

2021

PRESS RELEASE

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FOR IMMEDIATE RELEASE

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LIGHTNING SAFETY PRINCIPLES

Protect yourself from this hazard

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The cowboys on horseback, metal pen fences and metal buildings typically found at a feedyard can all be effective conduits for lightning if it strikes.

Identifying lightning safety principles is one of the aims of Central States Center for Agricultural Safety and Health (CS-CASH). This University of Nebraska Medical Center group (<https://www.unmc.edu/publichealth/feedyard/>) is conducting two research projects (funded by National Institutes of Occupational Safety and Health) that are designed to make a positive impact on the sustainability of cattle feedyards through increased safety and health efforts.

Mike Keenan, Gallagher Risk Control Manager and Safety and Risk Control Consultant in Omaha, says lightning doesn't necessarily have to strike a person or an object to present a serious hazard to nearby people or animals.

“If you’re standing near an object when lightning strikes, you’re at risk for a number of injuries such as burns to the skin or flash burns to the eyes,” Keenan says. “Lightning strikes in a feedyard are fairly rare, but when they happen, injuries to the person involved are pretty bad.”

According to the National Weather Service, lightning is a “giant spark of electricity in the atmosphere or between the atmosphere and the ground.”

When a person is struck directly by lightning, that person becomes a channel for the lightning’s electrical discharge. Direct strikes aren’t common, but they are the most deadly. In most direct strikes, a portion of the electric current in the lightning moves along the skin surface and a portion moves through the body – usually the cardiovascular and/or nervous systems.

Lightning produces heat, which results in burns. However, the current contained in the lightning is the biggest concern. A person may survive a lightning strike if they receive immediate medical attention. However, a strike like this may be fatal.

When lightning strikes a taller object near a person, a portion of the current may jump from that taller object to the victim. In short, the person acts as a “short circuit” for part of the energy in the lightning discharge. When a victim is within a foot or two of the object struck by lightning, side flashes generally occur.

Lightning may also travel outward from a strike and run along the ground. This is referred to as ground current. Anyone outside near a lightning strike is potentially a victim of ground current. Since the ground current affects a much larger area around the strike, ground current is the cause of most lightning deaths and injuries. Ground current also kills many farm animals.

Metal surfaces and wires don’t attract lightning, but if it strikes nearby, these types of surfaces conduct the energy found in lightning. Whether inside or outside, anyone in contact with anything connected to metal wires, plumbing or metal surfaces that extend outside is at risk. This includes

anything that plugs into an electrical outlet, water faucets and showers, corded phones, windows and doors.

“Another area found near many feedyards is cropland,” Keenan says. “If there’s a center pivot on the land, the pivot is a very good lightning conductor. I’ve seen some people who sustained injuries while they were servicing a pivot system.”

Generally, the ground around a pivot system is wet, which makes it even easier for ground current to spread around the center of the lightning strike.

Keenan advises feedyard owners and managers to take steps to train employees about how to monitor weather conditions and what steps to take if they have concerns about imminent lightning strikes. Because lightning can strike within 10 miles of any storm, its recommended for anyone working outside to carefully monitor approaching storms and recognize when its time to seek shelter.

“Most phones have lightning alert features,” Keenan says. “That technology can pinpoint the exact location of lightning and any strikes.”

When a storm approaches, there is no “safe” place to be outside. Anyone who is far from a safe vehicle or building should avoid open fields, the top of a hill or ridge. Stay away from tall objects, such as trees. Stay away from water, wet items and metal objects such as fences and poles.

Lying flat on the ground was once considered a good course of action around lightning. However, that has proven to be unsafe since ground current can be fatal up to 100 feet away from the point of a lightning strike.

“My military experience taught me to seek shelter if a storm was within three miles of where we were working outside,” Mike says. “However, if a storm is moving quickly, waiting that long doesn’t give you much time to reach a shelter.”

Keenan recommends that feedyard managers establish a highly effective communications system so all employees can be made aware of any approaching storm threat.

“Make sure managers aren’t afraid to make the call to pull people in if a storm threatens,” Keenan

says. “If someone is working inside a building, make sure they receive information about what’s taking place outside so they can stay safe, too.”

Although lightning can strike at any time of the year, it’s most likely to occur during the summer months. Setting up a thorough storm safety plan before severe weather occurs can definitely save lives.

“Most importantly, make sure all employees have the necessary equipment to stay in touch with managers so they can be alerted to any approaching danger,” Keenan says. “Inform employees about how to reduce the likelihood of being struck by lightning or injured by a lightning strike. It may be a rare occurrence, but it can happen very quickly. Don’t become complacent about lightning safety practices.”

Funding for this educational article comes from the Central States Center for Agricultural Safety and Health and the University of Nebraska Medical Center.