

Innovative Curriculum on Pesticide Safety for Young Adults

A PERC AgCPB Project

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MRASH 2024



Ag Health and Safety Alliance

International non-profit

Registered in the United States and Canada

Programs in Denmark, Sweden, Australia, Nigeria

Promotion of practical, evidence-based information through delivery of Ag Health and Safety Health and Safety Education Programs.

Focused on agricultural health and safety education for the next generation of agriculture, reaching over 10,000 students internationally with Gear Up for Ag Health and Safety Program.

- Target Audience: Young adults (18-25) in collegiate agricultural programs who will likely return to family farms or cooperatives.
- Many already working on farms day-to-day



The Team

- Carolyn Sheridan – Curriculum/Storyboard development, video collection
- Jenna Gibbs – Curriculum/Storyboard development, video collection
- OP McCubbins– Videographer and Editor, Design (ISU alumni and 450 Ag 450 Farm Instructor, Assistant Professor)
- PERC – Emily Ripken (Project Coordinator for Grants)
- PERC- Kaci Buhl (Scientific Reviewer)
- Gene Merkel, MSU Extension Pesticide Safety



Background

- **High Pesticide Exposure:** Over half of young adults in Gear Up for Ag! programs are regularly handling pesticides.
- **Inconsistent PPE Use During Pesticides Handling:** 70% of young adults wear PPE sometimes, but 20% never do.
 - Most report wearing PPE voluntarily or due to parental advice, not workplace requirements.
 - This indicates a potential lack of understanding about both WPS and FIFRA requirements for pesticide handling.
- **Limited PPE Use:** Young adults primarily use gloves and long-sleeved shirts, neglecting goggles and respiratory protection, even for products requiring them.
- **Confusion and Lack of Awareness:** Many young adults are unsure about PPE requirements, especially for products like pour-on livestock treatments.



PERC Pesticide Educational
Resources Collaborative



Background

- **Confusion about Doffing Order:** When participating in a donning/doffing activity that AHSA has utilized for more than 5 years, young adults are unsure of the proper donning and doffing techniques.
- Doffing is a hazardous activity and a major source of potential exposure.



PERC Agriculture Community-Based Grants

- These are Small Grants, funded by PERC (EPA), to provide support for projects that promote agricultural worker and agricultural pesticide handler health and safety.
 - Inclusive of workers, their families, and communities.
- Grants support community-based initiatives that develop effective pesticide education and training materials.
 - Preferred that the materials are in line with current WPS protocols and training materials.
- Eligible applicants are typically non-profit organizations with experience in agricultural health and safety.



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Goals

1. **Raise awareness of safe pesticides** handling for young adults working in Mississippi who are also enrolled in a collegiate agriculture program, focus on adherence to WPS and understanding of PERC guidance.
2. **Increased use of PPE**, such as respiratory protection, when specified by the pesticide label by young adults who were enrolled in the program, especially those in need or with access to less resources.

Output: Create and design of two 360° videos, a front/back multi-ethnic illustration for program and workshop.

3. **Distribute pesticides-specific PPE** to for young adults working in Mississippi who are also enrolled in a collegiate agriculture program, who are handling pesticides and at high risk, follow up to see if they used it.
4. Build capacity within institutions and organizations in the Southeastern coastal region of the U.S. to **fit test agricultural workers for respirators**—especially those handling pesticides.

Output: Host an in-person *Respirator Fit Test Capacity Building Workshop* focused on pesticides handling, delivered to both agriculture professionals and agricultural workers/farmers.

GearUp
for Ag™



Multi-ethnic illustration for program and workshops

Respirator Fit is Important

What size are you?

SMALL FACE SIZE

MEDIUM SIZE

LARGE SIZE

LENGTH

WIDTH

Respiratory Protection Checklist

Fit = Protection and Comfort

GET FIT TESTED TO MAKE SURE YOU ARE GETTING THE BEST PROTECTION.

Know when to wear a respirator in agriculture:

- MOVING LIVESTOCK/LOAD OUTS
- WORKING WITH HAY FEED OR FEED STUFFS
- WORKING WITH MECHANIZED FEED SYSTEMS
- CLEANING PENS AND HOUSING, ESPECIALLY WITH DISINFECTANTS
- DISPOSAL OF CARCASSES OR PLACENTAL MATERIALS
- POWERWASHING
- WORKING IN DUSTY BARNs, SUCH AS FARROWING
- KNOWN OR SUSPECTED DISEASE OUTBREAKS (HUMANS AND/OR ANIMALS)
- PESTICIDES OR PEST TREATMENTS (SUCH AS DEWORMER, FLY CONTROL)
- CLEANING GRAIN BINS/GRAIN HANDLING

Tips for wearing your respirator:

- USE THE RIGHT RESPIRATOR FOR THE JOB, WITH THE CORRECT FIT
- DO NOT USE OTHER PEOPLE'S RESPIRATOR
- KEEP RESPIRATOR CLEAN, AND STORE CORRECTLY
- STORE THE RESPIRATOR IN A BREATHABLE BAG MARKED WITH YOUR NAME
- PULL LONG HAIR INTO A PONYTAIL AND PLACE BETWEEN THE RESPIRATOR STRAPS
- TO COMMUNICATE WITH OTHERS, PULL THE CRADLE DOWN OR USE THE "QUICK RELEASE" ON CARTRIDGE RESPIRATORS
- DISCARD DISPOSABLE RESPIRATOR IF IT BECOMES DIRTY, WET OR HARD TO BREATHE THROUGH
- REPLACE OR DISCARD CARTRIDGES IF YOU SMELL OR TASTE HAZARDS OR IF IT BECOMES DIFFICULT TO BREATHE
- DO NOT USE RESPIRATORS WITH EXHALATION VALVES IF YOU OR THE ANIMALS YOU WORK WITH ARE SICK
- SCHEDULE TIME FOR BREAKS WHEN USING A RESPIRATOR

Ag Health & Safety Alliance

AgHealth Center States
Center for Agricultural Safety and Health

ACKNOWLEDGEMENTS: NZOSU TUPAKOHOIWA, NATIONAL PORK BOARD PROJECT 20-26
ARTWORK BY SCOTT MOONEY, ILLUSTRATION GRAPHIC DESIGN BY JAMES ROBINSON

AHASA Chemical Layering Poster

This is a place to collaborate, post drafts, make comments, all in one place so we don't have to dig through our emails for info. You'll see some tik marks on the left side of this window. That's a menu of the headers w put in here. You can click an item in there to jump to that section.

Poster Art Drafts



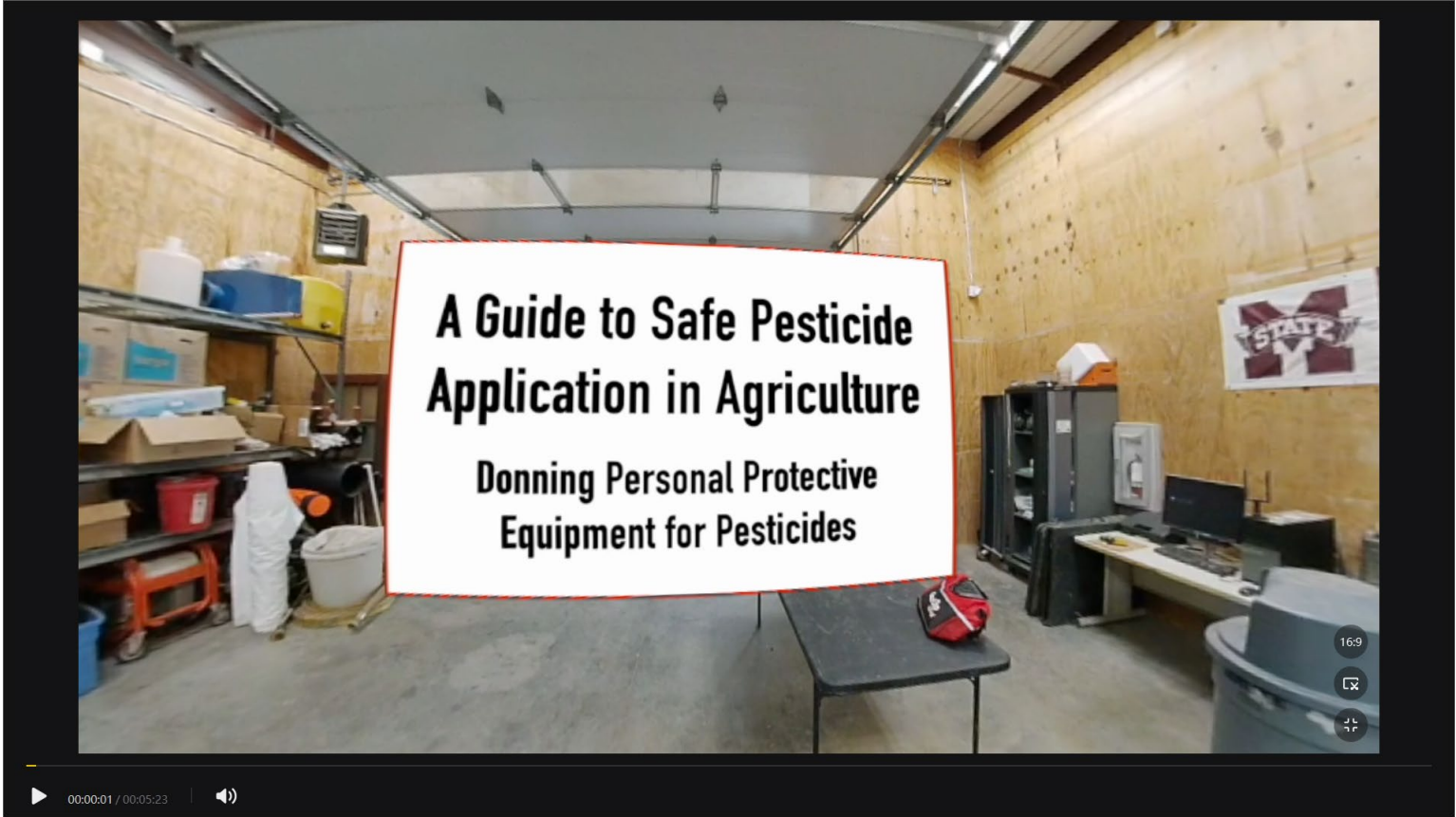
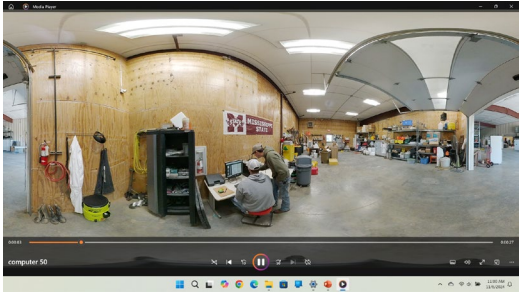
Donning and Doffing Storyboards

Storyboarding is the process of visually planning a video by creating a series of drawings or images that depict each scene, shot, and dialogue, helping to organize the narrative and visual elements of the educational video.

Total video time with current edits is 07:34 (about 7 minutes)

Time Stamp	Comments	Text Overlay	Voice Number	Voice Recording Content	Still Image (to be added)
Title Slide 1					
Walk to Sprayer (exiting outside) - Video 43 https://youtu.be/OC_xzCAmCM4 Timestamp [0:03 - 0:08; -5 sec]	Light Background music	Show the title "Prepping for Protection: A Guide to Safe Pesticide Application in Agriculture" (larger text) "Doffing Personal Protective Equipment for Pesticide Application" (small text)	8	"This video shows the proper steps for removing personal protective equipment, or PPE, after handling pesticides to reduce contamination."	NA
Video Scene 1 - Boot Washing					
Boot washing (outside) - Video 44 https://youtu.be/trt4_72s0B8 Timestamp [0:01 - 0:42; -41 sec]	Light Background music, Point out the washing mat with text, but this text does not need to stay on the screen.	"Washing Mat" with an arrow pointing to the mat during the washing. This does not need to be on the screen the entire time.	9	"It is important to remove PPE when pesticide handling is completed. The first step is to wash chemical resistant boots to reduce indoor contamination."	NA
Video Scene 2 - Scenario 1: Doffing PPE in the Shed or Barn					
Doffing in shed - Video 45 https://youtu.be/XQ1P8o0Qy7Y Timestamp [0:03 - 1:20; 77 sec]	Light Background music - but voiceover louder.	As each PPE item is washed or taken off, a visible text will pop up to show the item that is being doffed:	10	"Remove chemical resistant boots." [PAUSE]	NA

Still photos and 360 videos



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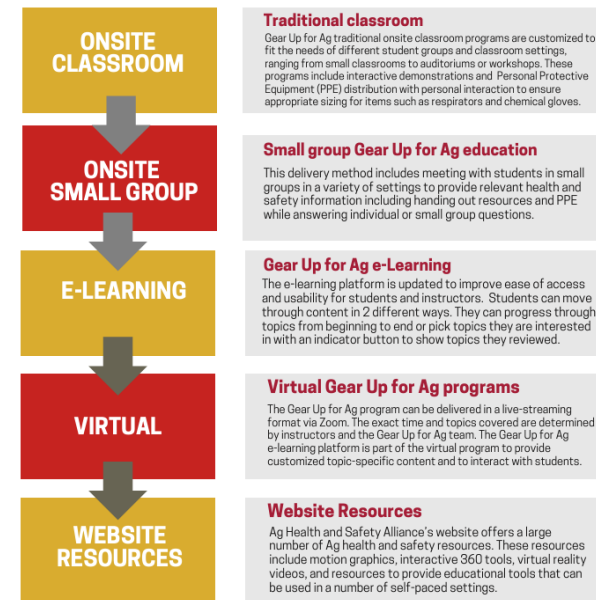
Ag Health & Safety Alliance

Outdoors doffing means young adults are in lower resource situations → needed a strategy



Next Steps

- **Utilize videos at Mississippi State University (Spring 2025):** Young adults primarily use gloves and long-sleeved shirts, and less likely to report goggles and respirators.
- **Utilize videos in Respirator Fit Test Workshops** in the Mississippi Delta region (part of grant) and future workshops in other regions.
- **Include videos in AHSA eLearning platform, alongside other resources:** Many of our other pesticide-related resources were developed in conjunction with NIOSH Ag Centers (GPCAH)
- **Include videos as website resources**
- **This project opened the door for more funding:** Continuing work with Mississippi State University and SCCAHS (Florida) to develop a 360 series on eye safety to discuss the varieties of eye protection and to show scenarios for each use.



Acknowledgements & Contact Information

Contact Information

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Funding for this project was provided by PERC/EPA agreement X8-84019401



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