

2024

PRESS RELEASE

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FOR IMMEDIATE RELEASE

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COLD STRESS

Don't ignore the warning signs.

Photo by Canva

Cold temperatures, high winds, and wet conditions are commonplace on the farm in winter. While working outside is often inescapable, understanding how these conditions affect our bodies and our health are key to working safely.

Begin by dressing appropriately for weather conditions. According to the Occupational Safety and Health Administration (OSHA), dressing properly is essential to preventing cold stress.

These guidelines can help ensure clothing helps protect from cold temperatures:

- Wear at least three layers of loose-fitting clothing as layering provides better insulation. Tight clothing reduces blood circulation, which is necessary for extremities.
- An inner layer of wool, silk, or synthetic (polypropylene) helps keep moisture away from the body. Thermal wear, wool, silk, or polypropylene, inner layers of clothing hold more body heat than cotton.
- A middle layer of wool or synthetic provides insulation even when wet.
- An outer wind and rain protection layer allows some ventilation to prevent overheating.
- A knit mask can be used to cover the face and mouth when necessary.
- A hat that covers the ears will help keep the whole body warmer as they reduce the amount of heat that escapes from the head.
- When necessary, insulated gloves (water resistant if necessary) protect hands.
- Insulated and waterproof boots protect the feet.

Among the consequences of cold stress in winter temperatures are hypothermia, chilblains, frostbite, trench foot, and immersion hypothermia.

Hypothermia occurs when prolonged exposure to cold causes the body to lose heat faster than it can be replaced. Low body temperatures will affect a person's ability to think clearly or move well. Early symptoms of hypothermia include shivering, fatigue, loss of coordination, confusion, and disorientation. As the condition progresses, shivering will stop, skin will become blue, pupils will dilate, pulse and breathing will slow and the person will lose consciousness.

Chilblains are caused by damage to skin blood vessels from repeated exposure to cold temperatures. The damage can be permanent, evidenced by redness and itching of the skin when exposure to cold temperature recurs. Redness and itching can occur on cheeks, ears, fingers, and toes accompanied by possible blistering and inflammation.

Frostbite occurs when skin and tissues freeze while exposed to cold temperatures and low-wind chill factors. Permanent frostbite damage to body tissues and severe frostbite cases can lead to amputation. Frostbite symptoms include reduced blood flow to hands and feet as fingers or toes can freeze. Numbness, tingling, or stinging are accompanied by aching and bluish or pale, waxy skin.

Trench foot is caused by damage of tissues in the feet due to cold and wetness. These conditions can lead to damaged skin on the feet, loss of circulation to the feet, and toxin buildup. Trench foot symptoms include reddening of the skin, numbness, tingling, or swelling. These are accompanied by leg cramps, blisters or bleeding under the skin, and gangrene.

Immersion hypothermia is the result of prolonged exposure to chilling from rain, sweat, or cold water. These conditions cause the body to lose heat faster than it can be replaced. This condition may occur at cooler temperatures (above 40 degrees Fahrenheit). Low body temperatures affect a person's ability to think clearly or move well. Early symptoms of immersion hypothermia include shivering, fatigue, loss of coordination and confusion and disorientation. As symptoms progress, the person will stop shivering, their skin will become blue, pupils will dilate, and pulse and breathing will slow. Eventually, they lose consciousness.

Anyone who works outdoors in frigid temperatures should have the ability to recognize conditions that can lead to these types of cold stress. Understanding cold stress symptoms, how to prevent cold stress, and what to do to help when someone is affected by cold stress should be part of training and/or education programs. Outdoor workers should have good understanding of proper clothing necessary for working in cold, wet, and windy conditions.

Anyone who shows signs of cold stress should receive prompt medical attention.

Cold-weather survival equipment should include:

- Emergency communications (satellite phone, cell phone, and personal locator beacon)
- Medical and environmental thermometer, hot packs, first-aid kit
- Areas to warm up and a place to change wet clothing.
- Appropriate cold-weather gear such as hats, gloves, and boots for work in cold environments
- Warm water

Agricultural worker employers should

- Create a plan for acting on sudden weather changes, such as dropping temperatures or increasing wind speed
- Schedules normal maintenance and repairs during warmer months when possible
- Schedule frequent short breaks in warm, dry areas
- Minimize work requiring manual dexterity in cold rooms
- Provide glove alternatives for workers inside cold rooms (glove liners or fingerless gloves to wear under plastic gloves)
- Monitor workers' physical and cold conditions

Part of preparing for cold stress conditions includes knowing winter weather terms.

Blizzard warning: Issued for sustained or gusty winds of 35 mph or more, and falling or blowing snow creating visibilities at or below ¼ mile, these conditions should persist for at least 3 hours.

Wind Chill Advisory: Issued when wind chill temperatures are expected to be a significant inconvenience to life with prolonged exposure, and, if caution is not exercised, could lead to hazardous exposure.

Winter Storm Warning: Issued when wind chill temperatures are expected to be hazardous to life within several minutes of exposure.

Winter Storm Watch: Alerts the public to the possibility of a blizzard, heavy snow, heavy freezing rain, or heavy sleet. Winter Storm watches are usually issued 12 to 48 hours before the beginning of a winter storm.

Winter Weather Advisories: Issued for accumulations of snow, freezing rain, freezing drizzle, and sleet which will cause significant inconveniences and, if caution is not exercised, could lead to life threatening situations.

Learn more about cold stress at

<https://www.unmc.edu/publichealth/cscash/resources/index.html>

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