as 5 working in their fields reports ABC News.
Questions for discussion (cont.)

If deceased child was employed on the farm:

• Was child doing age-appropriate work? [Consult North American Guidelines for Children’s Agricultural Tasks (NAGCAT), http://www.nagcat.org or YouTube video: Can my child do this job safely?]

• Had child been trained in safety procedures on the farm?
Questions for discussion (cont.)

If deceased child was employed on the farm (cont.):

- Know your state’s labor laws/regulations with respect to children in agricultural settings.
- Ask farm expert what the laws/regulations are.
Recommendations
Potential improvements to agency practices

• Enforcement of state and federal labor laws regarding child agricultural workers

• Enforcement of state and federal laws regarding children operating or driving farm equipment/machinery
Potential improvements to agency practices, cont.

- Passage of or enforcement of ordinances/ regulations requiring fencing or other barriers for water hazards
- Passage of or enforcement of codes/regulations regarding safety of silos/grain bins
Services to the family

- Safe planning programs from Extension Office
- Safety assessment for surviving children
Interventions

- **Education**
- **Engineering** (remove the hazard)
- **Enforcement** (regulations)
Interventions

Separate child from the farm worksite

• Marshfield promotes building safe, separate, fenced play areas where children can play safely – away from the farm’s hazards

• Off-site child care is another option
Interventions

Separate child from the farm worksite

- Little research on or progress toward childcare options
- Evaluation of incentives for building safe play areas in progress
Interventions

Child Labor Laws

• Restrict particularly hazardous work for youth younger than 16 years
  • 11 hazardous job categories
  • Apply to hired youth only
  • Training exemptions
  • Complete parental exemption
Interventions

Child Labor Laws

• But what if the parental/family farm exemption were removed?
• What is the age for hazardous work were raised from 16 to 18 years of age?
Interventions

North American Guidelines for Children’s Agricultural Tasks (NAGCAT)
- Assign developmentally appropriate work
- 62 work guidelines
- Parent posters
- Professional resource manual
- Dedicated website (nagcat.org)
NAGCAT Guidelines

- Adult responsibilities
- Child ability
- Training
- Supervision
- Main hazards
- Protective equipment
Interventions

Assign developmentally appropriate work

- Uptake improves when accompanied by visit or providing child development information $^{1,2}$
- Covers leading causes of work-related injury $^1$
- Use of NAGCAT among farm parents reduces child farm work-related injuries by 50% $^2$

Hand Harvesting Fruit and Vegetables

Main Hazards
- Sharp Tools
- Sun Exposure
- Repetitive Motion
- Good Handwashing
- Non-slip Shoes
- Proper Body Movement

Remember
- Work conditions
  - Provide safe transport to field
  - Ensure hygiene standards are followed
  - Allow rest in shaded areas
  - Provide toilet facilities and water for drinking and washing hands
  - Allow 15 minutes break every hour
  - Maintain a communication link

Teen assessment
- Be aware of insect allergies or medical conditions
- Can repeat task for 50 minutes without becoming exhausted
- Has positive safety attitude
- Can easily carry 15 percent of body weight
- Is able to bend and lift using proper body mechanics

Training and supervision
- Train employees on safe bending and lifting practices
  1. Keep back as straight as possible
  2. Shift weight from foot to foot
  3. Stand with feet shoulder-width apart; one foot in front of other
  4. Hold in stomach muscles
  5. Shift from leg-to-leg when squatting
  6. Avoid twisting to reach objects
  7. Shift body position often
- Train employees in safe cutting
  1. Use the right tool for the job
  2. Don’t use a tool that is oily, greasy or too heavy to handle
  3. Plant feet firmly
  4. Cut away from body
  5. Keep wrist straight

Supervisor responsibilities
- Be aware of insect allergies or medical conditions
- Can repeat task for 50 minutes without becoming exhausted
- Has positive safety attitude
- Can easily carry 15 percent of body weight
- Is able to bend and lift using proper body mechanics

Federal Regulations: Fair Labor Standards Act (FLSA)
- Refer to Adolescents at Work guideline for general regulations.
- Find state-specific information at www.pafa.org
- Youth under 16 may not apply toxic agricultural chemicals (including cleaning or decontaminating equipment, disposal or return of empty containers, or serve as a flagger for aircraft applying such chemicals).
- Youth under 16 may not operate or assist with (including starting, stopping, adjusting, feeding, or any other activity involving physical contact associated with the operation) power-driven circular, band, or chain saws.
- Youth under 16 may not work to load or unload timber with a butt diameter of more than 8 inches; or fell, buck, or skid timber.

Safety Guidelines: Hired Adolescent Farm Workers
Hand Harvesting Fruit and Vegetables

Trabajando con vehículos utilitarios

Peligros principales
- Velocidad de vehículos
- Cuidar con calzado adecuado
- Mantenerse bajo control

Recuerde
- Desacelere la velocidad
- Reduce la velocidad
- Protección del vehículo
- Entramado de seguridad

Responsabilidades del supervisor

Condiciones del empleo
- Asignar que todos los dispositivos de seguridad estén en el lugar correcto
- Instruir sobre los riesgos antes de comenzar el trabajo
- Remitir a técnicas de resguardo adecuadas
- Establecer una ruta segura hacia el lugar de trabajo
- Asistir a los trabajadores a evitar la tentación de fumar o beber
- Recibir un entrenamiento y supervisión adecuado
- Tener un horario positivo de trabajo
- Tener una actitud positiva de trabajo
- Mantener al trabajador tranquilo en el momento del trabajo
- Comenzar el buen trabajo antes de la hora de comienzo

Evaluación del adolescente
- Pueden utilizar los controles del vehículo adecuadamente
- Pueden utilizar maniobras y pare en maniobras
- Tiene una actitud positiva de trabajo
- Tiene una actitud positiva de trabajo
- Mantenga al trabajador tranquilo en el momento del trabajo
- Comenzar el buen trabajo antes de la hora de comienzo

Entrenamiento y supervisión
- Asignar que el empleado ha terminado el entrenamiento de vehículos utilitarios
- Asignar que el empleado utilice cascos y equipos de protección (por ejemplo): accesorios de seguridad para el equipo de seguridad y el manejo de vehículos utilitarios
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Reglamentos Federales: Acta de ley para un trabajo justo (FLSA siglas en inglés)
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Interventions

Working with the media

• Encourage media to include safe practices and prevention messages in stories

• Cadre of journalist who understand the broad scope and preventability of childhood injuries on the farm
  
• Do’s and don’t for photos

• Do’s and don’t for text
Interventions

Social Marketing Campaigns

- Change the social norm
- *Bury a Tradition, Not a Child* campaign
- Keep Kids Away from tractors
- Children <12 yrs. should **not** be on or near tractors
- No formal evaluation
- Lots of interest in posters
- Printed in numerous outlets
Interventions

Change the social norm (cont.)

- *I didn’t KNOW* campaign
- Children <16 years should NOT operate ATVs
Interventions

Child-focused safety education (cont.)

• Farm Safety 4 Just Kids chapters
  • Volunteers system for local outreach
• Health fairs, 4-H, FFA
  • Educational sessions
Interventions

Child-focused safety education

• Safety Day Camps
  • Progressive Agriculture formal training with curriculum
  • Short-term knowledge gain shown on selected topics
  • Shown to decrease risky behavior after 3 mo. & 1 year
• Adult volunteers increase their awareness

1. McCallum et al., Jnl of Ag Safety and Health (2005)
Interventions

Tractor and machinery safety certification
- Some knowledge gain $^{1,2,3,4}$
- Belief in potential severity of tractor-related injury $^3$
- Skill level exceeds that of non-participants $^4$
- Slight improvement in self-reported safe behaviors $^{1,2,3}$

Interventions

There are few evaluated interventions that are:

• Incentive-based
• Engineering-based
• Policy-based
Safety practices

General:
Farmers should:
- Be knowledgeable about safety
- Comply with safety requirements
- Provide training and practice to workers
- Provide needed protective equipment to workers
Safety practices

General (cont.):

• Potentially dangerous equipment and other items should be safely stored
• Farm kept tidy, clean, and as free as possible of hazards
Parent farmers with young children should:

• Provide fenced play areas with age-appropriate supervision
• Not engage in farm work and try to supervise a child at the same time
• Work to reduce hazards to children on the farm
• Have off-site child care
Safety practices (cont.)

Parent farmers with young children should (cont.):

• Comply with US Department of Agriculture requirements that youth under 16 not be employed in Hazardous Occupations in Agriculture.

Safety practices (cont.)

• Fence water hazards and cover water containers such as tanks
• Install fall protection in haylofts
• Keep ladders in good condition and use them safely
• Install barriers around machines and vehicle compounds and take keys out of vehicles not in use
Safety practices

Livestock:

• Fence animal enclosures to prevent child entry
• Keep children away from animals that are breeding or calving, are mothers with newborn young, or are hurt or sick
Safety practices

Tractors, vehicles, machinery:

• Install and use seatbelts and safety features on tractors (such as Roll Over Protective Structures and guards/shields)
• Proper safety training for operating tractor
• No driving until age at least age 14 for simple jobs; age 16 -18 for complex jobs
• Only one passenger per seat on tractors
Safety practices (cont.)

Tractors, vehicles, machinery:

- Proper training in equipment and safety before operating any machinery
- No ATV driving until age 16
- ATV safety training for all drivers, and always wear helmets
- No passengers on ATVs
Confined spaces:

• Have safety procedures and equipment in place for all silo/grain bin work
• No children under age 18 allowed in silos/grain bins
• No one should enter a silo alone
• Ventilate silos adequately
Safety practices (cont.)

Pesticides/Chemicals:
• Use a closed system for delivery of pesticides/chemicals
• Keep young children out of chemical storage area

Electrocution:
• Know where elevated and buried power lines are and keep equipment away from them
Additional resources and citations to research referenced in presentation


Prohibited occupation for younger children can be found at http://www.dol.gov/elaws/esa/flsa/docs/hazag.asp.


Safety Guidelines for Hired Adolescent Farm Workers (SaGHAF), http://www3.marshfieldclinic.org/nccrahs/?page=nfmc_nccrahs_saghaf


North American Guidelines for Children's Agricultural Tasks (NAGCAT), http://www.nagcat.org


Cultivatesafety.org: Can my child do this job safely? [YouTube]

American Farm Bureau Foundation for Agriculture,  

Safe Play Areas and Safe Play,  

Blueprint for Protecting Children in Agriculture, the 2010 National Action Plan,  


Youth in Agriculture, Chemicals, US Department of Labor,  
https://www.osha.gov/SLTC/youth/agriculture/workers.html

Youth in Agriculture, Electrocution, US Department of Labor,  
https://www.osha.gov/SLTC/youth/agriculture/electrocution.html

Silo Gases, National Ag Safety Database,  