



FLAT FARMERS

PPE SELECTION TOOL

USER GUIDE

***Flat Farmers* PPE selection tool**

Personal Protective Equipment (PPE) is our last line of defense to minimize exposures to agricultural hazards that can't be avoided. Because farm workers frequently work alone, it is important that they are trained to recognize the hazards related to farm tasks and know the which PPE is needed to minimize their exposures. The *Flat Farmers* are a hands-on educational tool designed to teach PPE selection.

We created this tool because, even after training, many ag workers do not select the optimal PPE for the tasks they are doing on the farm. We hope this activity will reinforce best practices for PPE selection.

If you would like a comprehensive overview of PPE options, we also have free, online training that you can complete at your convenience. Click here [PPE for Ag Health](#) or enter the following link into your web browser: <https://www.training-source.org/training/courses/PPE%20for%20Agricultural%20Health/detail>. The hosting system requires you to create an account, and then register for the course.

How to use this tool:

The *Flat Farmers* were designed to be used in the classroom or at meetings/events. Everything you need to get started is included in this document and the companion graphics file.

Supplies needed:

- *Flat Farmers*: 2 male- and 2 female-presenting people of varying races (printed)
- Appropriately sized clothing/gear and PPE for each *Flat Farmer* (printed)
- List of chores/farmwork: a starter list is included, but you can add custom tasks to represent agricultural work in your region
- A way to assign chores to participants
- PPE recommendations for each chore (see key at end of this document)
- Incentive (optional): For outreach, a prize or a stamp to complete a passport often helps to increase participation

Preparing the *Flat Farmers*:

The graphics file for this set of *Flat Farmers* is designed to be printed on 8.5x11" paper or cardstock. After printing, cut out the people and each piece of clothing or PPE. If you are planning to reuse the activity many times, you will want to laminate both the clothes and the *Flat Farmers* before cutting them out. Allow yourself plenty of time for cutting out laminated pieces (your hands will thank you for taking breaks). We also added magnets to the *Flat Farmers* and small bits of metal to the back of the clothes and PPE, so that the items would stay where participants put them (some items are very small and easily displaced).

Pro tip: if you are going to laminate, use a craft knife to cut out the areas of PPE that should be transparent (like in the chemical-resistant hood, face shield, and full-face respirator) before putting the sheet through the laminator. Then, when you put the laminated items on the *Flat Farmers*, their faces will show through.

Activity process:

1. Assign farm work to participant
2. Participant selects appropriate clothing and PPE to complete the task safely
3. Review choices with teacher/outreach staff. Discuss alternatives (if applicable)

Step 1: Assign farm work for this activity

Choose a way that you will assign the farm work for each participant. Options include:

- Prize wheel – write a chore on each segment of a prize wheel, and have participants spin the wheel to see what chore they will be doing.
- Roll dice – depending on how many options you want to have, could use a 6-sided (normal) die, or gaming dice with 8-, 10-, 12-, or 20-sided options. Each number corresponds to a specific chore.
- Draw from a hat – write chores on slips of paper or disks of wood. This is particularly good if you want everyone to have a different task.
- Pick a card – create cards with chores (especially if you want to give any specific conditions or details) – these could be laminated if you wanted to reuse them.
- Plinko – could assign each slot on a Plinko board to match a chore or assign each slot to a category and have an assortment of cards with specific chores for that category (i.e. category = animal handling, specific chores could include: feeding, moving livestock, or giving shots).

Chores – here is a list of chores to get you started:

- Feeding livestock on cold winter day
- Moving cattle on a hot sunny day
- Mixing chemicals (you may wish to specify a chemical commonly used in your region)
- Operating an ATV
- Using a chainsaw
- Working at heights
- Mowing
- Cleaning out an empty grain bin
- Entering a partially filled grain bin from above (top door)
- Pressure washing in a hog barn

Feel free to add chores that are relevant to agriculture in your region. For each chore, assess the PPE needed for that chore. What are the reasonable hazards associated with the chore? Consider the environment where the chore is usually done and potential interactions with other people, animals, equipment, and substances that could cause injuries or illness. Choose the PPE that would best reduce each risk. It may help to think through each of the body parts listed below.

For chemical mixing, check the label for first aid and precautionary statements for that chemical. Choose PPE that will best address each of the “hazards to humans and domestic animals”. Remember, the “Personal Protective Equipment” section is the **minimum** PPE required by OSHA and the Worker Protection Standard.

Step 2: PPE Selection

Participants are asked to choose the **best** PPE to do the assigned chore safely and place it correctly on a *Flat Farmer*. Some items appear layered, but others will need to be layered by the participant. A variety of PPE and clothing options are included in each category, and you can add your own to represent PPE needs for agricultural work in your region. PPE for this version of the *Flat Farmers* includes:

- Head: Stocking cap, baseball cap, cowboy hat, bucket hat, sun safe hat, ATV helmet, hardhat, chainsaw helmet, chemical-resistant hood
- Eyes: Safety glasses, sunglasses, unvented goggles
- Ears: Earmuffs (HPD)

- Face/Nose & mouth: Face shield, N95 (FFR), half- face elastomeric respirator, full face respirator
- Torso: t-shirt, long sleeve shirt, winter coat, leather riding jacket, chemical apron
- Hands: leather work gloves, chemical-resistant/waterproof gloves, insulated work gloves, riding gloves
- Legs: denim jeans, chainsaw chaps
- Feet: rubber boots (chemical-resistant/waterproof), leather work boots, tennis shoes
- Other: bottle of water, sunscreen, winter scarf, 4-gas monitor, fall arrest system

Note: PPE only works if it fits well. Just as people come in different sizes and shapes, so do the *Flat Farmers*. In the graphics file, you will notice that there are several similar options included for some of the headwear and respirators, to accommodate differences in the size and/or shape of the *Flat Farmers'* heads and faces. The appropriately sized items have been color coded to match the tank tops worn by each *Flat Farmer*.

Our PPE recommendations for each chore on the starter list can be found at the end of this document.

Step 3: Review choices

It is important to review the choices participants have made. If they have selected something that is less than optimal, ask why they made that choice and/or suggest a more appropriate item. Explain why you are suggesting the change. Be prepared to have your ideas challenged!

****BONUS –** during our pilot testing, rich conversations happened during this review.

- Any time someone chose sunscreen as part of the PPE needed (or we suggested they add it), we asked how often the farmer should reapply sunscreen. We discovered a lot of confusion about what SPF meant and if/how it was related to reapplication time among both high school students and adult chaperones (e.g., *SPF 30 means you need to reapply every 30 minutes* was a common misconception).
- When someone was assigned a task that involved entering a grain bin, we discussed the need for lock-out/tag-out. If they prepared for entering a full bin from the top, we also discussed how the lifeline needed to be attached to the bin, and that they needed a buddy watching them 100% of the time (not playing on phone or doing anything else).
- When someone dressed the farmer to mix chemicals, we discussed where to find the PPE required for mixing and applying the chemicals (on the label), the fact that the required PPE might be different for mixing and applying the same chemical, and that they could choose to wear more protective PPE (gloves, apron, more protective respirator) than was strictly required if it made them more comfortable to do so.

Acknowledgment:



The original art for the *Flat Farmers* people and most of their clothing are the creative property of Raquel Herrera and have been used here with her permission. There are 4 additional men and women (and many more clothing options) available for purchase at: www.teacherspayteachers.com/Store/Teachersscrapbook.

		Feeding livestock/extreme cold	Moving cattle/hot sun	Operating ATV	Using chainsaw *	Working at heights	Mowing	Sweeping empty grain bin	Entering grain bin from above	Pressure washing in hog barn	Mixing chemicals **
Head	Stocking cap	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
	Baseball cap	✗	✗	✗	✗	✗	✗	✓	✓	✗	✗
	Cowboy hat	✗	✓	✗	✗	✗	✓	✗	✗	✗	✗
	Bucket hat	✗	✓	✗	✗	✗	✓	✗	✗	✗	✗
	Sunsafe hat	✗	✓	✗	✗	✗	✓	✗	✗	✗	✗
	ATV helmet	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗
	Hardhat	✗	✗	✗	✓	✓	✗	✗	✗	✗	✗
	Chemical-resistant hood	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓
	Chainsaw helmet	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗
Eyes	Safety glasses	✗	✗	✓	✓	✓	✓	✓	✗	✓	✗
	Sun glasses	✗	✓	✓	✗	✗	✓	✗	✗	✗	✗
	Unvented goggles	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓
Ears	Earmuffs (hearing protection)	✗	✗	✓	✓	✗	✓	✗	✗	✓	✗
Face/Nose & Mouth	Face shield	✗	✗	✗	✓	✗	✗	✗	✗	✓	✓
	N95 (FFR)	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓
	Half-face elastomeric respirator	✗	✗	✗	✗	✗	✗	✓	✗	✗	✓
	Full-face respirator	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓
Arms/Torso/Legs	T-shirt	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗
	Long sleeve shirt	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Winter coat	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
	Leather riding jacket	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗
	Chemical apron	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓
	Chemical coveralls †	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓
	Long pants	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Chainsaw chaps	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗
✓ Recommended PPE for this task ✓ May be appropriate for some situations – have a conversation about this ✗ Not recommended/not needed											

		Feeding livestock/extreme cold	Moving cattle/hot sun	Operating ATV	Using chainsaw *	Working at heights	Mowing	Sweeping empty grain bin	Entering grain bin from above	Pressure washing in hog barn	Mixing chemicals **
Hands	Leather work gloves	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗
	Insulated work gloves	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗
	Riding gloves	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗
	Chemical-resistant/ waterproof gloves	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓
Feet	Rubber boots	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓
	Leather work boots	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗
	Closed-toe shoes	✗	✗	✓	✗	✗	✓	✗	✗	✓	✗
Other	Bottle of water	✓	✓	✓	✓	✗	✓	✓	✗	✗	✗
	Sunscreen (SPF 30)	✓	✓	✓	✓	✓	✓	✗	✗	✗	✗
	Winter scarf	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
	4-gas monitor	✗	✗	✗	✗	✗	✗	✓	✓	✓	✗
	Fall arrest system	✗	✗	✗	✓	✓	✗	✗	✓	✗	✗
<p> ✓ Recommended PPE for this task ✓ May be appropriate for some situations – have a conversation about this ✗ Not recommended/not needed </p> <hr/> <p> * Safety glasses + yellow checked items may be used in place of chainsaw helmet ** Green checked items are always recommended when working with chemicals. Please check the product label for additional PPE needs. </p> <p> Pesticides are classified for either general or restricted use. Anyone can use a pesticide labeled general, but those labeled restricted must be handled by a certified person. If you are under 16, you cannot handle any pesticides, pesticide containers, or decontaminating equipment. (See https://www.osha.gov/etools/youth-agriculture/chemicals-pesticides) </p> <p> † Chemical coveralls are not included in the graphics for Flat Farmers v1, but are included in the PPE chart because they are an important part of the discussion about mixing and applying chemicals safely. Chemical coveralls will be added in a later version. </p>											

Head	Stocking cap										
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		<p>✓ Recommended PPE for this task</p> <p>✓ May be appropriate for some situations – have a conversation about this</p> <p>✗ Not recommended/not needed</p>									

Hands	Leather work gloves										
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	Winter scarf										
	4-gas monitor										
	Fall arrest system										
Additions											
		<ul style="list-style-type: none"> ✓ Recommended PPE for this task ✓ May be appropriate for some situations – have a conversation about this ✗ Not recommended/not needed 									