Episode Title: Pesticide Handling Safety for Licensed and Unlicensed Applicators

Summary: Kaci Buhl is on the FarmSafe Podcast to talk about an amazing resource — PERC. PERC is the Pesticide Educational Resources Collaborative, and they have the know how about pesticide use. PERC's resources are even available for co-branding with your own region-specific information and your organization's logo.

Expert: Kaci Buhl

Episode Quote:

*"Licensed applicators know that the **'label is the law,'** and they're held to a higher standard because they've already received that training. But it also applies to the rest of us."*

– Kaci Buhl PERC, Professor, Oregon State University in the College of Ag Sciences

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Transcript

00:10 A Proctor

Welcome to the FarmSafe Podcast brought to you by the Great Plains Center for Agricultural Health. In the blink of an eye, an injury can change your life and your farm forever. During each episode, we share first-hand stories and real-life tips for making safer and healthier decisions while on the farm.

"We are so happy to bring in a national expert on pesticide safety for this episode of FarmSafe. She works for an organization dedicated to educating farmers, pesticide applicators, and the general public about pesticide safety. Kaci, can you introduce yourself to our listeners."

K Buhl

Certainly. I'm Kaci Buhl and I work at Oregon State University as a professor of practice in the College of Ag Sciences. I work on pesticides, and I do a lot of education for licensed applicators through the pesticide Safety Education Program but also farm workers in the unlicensed community.

A Proctor

Perfect. Would you mind just explaining what pesticides are and how they are classified?

K Buhl

A pesticide is anything that can control, mitigate or repel a pest. And a pest could be any organism out of place. So, it could be a weed and we use weed killers as pesticides to control them. It could be an insect. We use insecticides to control them. We also have piscicides for fish, we have disinfectants for viruses, all kinds of different products can be classified as pesticides and even insect repellents and the surface sanitizing wipes that we got so familiar with during the COVID era, those are pesticides too.

But I want to mention another way that pesticides are classified. They're either classified as general use and you can get them over the counter or restricted use, and you need a license to buy those restricted use pesticides and apply them. And that's why we have licensed pesticide applicators.

A Proctor

Thank you for sharing that. And that's really interesting because I guess when I think of pesticides, I think of weed killers and insect repellents. I never even thought about viruses or disinfectants like you mentioned.

K Buhl

We also have fungicides, rodenticides that we used to control rodents, and just a wide variety of products that protect public health, and the food supply.

A Proctor

Oh, absolutely. You mentioned a little bit about restricted and general use. Can you explain more about that?

K Buhl

A product might be classified as restricted use pesticide if it is highly toxic to humans, fish or birds. Or maybe it's an extreme risk for groundwater contamination. It will say so on the product label right at the top of the front panel: restricted-use pesticide. And then it says why, due to acute toxicity or due to high inhalation toxicity, which is the case for fumigants. It doesn't work in such a fashion that, like all the products with the same active ingredient, are restricted. It depends on the concentration. It depends on the other ingredients in the product. So, you really have to go product by product, label by label looking to see which one is restricted use. And if it is restricted use, it means it can only be purchased or used by a licensed applicator.

A Proctor

OK. So, it sounds like always follow the label and differences in toxicity may differ by product.

K Buhl

That's right.

A Proctor

Okay, that makes sense. What is PERC?

K Buhl

PERC is the Pesticide Educational Resources Collaborative. It's a cooperative agreement between the US EPA and UC Davis in cooperation with Oregon State University. That's a long-winded way of saying it's a collaborative where we make educational resources related to pesticides. And our goal is to make those resources available for states, nonprofits, educators around the country who want to take that material and modify it, make it appropriate for their audience, make it appropriate for their students. Sometimes the first draft is the hardest thing, so we put together first drafts and make it available for free to states and universities who want to mess with that material, and we try to spread that out and make resources available that benefit every state, tribe and territory.

A Proctor

Sounds like a fantastic resource.

K Buhl

I hope so.

A Proctor

You mentioned that PERC produces materials. What are the materials?

K Buhl

In the past, we have created a lot of materials around the worker protection standard or WPS. We helped work with the EPA to kind of pioneer that process and had some of the first materials out that were EPA approved and available for widespread use and some of the training materials were for farm workers, agricultural workers who don't work with pesticides directly, but they do come in contact with treated surfaces. Some of those educational materials are for pesticide handlers who don't work so intensely that they need a license, but they do handle pesticides or opened containers, or they have to enter treated spaces early, or they dispose of pesticides. So, we create educational materials for them and also for the licensed applicator community.

A Proctor

So, it's almost like a template that you're providing. You mentioned it briefly, but what is the worker protection standard?

K Buhl

The Worker Protection Standard is a rule in agriculture that sort of mirrors the right-to-know laws that we have in other industries. For example, when I started my first job as a secretary, they sat me down and said it might be exposed to certain chemicals in the workplace like glass cleaner and printer toner. Well, that's under OSHA rules that have a right-to-know about the chemicals in your workplace. When that rule was passed, agriculture was exempted. So, the worker protection standard has some of those same rules that now are bringing workers in agriculture up to the same level of protection and right to know what they're exposed to as workers in other industries. The Worker Protection Standard means that workers who come in contact with pesticide residue have access to information about the pesticides they're being exposed to. They have access to training every year. Personal protective equipment. Decontamination supplies-- so that would mean like hand washing supplies within 1/4 mile of where they're working-- and emergency assistance in the case of an overexposure, which does happen just by accident sometimes out there.

The regulation applies whenever you use an agricultural pesticide that has an “ag use requirements” box on the label, and that box is always in a text box and it always says “agricultural use requirements” right at the top. So, if you're using one of those products in an agricultural setting, the whole worker protection standard applies. And it kind of brings all those requirements onto the label. The Department of Agriculture is the state lead agency in most states that enforces that concept we hear so often: “The label is the law.”

A Proctor

I've also heard that.

K Buhl

And it's true. And you know it's also true for those residential products that we're used to seeing under the kitchen sink. But we don't have the training to know that licensed applicators know that the label is the law, and they're held to a higher standard because they've already received that training. But it also applies to the rest of us. I used to work at the Oregon Department of Agriculture in Regulation, responding to complaints about pesticides. And sometimes we would find an untrained person who used a product in a way that was wildly inconsistent with the label, and they received a fine too.

A Proctor

What kinds of trainings are available for workers who have to handle pesticides as part of as part of their jobs?

K Buhl

For unlicensed pesticide handlers, they would be looking for Worker Protection Standard training for handlers, and there's a wide variety of training materials out there. Typically, those trainings for annual training take less than an hour to complete. There are videos available on YouTube and on the PERC website. And there are videos for different settings as well. For example, greenhouse settings, mushroom houses, and then just general agriculture as well, in English and in Spanish.

For the agricultural workers, you can use a flip chart, which is really handy out in the field because you can do that without Internet access without any electronics, rather just using kind of a big flip chart to show one page after another. And you can do that kind of training right on the tailgate of your truck. And the flip chart is available in like 9 different languages.

A Proctor

Oh, fantastic. So, it's easily understood by many different people.

K Buhl

Right. And that training for WPS actually required by law, it has to be presented in a language that will be understood by the workers. So that's why we try hard to make things available in multiple different languages, but we also keep listening for those holes, those gaps if there are workers out there not being served, we want to create materials to help serve them.

A Proctor

Is cross contamination a very relevant issue in terms of pesticide exposure?

K Buhl

Cross contamination of the pesticide contaminated clothing in the laundry that has been documented, so we do know that those residues can transfer from one piece of clothing to another. We also know that the residues can transfer to the drum of the washer or the dryer itself. One of the recommendations is to run an empty load with hot water and soap alone after you run a load of pesticide contaminated clothing. But I'd also remind you that if it's so contaminated that it's soaked with the product: don't try to wash that clothing. Check the pesticide label, but the label very often says to discard the clothing rather than trying to clean it. So much of that residue may end up in your washing machine that it's not worth it, and you might not be able to completely wash it clean. Now that all being said, have we documented health impacts from the transfer of residuels in laundry. Not to my knowledge. We're talking about very low levels, but you know lower exposures, lower risk. We all have different levels of risk tolerance, so keep in mind where the residues are in your workspace. Wash your hands after exposure to those residues. The more you can keep up with that regular hygiene, the better. According to the Ag Health Study, individuals who have good hygiene around what hand washing and glove wearing have less Parkinson's disease in the future. So that's just one potential impact that may be linked to lower pesticide exposure overtime.

A Proctor

Some people may be more sensitive to pesticides. Who is included in the sensitive or vulnerable population?

K Buhl

There's just individual differences between us, but in particular, young people are more sensitive to the effects of pesticides because they're smaller. The same dose delivered to an adult and a child would affect the child much, much more. We also have a sensitive population in our older aging Americans. As people get older, their skin gets thinner and their ability to metabolize toxins or break them down in the body begins to weaken. Also, as we age, we tend to have other things going on. We might have diabetes or high blood pressure and other reasons to be taking medications, and our kidney and liver are responsible for breaking down those medications and the same organs that are responsible for protecting us from toxins. It can just be taxing on our organs over time to have all those things going on at once, and I'll also point out those with immunocompromised medical conditions where maybe they're just not as capable of responding to those toxic stimuli as the rest of the population.

A Proctor

Thank you for explaining that.

And then the final question I have for you is what safety recommendations do you have for pesticide applicators?

K Buhl

It's so cliche to just to keep saying “follow the label”, but it's so important. We put all the individual regulations that are specific to each pesticide on its label. There's nowhere else to find that information. You can find information on the label about how to handle the empty container, whether or not it can be recycled, what to do with leftover rinsate, whether or not it's OK to bury a spilled amount of the product-- All of that information is on the product label. I would remind pesticide applicators to read the label thoroughly and follow those directions. If it doesn't make sense and that happens all the time, I read pesticide labels that don't make sense. Call your local state lead pesticide agency. If the label doesn't make sense, ask the question, what does this label statement mean? I want to be doing this correctly and it's their job to interpret the regulations.

So do follow the pesticide label. But I would also add, keep in mind where all the pesticide residues and dribbles end up. You're exposed to pesticides very often when handling equipment or empty containers, or treated foliage, sometimes your own boots, and your own jeans. So, be aware of those items coming into the home and what residues they might be bringing with you. I would encourage you to leave your work boots outside to avoid bringing residues into the home and wash your work clothing separately from the family clothing.

A Proctor

Thank you. Is there anything else you would like to add?

K Buhl

I think pesticide applicators do an amazing job of protecting public health and the food supply and are really trying to get it right and do the right thing. I'd just to say thank you for doing all that hard work for being stewards of the land that you are. For looking at all of your options before deciding what to do, for monitoring the effects of your applications and making adjustments when adjustments need to be made. I will also just implore you to grow your communication skills with neighbors and colleagues. The more we can tell the story of the stewardship we do, the better things go in the future. Sunlight is the best disinfectant.

Thank you so much Kaci for talking about pesticide basics for our listeners. We are going to share resources from PERC, including a link to help our listeners find worker protection standard materials in languages relevant to their workers. We will also share a link to the study that investigated Parkinson's disease and hand hygiene if you want more information.

In our next episode, we are going to continue our conversation about pesticides with Kaci and answer some questions about glyphosate, a common pesticide that affects farmers and the general public. We will update our listeners about the current state of the science on its hazards and handling precautions that we recommend be adopted in light of conflicting health risk interpretations.

A Proctor

Listen in on the FarmSafe podcast to join in on the conversation about keeping safe on the farm.

We want to hear from you. Share your stories about health and safety issues on the farm, about injuries that made you change the way you work, or about the ways you keep yourself and others safe on your farm. Also let us know if there's questions you have or topics that you want to hear about on the air. You can visit our website, gpcah.org, or email us.

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Episode Resources

- Effect of Hand Hygiene Practices and Parkinson's Risk, Furlong, et al.
- Multilingual Training Flipcharts for download, Pesticide Educational Resources Collaborative
- PERC Website

Photo