

Episode Title: Lighting and Marking in Agricultural Vehicles

Summary: “One of the big challenges with farm equipment on the roadway is that they’re large vehicles and they tend to move slowly and that actually makes it more difficult for drivers of other vehicles to see and judge their speed.” In this episode, we are going to be talking about lighting and marking to increase visibility of farm vehicles and equipment on roadways. Reflective tape and slow-moving vehicle emblems draw other driver’s attention to the agricultural vehicle which may give them more time to adjust their speed and decrease the likelihood of a crash. We heard from Dr. Corinne Peek-Asa and the outreach coordinator for the Great Plains, Marsha Cheyney, MPH. GPCAH resources are available on this website.

Expert: Corinne Peek-Asa and Marsha Cheyney

Episode Quote:

“They see your combine on the road. It's a big thing you can't miss it. But they see other big things on the road to semis emergency vehicles utility vehicles. And all of those big vehicles are moving at the same speed that they are. So, what the SMV does is it tells them, ‘Hey, this one's going slow.’ I need to brake sooner. I need to pay attention to this.

This is a warning sign that. Oh, I'm coming up fast on something that's moving really slow.”

– Marsha Cheyney, MPH, Outreach Coordinator, Great Plains Center for Agricultural Health

Transcript

00:04 K. Crawford

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.

In this episode, we are going to be talking about lighting and marking on farm vehicles and equipment on roadways. Lighting and marking helps to increase visibility of farm vehicles and equipment on roadways. Many drivers of passenger vehicles that encounter farm vehicles on the road may not correctly gauge the difference in the speed the farm vehicles are moving at. Most crashes involving passenger vehicles and farm equipment are the fault of the passenger vehicle driver and the occupants of the passenger vehicles are more than five times as likely to be injured than the farm equipment operator.

00:55 Speaker 1

Three years ago, we knew a local farmer that went out to plant in the dark. He didn’t have an SMV emblem or reflective tape and forgot to turn on his flashers. A car re-ended him, and unfortunately the female passenger in the car died.

01:11 K. Crawford

Reflective tape and slow-moving vehicle emblems, or SMVs, draw other driver’s attention to the agricultural vehicle which may give them more time to adjust their speed. Laws on lighting and marking can vary between states but the American Society of Agricultural and Biological Engineers, or ASABE, has standards for lighting and marking on farm vehicles which are considered best practice. These standards include information on the type, color, and location for reflective tape and SMV emblems. The strips and emblems are made of retro-reflective tape, which reflects light directly back at the source and increases visibility. To work best, they need to be in the right locations, be clean, and not be broken.

02:14 Speaker 2

One night, I drove up over a hill after dark. I was using my dim headlights, and all of a sudden I saw a big black blob in front of me, blocking all the stars. I then realized that it was a combine. They had placed the SMV emblem so high, that my dim lights did not even catch it. I didn’t rear end it, but I came close. I wonder if my lights were not aimed right, or if the SMV was in the wrong place.

K. Crawford

In 2016, researchers from the Great Plains Center studied crash data in Midwest and Great Plains states. Dr. Peek-Asa talks about their findings in this clip.

02:53 C. Peek-Asa

We worked with nine states, and we collected data about farm crashes on roadways. And we also collected information about the state policies that required things like lighting and marking on the farm equipment, and we were interested in finding out the relationship between the policies and the farm crashes. And what we found is that states that had more comprehensive policies that required more lighting and markings had much lower rates of farm vehicle crashes.

One of the big challenges with farm equipment on the roadway is that they're large vehicles and they tend to move slowly and that actually makes it more difficult for drivers of other vehicles to see and judge their speed. So, increasing their visibility with lighting and good marking, especially at times when it's dusk or a little bit dark outside can really help vehicles interact more safely with the farm equipment. So, policies, opportunities to increase lighting and marking will help decrease crashes.

03:51 K. Crawford

I am joined today by Marsha Cheyney, who is the outreach coordinator at the Great Plains Center. As part of the center's outreach efforts, Marsha has traveled to farm shows and county fairs to hand out lighting and marking kits to farmers, and to talk to folks in the community, both farmers and passenger-vehicles operators, about what these markers mean and how to safely share the road. Thanks for being here today, Marsha.

Can you tell us about some of the conversations you have with folks on this topic?

03:28 M. Cheyney

You know, sometimes, when we go to the shows, we have the reflective tape, or they have some of the emblems that we can give out. And, you know, on a number of occasions somebody said, "Oh, I don't need any of that stuff, you know my vehicles, or my tractors are all marked."

And you talk to them a little bit longer about it, and then they're like "Well, you know, the tractors are marked but the trailers aren't marked and that's what the car coming up behind me is going to see first," and so then they'll be more willing to look into adding that sort of marking to their trailers. "I'm going to get all my equipment taped up," you know?

Other times, I might hear about "I don't really need to worry about that you know we don't drive on the highway much, or we only drive, you know, just a mile or two on the roads. So, it's not that big of a deal." But then over time, you know they've had experiences where even that one mile between field, somebody almost hit them or you know they ended up in the ditch to avoid it, a crash with a roadway vehicle. So those are some of the things that I hear.

05:26 M. Cheyney

The only real push back I get is about the SMV, and I hear people say that they just don't think it's a very big deal. They know it's required by law, and so they have one. And they'll ask me you know, "If they can't see my big combine going down the road, how has that little triangle going to do any good?"

And so, you know we talked about that some and I say, "You know, they see you. They see your combine on the road. It's a big thing you can't miss it." But they see other big things on the road to semis emergency vehicles utility vehicles. And all of those big vehicles are moving at the same speed that they are. So, what the SMV does is it tells them, "Hey, this one's going slow." I need to brake sooner. I need to pay attention to this.

This is a warning sign that. Oh, I'm coming up fast on something that's moving really slow.

06:19 K. Crawford

So maybe this is a good time to explain more about the emblems and tape do and what they mean. Can you talk about that?

06:25 M. Cheyney

Sure. The SMV emblem means that they're going slow, but you know slow is relative. And in this case slow is actually somewhere between 25 and 35 miles per hour maximum speed, depending on the state. The triangle in the middle is orange for fluorescent, and that's to make sure that that triangle's really visible during the day and then the red around the outside of it is the retro reflective tape that reflects back at the light source. And that's really important for nighttime driving.

Then there's the markings that are on the— in the rear but on the outside of the vehicle. And that's a red and orange tape together. Sometimes they're side by side in one long line and sometimes they're stacked kind of like an equal sign. Those tapes mark the outermost edge of the vehicle. It's important to know that if you're going to pass a piece of farm equipment on the road, you want to know how far over you actually have to get because a lot of them are wider than, than a normal vehicle. And then the last one we discuss is the yellow reflective tape that goes on the sides. And the reflective tape is really cool because it's made in a way that no matter what angle lights are coming from. It reflects directly back at that light source. And so that's how when you're coming up on the side of the road and it's just kind of a little bit of your headlights that are that are catching that yellow tape on the sides of the grain carts. You know, that's how it bounces back when you see it, you're not seeing it straight on, but it still works that way. And I think that that's mostly to alert drivers that that pulled implement like the grain cart, it's there, especially if it's dark or in questionable lighting, you know, dim lighting.

08:07 M. Cheyney

If there's no lights on the, on the trailer or the cart, then that tape is the only thing that kind of makes you know there's something sitting down the side of the road, so that yellow tape, lets you know that there's something there.

We gave out kits that included an SMV emblem, and all of the reflective tape you would need to mark a single vehicle or pulled implement. And I think those kits cost about \$25 each. You know it's not a big expense, it's not an expense that you have to go through every year, so, the lighting and marking is a really inexpensive way to make yourself a lot safer if you have to drive on the roads.

08:48 K. Crawford

Do you have any recommendations for people who are using these materials?

08:52 M. Cheyney

Sure, so just kind of like as a pre driving check you know go around, make sure all of your lights. They're on you know they turn on if they're supposed to turn on, they flash if they're supposed to flash and they don't flash if they're not supposed to, you know, and that your SMV is clean, and you can just wipe it off with a wet rag. Same with your reflective tape it just needs to be cleaned. or you know really dusty, or mud splattered reflective tape doesn't reflect.

I was in the army that was part of our pre drive check every time we got into a vehicle. We walked around the vehicle to make sure that all of the safety features for that are operational. You want your safety features to work. Otherwise, why have them?

09:30 K. Crawford

Could you talk a little about the types of resources you share at these events?

09:35 M. Cheyney

We have an interactive teaching tool it's a to be pushed around and magnetic board shows a trailer, the grain part, actually, and then we have magnetic pieces of the different types of lights and markings that can go on it and the idea is that, then you probably pin the tail on the donkey only you place the lighting and working on the, on the grain cart.

And mostly it's youth. The farm youth who will do this. And a lot of them are getting to the age where they're going to start driving tractors. They might be old enough that they already drive, you know, a motor vehicle. I think it's really important that these young people start thinking about this.

We've also got some videos short little videos that outline where the lighting and marketing needs to be, and some safe driving tips when you are going to go out on the road.

And then we have handouts that show that have the image of how to mark your vehicles, so that you have a reference if when you go home.

10:25 K. Crawford

That's great. I'll make sure we link to those resources on the episode page. As we wrap up, are there any other thoughts you have on this topic you'd like to share?

10:35 M. Cheyney

For me, it is always surprising to hear how often these crashes happen, or how many people have had a really close call. Because when you read about it in the newspaper, they always talk about it was a freak accident or, or something that makes it sound like it doesn't happen very often, and it's just amazing how often it does happen.

And then if you think about it, if that's if there's 1100 crashes each year how many close calls were there are how many you know people like I said, moved over to the shoulder to avoid an accident, ended up in the ditch, but they could drive right back out with their tractor or whatever so it didn't get reported. There's so many, so many situations that would never show up in a report.

We all need to learn to be a little more patient when we're driving somewhere. I've read some interesting comparisons that they're like you, following a farm vehicle for a couple miles on the road is no different than sitting at two red lights if you were driving in town, the amount of time that you actually lose for it tends to be pretty short. And these farmers aren't out for a joy ride in their tractor or their combine they're going as quickly and directly as they can from one field to the next or from field to farm.

11:42 K. Crawford

I think that's a great point. We should all be more patient, right? Thanks for talking with us today, Marsha. This has been really interesting and it's cool to hear about the stuff that you do and it's neat to hear about the kind of interactions and conversations you have with farmers at these shows on these topics I think that's really helpful.

12:00 M. Cheyney

Thanks for inviting me. It's always fun to share those experiences.

12:02 K. Crawford

To learn more about this topic, check out the links we have provided in the episode resources section of our website. Check out the videos, handouts, and interactive teaching tool Marsha mentioned.

12:13 M. Cheyney

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

K. Crawford

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 are any topics that you want to hear about on the air. You can visit our website at gpcah.org or email us.

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Episode Resources

- <https://gpcah.public-health.uiowa.edu/outreach-2/topics/rural-roadway-safety/>

Photo

