GEARING UP FOR SAFETY

Production Agricultural Safety Training for Youth

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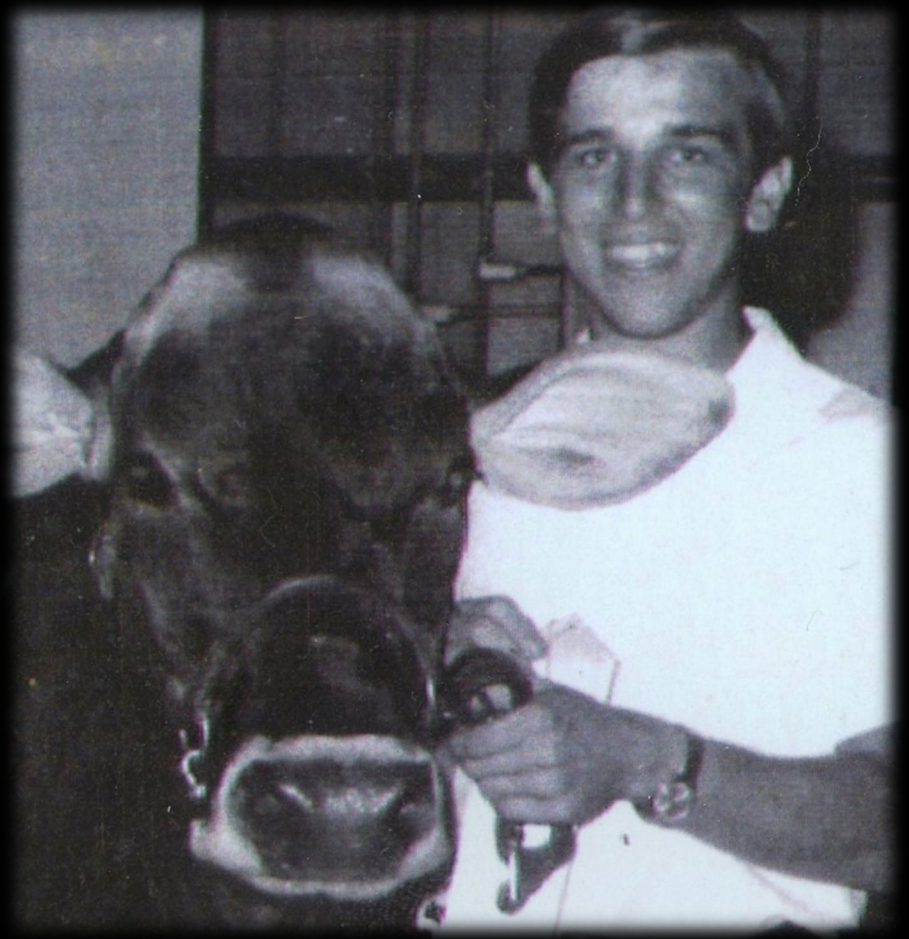
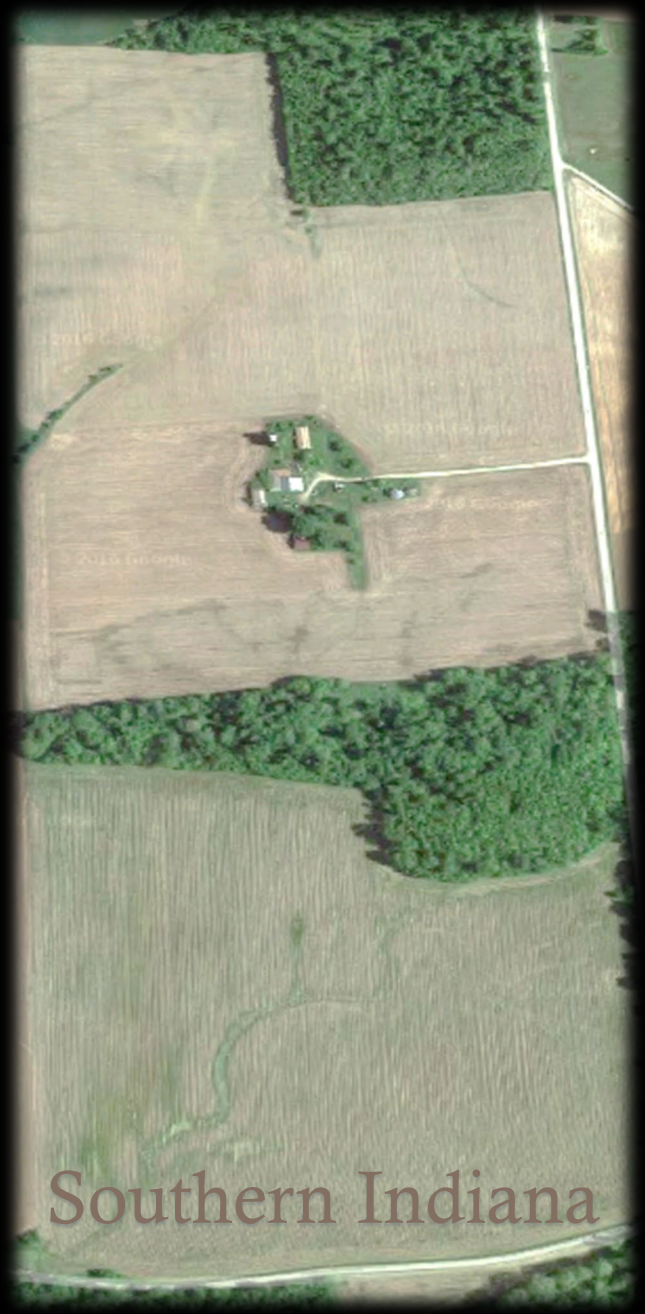
PERSONAL BACKGROUND

A farm kid at heart

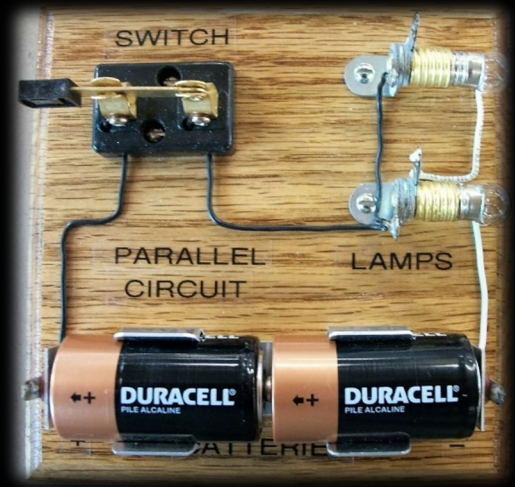
- Raised on 500 acre dairy farm





PERSONAL BACKGROUND

A product of Extension



- **4-H member**
  - Electricity
  - Dairy
  - Tractors & machinery
  - Local club officer
  - State 4-H Junior Leader Council

PERSONAL BACKGROUND

Rural educated and trained

- **FFA member**
  - Chapter officer
  - District officer
  - State FFA Vice-President, 1976-77

PERSONAL BACKGROUND

Community engaged

- **Volunteer**
- **Pack leader**

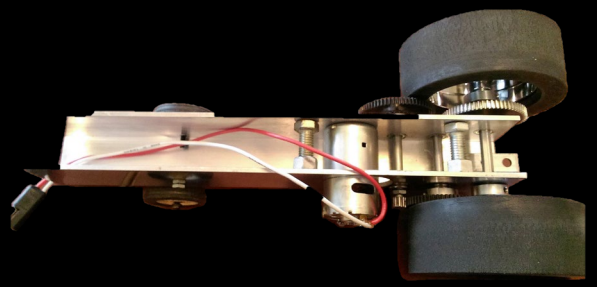
Historic Fowler Theatre

- **Volunteer**
  - Team leader
- **Board member and officer**
  - Past president of the board

PROFESSIONALLY

Engagement/Discovery/Learning

◈ Youth Engineering



◈ Robotics

JEOPARDY – PRE-TEST

Robert, a 55 year-old farmer in Indiana, has a 1,000 acre cash grain farm with corn and soybeans as the primary crops. At busy times of the year Cody, a 14-year old neighbor, assists Robert with various tasks/jobs on the farm.

On a hot April day, Robert instructs Cody to take the tractor and do some tillage work in preparation of planting corn.

Are there any issues with this?

Is it legal?

Tim, a 60 year-old farmer in Virginia, has a large cattle/calf operation. Additionally, he grows corn to feed the cattle and as a cash crop. At busy times of the year Sam, a 16-year old, assists Tim with various tasks/jobs on the farm.

Tim asks Sam to feed a cow with a newborn calf that is in a separate pen from the rest of the cattle.

Are there any issues with this?

Is it legal?

FEDERAL REGULATIONS

FAIR LABOR STANDARDS ACT (FLSA) OF 1938

- **Set age parameters** for the employment of youth in agriculture
- **Provided a training option** to allow youth under 16 to work, for hire, performing agricultural tasks identified as hazardous
- **Specified certain agricultural tasks as hazardous**

AGE RESTRICTIONS

- **None** for youth working on farms owned/operated by their parents or legal guardians

- For hire
  - None , if 16 years of age and older
  - 14 & 15, may perform tasks including some deemed as hazardous
  - 12 & 13, may perform farm tasks **not** deemed hazardous

TRAINING OPTIONS

- **Youth working on farms owned/operated by their parents or legal guardians**
  - ✓ None needed, legally
- **Student Learners** *(High School Agricultural Science Programs)*
  - ✓ May perform hazardous tasks in categories 1 to 6
- **4-H and Vocational Agriculture Training Program**
  - ✓ May perform hazardous tasks in categories 1 and 2

WHAT SPECIFIC TASKS ARE PROHIBITED BY THE FLSA FOR YOUTH UNDER 16?

1. Operating tractors over 20 PTO hp.

11. Transporting, transferring, or applying anhydrous ammonia

3. Operating specialized powered machines

5. Working in wood lots with logs over 6 inches in diameter

8. Working inside toxic atmospheres or confined spaces (silos, grain bins, manure pits, tanks, fruit storage)

10. Handling or using a blasting agent (explosive)

2. Operating PTO-operated machinery

9. Handling or applying restricted use chemicals

4. Working with breeding livestock including bulls, boars, and stallions

6. Working on ladders and scaffolds at heights over 20 feet

7. Operating a vehicle to transport passengers or riding on a tractor as a passenger

Local farmer cited for violation of Federal Hazardous Occupations Order

Gearing Up Daily News

Farmworkersville – A 13-year old boy was still in critical condition Tuesday night after he was caught in a piece of farm equipment and seriously injured.

Johnny Peters was airlifted to Memorial Hospital in Mechanicsville on Monday evening and remained in the intensive care unit until late Tuesday.

He was working by himself at the time, unloading corn from a gravity box wagon using a PTO-operated auger, on the Johnson farm at 234 Clover Road, town of Farmworkersville. His employer, Bob Johnson, had finished his chores and went to check on the teen. He found Johnny entangled in the PTO shaft of the auger. He switched off the tractor, pulled him from the tractor's power take-off shaft, and then called 911 at 5:51 p.m.

Johnny Peters' clothing had become entangled in the rotating shaft. All of this clothing except his underwear was wrapped around the still-turning shaft that provided the power to operate the auger.

Across the state, three other children have been seriously hurt on farms in the past month-one of them killed, according to the State Extension Safety Specialist.

WHY WAS THE REGULATION PASSED?

MOST HAZARDOUS U.S. INDUSTRIES

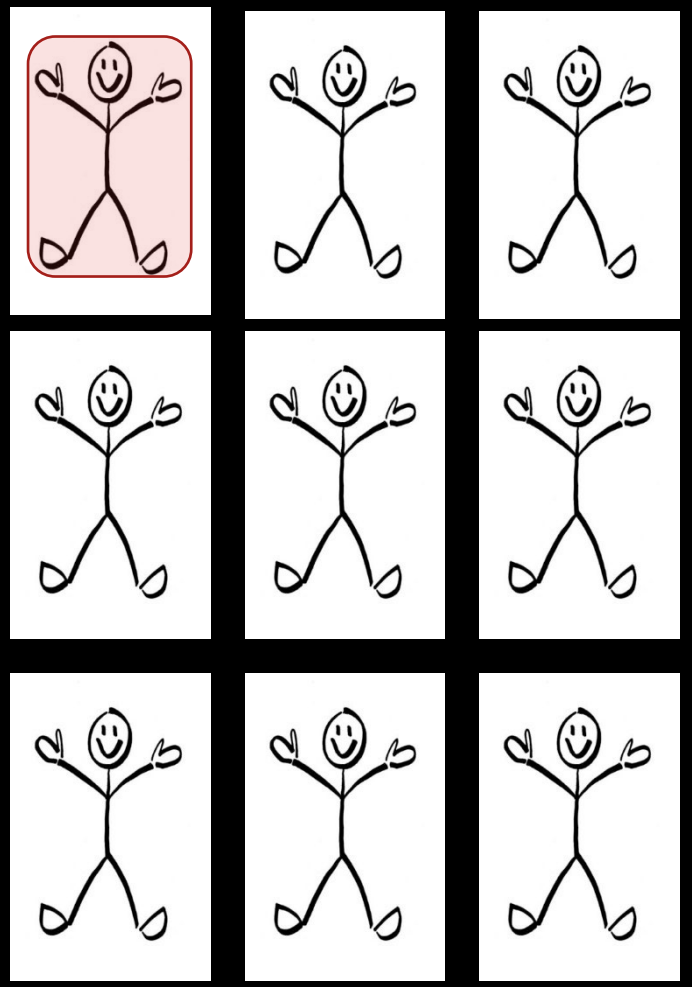
Construction

Agriculture

Mining

HOW MANY FAMILIES ARE AFFECTED ANNUALLY BY AN AGRICULTURAL INJURY/FATALITY?

1 in 9 families



AGRICULTURE TODAY VS. 75 TO 100 YEARS AGO

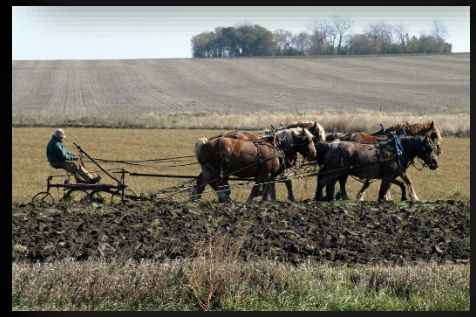
1. How was farming different 50 to 100 years ago?

2. What affect has these changes had on agricultural safety/injuries?

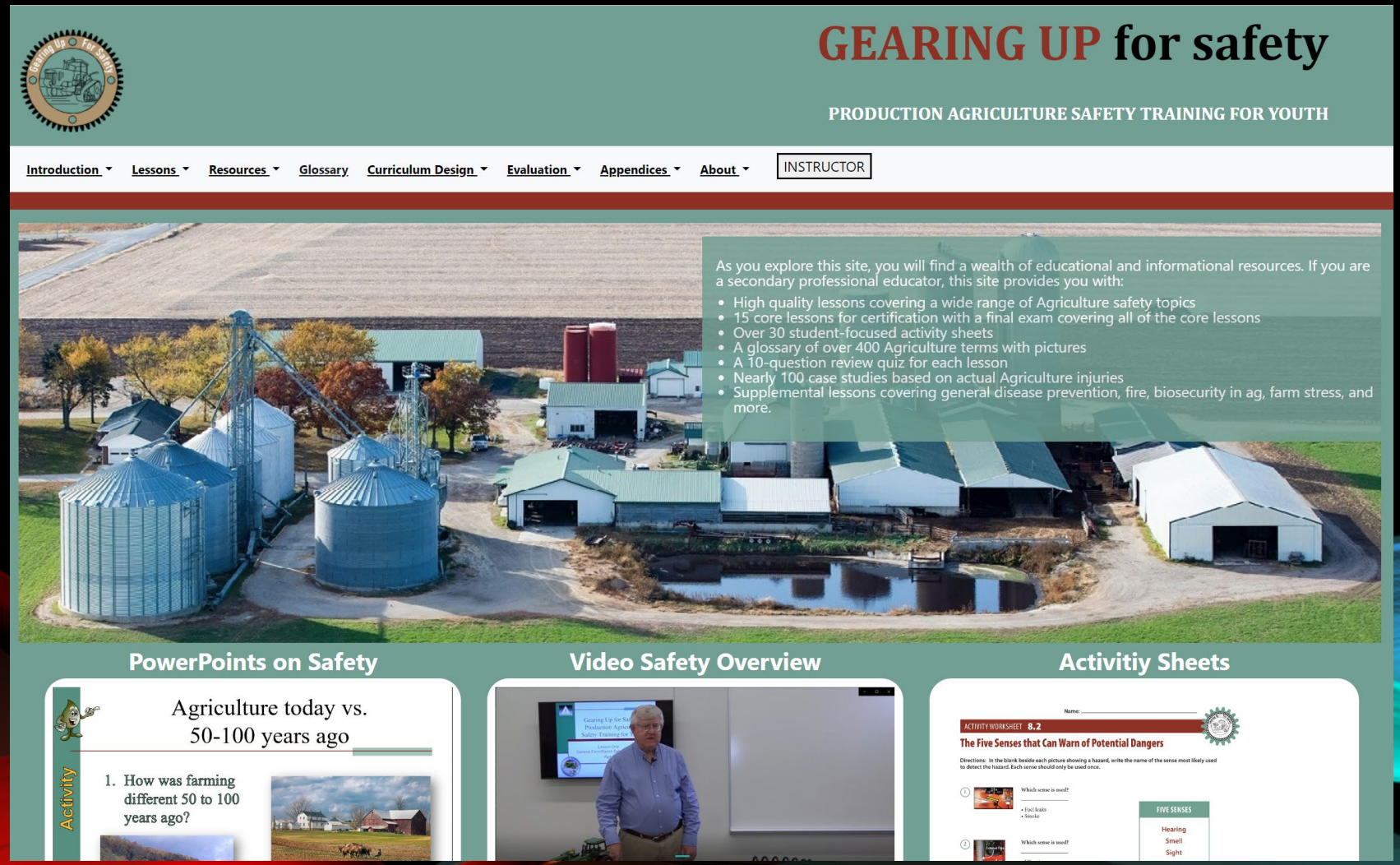
AGRICULTURE TODAY VS. 75 TO 100 YEARS AGO

Today

Past



THE GEARING UP FOR SAFETY PROGRAM



THE CURRICULUM

- 15+ high quality, interactive and engaging **PowerPoint presentations** covering agricultural safety topics
- Professional quality video version of each of the 15+ lessons focused towards the independent learner
- Over 30 student-focused **activity sheets**
- Suggested **teaching aids** to be assembled prior to teaching the lessons
- A list of the **core competencies** that each student should master
- **Lesson content outlines** that include supplemental background information
- **Activity worksheets designed for use during classroom discussion**
- A **10-question review quiz** for each of the 15+ PowerPoint lesson
- Nearly 100 **farm injury case studies** based on actual agricultural injuries

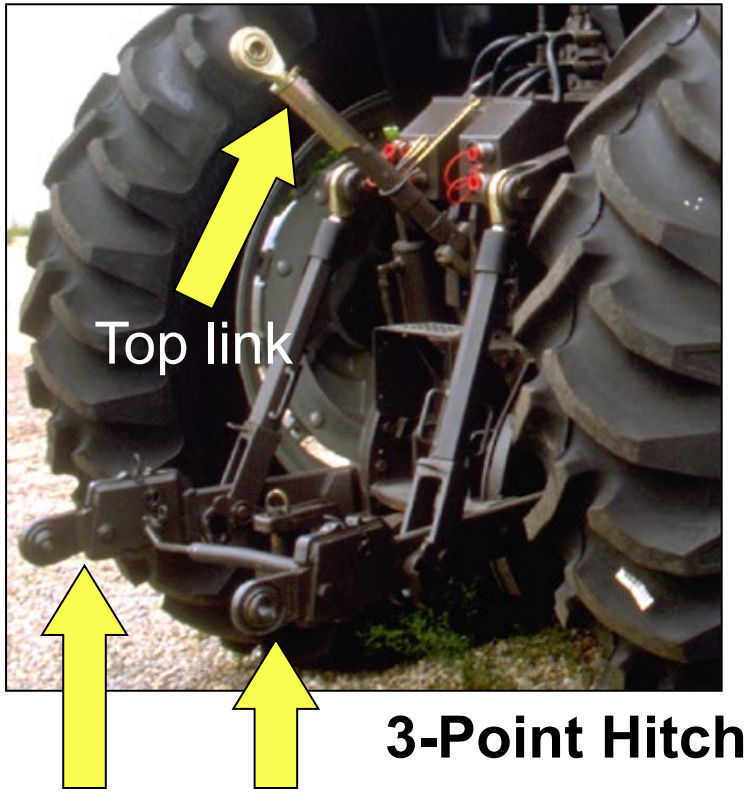
THE LESSONS

1. General Farm and Ranch Safety Overview
2. Tractor Components Basics
3. Tractor Pre-Operational Procedures
4. Tractor Operation Basics
5. Tractor-Powered Implements
6. Self-Propelled Agriculture Equipment
7. Operating Agriculture Equipment on Public Roads
8. Repairing Agriculture Equipment
9. ATV & Utility Vehicle Safety Operation
10. Skid Steer Loader, Telehandler and Forklift Operation
11. Confined Spaces in Agriculture
12. Grain Storage and Handling Facilities
13. Working with Animals
14. First-Aid & Emergency Response
15. General Farm and Ranch Hazards
16. Hands-On Tractor Operation

S1. General Disease Prevention for Young Agriculture Workers
S2. Preventing Fire and Burn Injuries on Farms and Ranches
S3. Biosecurity in Agriculture Operations
S4. Farm Youth Stress Management
S5. Lawn Care and Maintenance

EXAMPLES of POWERPOINT COMPONENTS

Raising and Lowering the Three-Point Hitch Assembly

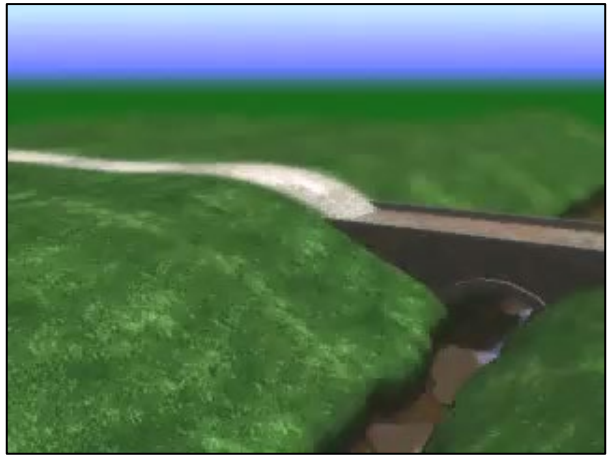


3-Point Hitch

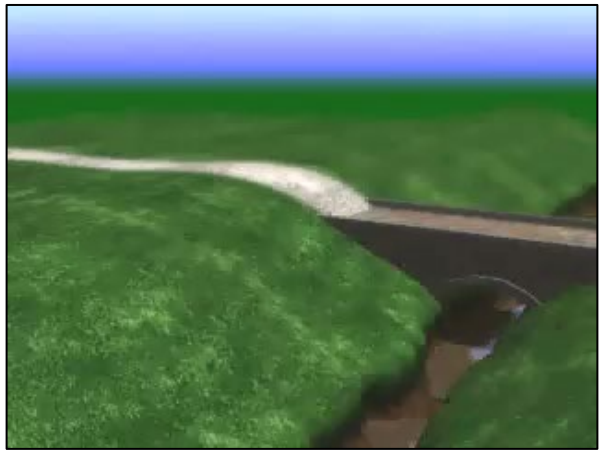
Controls

Features That Reduce Potential of Tractor Upset

- Wide front end
- Adjustable rear wheel width
- Rear wheel weights
- Duals or wider tires



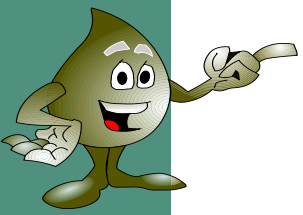
Animation – Tractor without duals
Click to play



Animation – Tractor with duals
Click to play

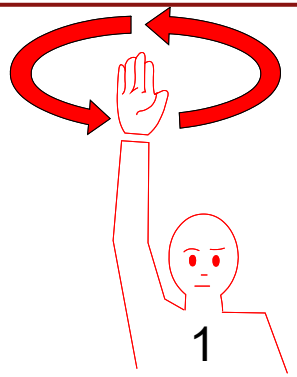
VIDEO OF TOMMY OSIER

Click on image to play video

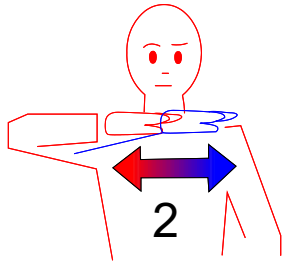


Activity

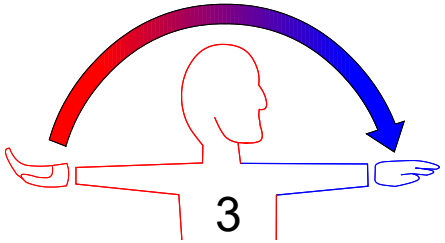
Review of Hand Signals



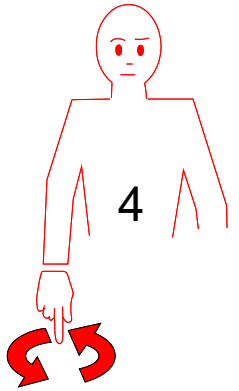
1
Come to me
or come help



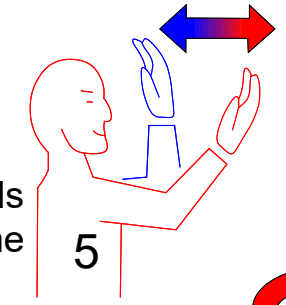
2
Stop Engine



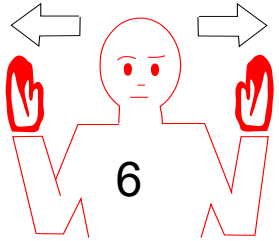
3
Move out or
take off



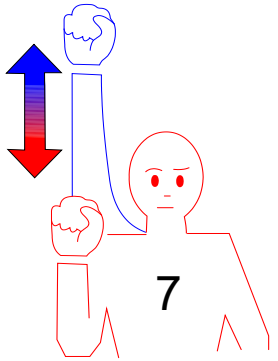
4
Lower
Equipment



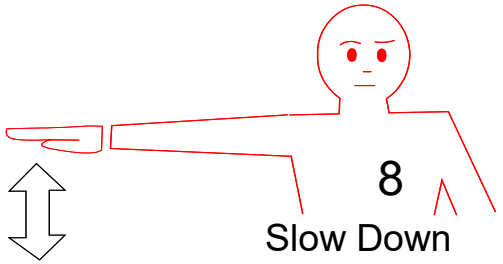
Move towards
me or follow me
5



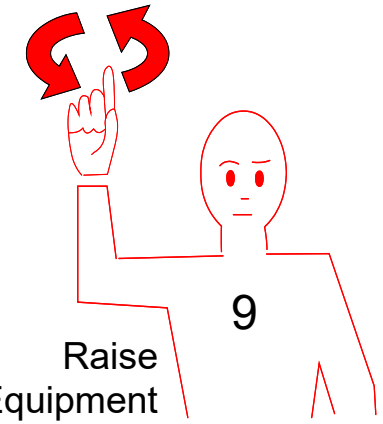
6
This far to go



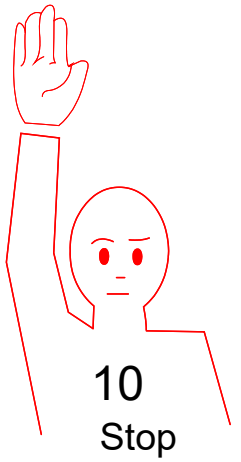
7
Speed Up



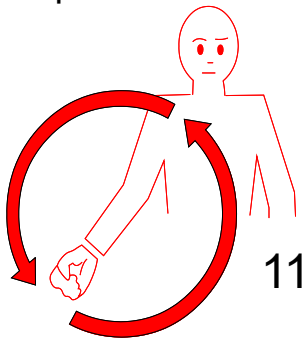
8
Slow Down



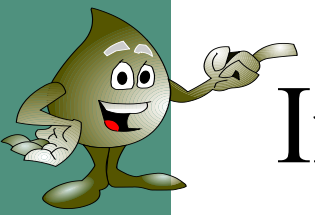
9
Raise
Equipment



10
Stop



11
Start
Engine



Instructor Note

- ***Activity:***
- *Step #1:* As each “hand signal” appears on screen, ask the students to identify the “message.”
- *Step #2.* After the correct message is identified, ask the students to practice giving the hand signal.

1. Come to me or come help
2. Stop engine
3. Move out or take off
4. Lower equipment
5. Move toward me or follow me
6. This far to go
7. Speed up
8. Slow down
9. Raise equipment
10. Stop
11. Start engine

Where is the Center of Gravity on a Tractor?

Activity

Rear load

- No load/added weights
- 3-point implement in raised position
- 3-point implement in lowered position

NOTE: The exact CG (Center of Gravity) may differ from locations depicted.

INSTRUCTOR LED VIDEOS

ety -

are

g Facilities

HANDS-ON ACTIVITIES/DEMONSTRATIONS?

RISK TAKING

FEDERAL RESERVE NOTE
KB 46279860 I
B2
THE UNITED STATES OF AMERICA
KB 46279860 I
100
THIS NOTE IS LEGAL TENDER FOR ALL DEBTS, PUBLIC AND PRIVATE
Treasurer of the United States.
SERIES 2006 A
Secretary of the Treasury.
100
ONE HUNDRED DOLLARS
FRANKLIN

VICTOR

LUNA
MADE IN GERMANY

REACTION TIME – PTO INCIDENT

PAPER ACTIVITIES

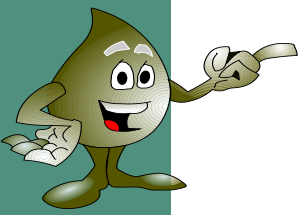
Activity

Draw a Line Matching the Universal Color Coding Used in a Typical Operator Station

Red	adjust machine function
Orange	machine ground motion
Yellow	stop engine
Black	engage powered components

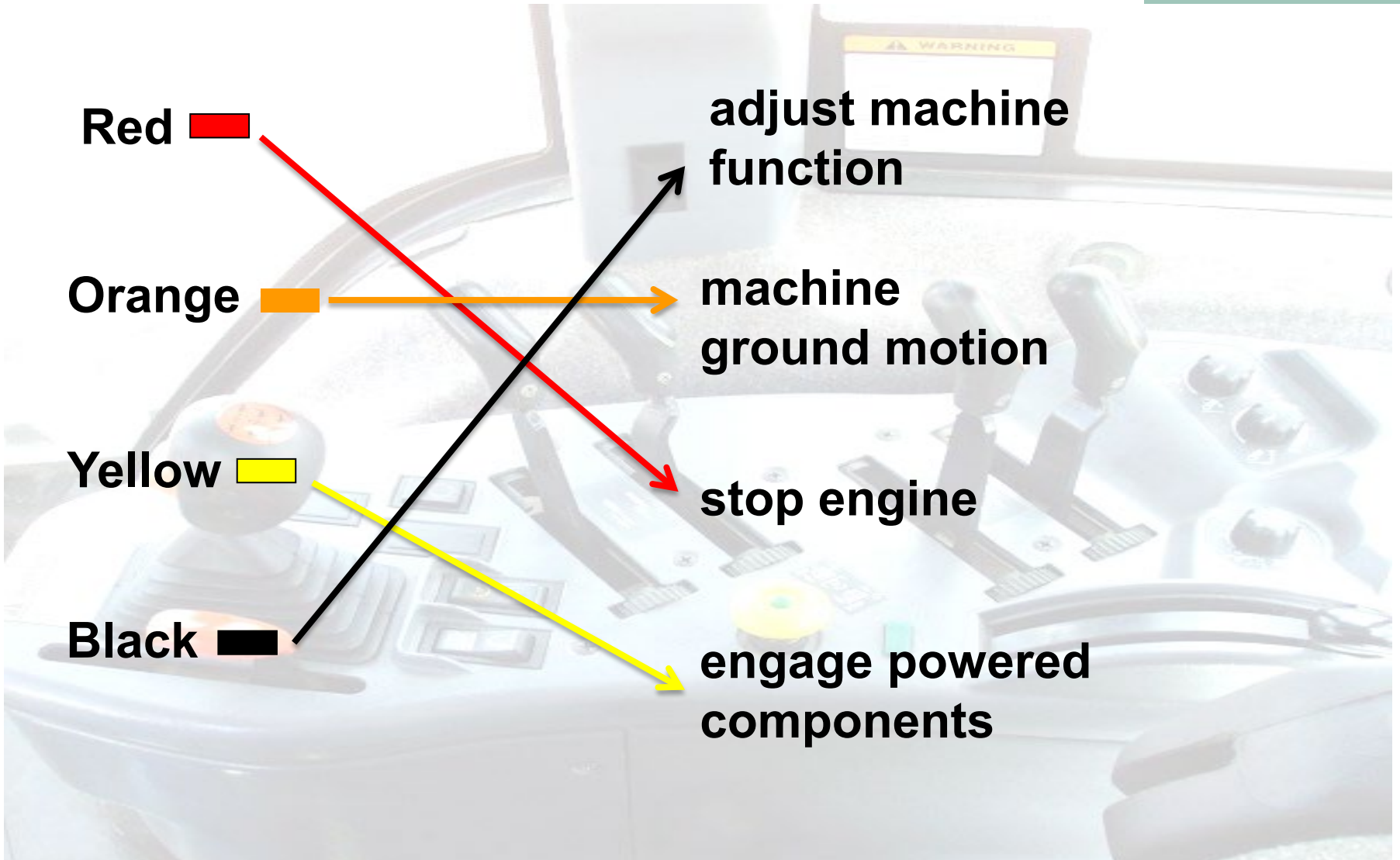
Activity

What are the **most common** hazards associated with an operating an agricultural tractor?



Activity

Draw a Line Matching the Universal Color Coding Used in a Typical Operator Station



FARM AND RANCH SAFETY INVENTORY

Laboratory Exercise #1

Name:_____

Conducting a Farm/Ranch Safety Inventory

Objective

Upon completion of this exercise you will have completed a farm or ranch safety inventory on a farm or ranch belonging to your family, relative, or neighbor. You will have identified the most serious hazards and alerted those responsible for correcting them.

Items Needed

1. A farm or ranch to conduct the safety inventory (Be sure to seek permission from the owner first.).
2. Farm & Ranch Safety Inventory form (included with exercise), clipboard, and pencil.
3. Camera to photograph the most serious hazards.

Procedures

1. Review Chapters 1 and 4 of *Farm & Ranch Safety Management.*
2. Schedule a time with the owner to discuss the purpose of the safety inventory and to complete it (allow yourself two to three hours to complete a thorough inventory).
3. Using the Farm & Ranch Safety Inventory form as a guide, complete the safety inventory sheet.
4. You are required to document your inspection with at least 10 photographs of the following items and the more serious hazards to share with the owner (photographs can be color or black and white).
   - overall farmstead
   - major farm buildings (exterior)
   - tractors/combines
   - PTO driven implement
   - the most serious hazards observed (examples: missing/ damaged PTO shielding, no ROPS, faded SMV emblems). Do not use trivial hazards
   - shop area

	OK	Corrective Actions Needed
Tractors		
All PTO master shields are in place.	☐	_____
Reflectors, SMV emblems are clean and unfaded.	☐	_____
Tractors are equipped with ROPs.	☐	_____
ROP's equipped tractors have seat belts.	☐	_____
5 pound (minimum) ABC type fire extinguisher is mounted on each tractor.	☐	_____
All lights and flashers are in working order.	☐	_____
Cab windows and mirrors are clean to maintain good visibility.	☐	_____
Operator's platform is kept clear of grease, mud, and tools.	☐	_____
Fuel, oil, and hydraulic systems are free of leaks, and are maintained at proper fluid levels.	☐	_____
Tires are in good condition and kept at recommended pressure.	☐	_____
Muffler and exhaust system is properly maintained.	☐	_____
Tillage/Planting Equipment		
Equipment is marked with reflectors and lights for highway travel.	☐	_____
Belts, chains, and shafts are adequately shielded.	☐	_____
PTO components are properly shielded.	☐	_____
Hydraulic components appear in good shape and free of leaks.	☐	_____
Hydraulically raised equipment has transport locks to take load off hydraulic system during transport.	☐	_____
Tires are inflated to recommended pressure.	☐	_____

GEARING UP for safety

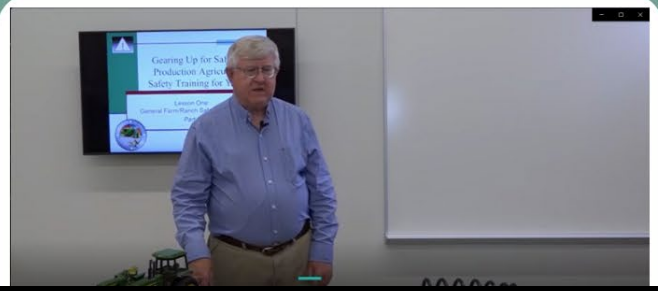
PRODUCTION AGRICULTURE SAFETY TRAINING FOR YOUTH

Introduction | Lessons | Resources | Glossary | Curriculum Design | Evaluation | Appendices | About | INSTRUCTOR

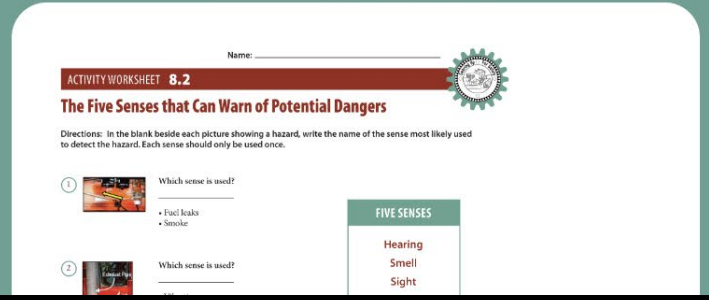
www.agsafety4youth.info

PowerPoints on Safety

Video Safety Overview



Activitiy Sheets



THANK YOU!

QUESTIONS

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