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Cultivating Accessible Agriculture

Staying Healthy in the Elements

People who work in agriculture are faced with many challenges, including working in extreme weather conditions. Farmwork cannot stop during extreme weather, hot or cold. Here are some tips to help farmers and ranchers stay in healthy condition while working outdoors.

Cold Weather Tips

- Wear several layers of loose, warm, and lightweight clothing. Air trapped between layers acts as an insulator, and layers can be removed to avoid perspiration and subsequent chill.
- Wear warm gloves and carry several pairs with you at all times in the event that one pair gets wet. Wet, cold hands cause a chill to set in quicker.
- Appropriate footwear should be worn for the work and weather conditions. Footwear should not fit too tightly; if worn too tight, blood flow could be reduced from the feet and increase risk of cold injury.
- Forty percent of a person's body heat can be lost when the head is exposed so always wear a hat that provides protection for head, ears, and even face in extreme conditions.
- Synthetic wool or silk clothing should be worn next to the skin to wick away moisture. Cotton clothing can lose insulating integrity when it becomes damp or wet.
- A heated vest and hand warmers can be worn to maintain core and extremity temperature while increasing muscle flexibility and range of motion. Heat sources for vests include gel packs and heating systems using batteries or rechargeable warming systems. Hand warmers provide heat by producing an exothermic reaction and are available in a variety of sizes; heat sources for hand warmers are one-time-use air-activated or a reusable supersaturated solution.
- Take frequent, short breaks in sheltered areas away from the elements. Avoiding exhaustion and fatigue is important to reserve energy to keep muscles warm.

Hot Weather Tips

- Dress lightly. Lightweight, long-sleeved, light-colored clothing reflects heat and sunlight and helps the body maintain normal temperatures. Clothing is available that features an Ultraviolet Protection Factor (UPF) that blocks ultraviolet A (UVA) and ultraviolet B (UVB) light.
- Schedule strenuous work early in the day, when possible. The hottest hours of the day are between 3 p.m. and 6 p.m.[i]
- Use a cooling vest. Vest systems employ ice or gel packs as the cooling agent and include many different types of vest materials. Circulator, evaporative, and phase change are the three main types of systems; the user should choose a vest that is suitable for the situation.
- Take short, frequent breaks in a shaded or cool area to allow the body time to reduce its temperature.

- Wear sunscreen of at least 15 SPF. Sunburn makes reducing body temperature more difficult. If working outdoors with a sunburn, wear clothing that protects skin — tightly-woven fabrics work best.

Hydration

- Consuming enough water is just as important in the winter months as in the summer months. Water helps maintain body temperature, so not drinking enough fluids in the winter can cause core temperature to drop or make it difficult to cool off in the heat.
- It is recommended to consume at least 1 cup (8 ounces) of water every 15 to 20 minutes during moderate activity in moderate conditions. Remember to drink water before becoming thirsty to maintain good hydration.
- If dehydrated, consuming large amounts of water in one sitting may have risks. Sodium in the body may become diluted, causing cells to swell.[ii] This swelling could cause health problems from mild to life-threatening.
- An average daily water intake of 3.7 liters (about 125 ounces) for men and 2.7 liters (about 90 ounces) for women is recommended.[iii] This may vary depending on activity, health, climate, and pregnancy status.

Contact

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i Mary Knapp, Kansas State University Department of Agronomy, Service Climatologist, Weather Data Library.

ii Hyponatremia.

iii The National Academies of Sciences Engineering Medicine: Dietary Reference Intakes: Water, Potassium, Sodium, Chloride, and Sulfate. (Feb. 11, 2014).

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