

Landscaper and Horticulture Safety – Heat Stress & Heat Strain

Summer weather can place landscape and agricultural employees in dangerously hot environments. Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress. Exposure to extreme heat can result in occupational illnesses and injuries. Combining physically demanding work and long days with hot temperatures puts workers at risk for several types of heat stress. Watch for the signs and make sure your workers are protected against extreme heat.

The terms **heat stress** and **heat strain** represent the relationship and difference between external factors and the body's core temperature control mechanisms.

Heat Stress – The net heat load to which a worker is exposed. Physical exertion, environmental factors and clothing worn all contribute to heat stress.

Heat Strain – The body's physiological response to heat stress (e.g., sweating).

The body's natural way to keep the core body temperature from rising to unhealthy levels is through an increase in heart rate and sweating. When these are not enough to keep the core body temperature from rising, the result is heat-related illness or death. Elevated core body temperatures may cause the following illnesses:

- Heat Stroke
- Heat Exhaustion
- Heat Syncope
- Heat Cramps
- Heat Rash

The Hidden Danger of Heat Stress

Heat stress does not solely impact the ill employee – it puts other people and property at risk of injury and damage. Consider the following symptoms:

- Sweaty hands
- Blurred vision
- Headaches
- Dizziness
- Nausea
- Loss of dexterity
- Decreased reaction time
- Lapses in judgment
- Irritability

Now imagine a heat stressed employee suffering from one or more of these conditions but still trying to operate a vehicle, piece of equipment or hand tool. The hazard of heat stress goes beyond one employee and poses a threat to fellow employees and the public.

The OSHA Standard

The federal Occupational Safety & Health Administration (OSHA) does not have a specific regulation covering heat stress hazards. However, the "General Duty Clause," Section 5(a)(1) of the Occupational Safety and Health Act of 1970 (the Act), requires each employer to **"furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm."** OSHA has used

the General Duty Clause to cite employers that have allowed employees to be exposed to excessively hot work environments.

Note: Several states do have specific occupational regulations pertaining to heat stress that employers must follow. Check with the appropriate state department of labor or occupational health for details. Employers should also consider consulting trade associations as well as a lawyer familiar with OSHA and state safety standards for additional information.

Education and Training

- Be on high alert for heat stress during hot, humid days
- The possible need to alter the work day to avoid the hottest portion of the daytime
- Wear hats and light clothing
- Take regular, shaded rest breaks
- Have adequate access to portable water
- Recognize the signs of heat stress, such as no sweating (heatstroke), excessive sweating (heat exhaustion) and/or muscle spasms (heat cramps)

To help employers provide heat stress training, The National Institute for Occupational Safety and Health (NIOSH) provides numerous educational materials on heat stress for free at their website, www.cdc.gov/niosh.

The State of California's Division of Occupational Safety and Health (DOSH) has free pamphlets, presentations and safety guides dealing with heat illnesses. While these documents do reference CA specific law, they provide important general information and universal strategies for combating heat stress. These can be located at the DOSH website, www.dir.ca.gov/dosh/. Check your state's Occupational Safety and Health Department website for comparable information.

Planning

While education is the first step, having an actual written plan in place is equally important. Instead of having to improvise a heat stress strategy each day, an employer must have a plan days in advance to determine things such as: how much water to bring on-site, how often to take breaks and what hours of the day to avoid working. An employer can also document what emergency steps to take should an employee suffer a heat-related illness and make sure the necessary first aid is available.

Remember: Heat stress is a serious risk to landscape and horticultural workers. Proper education and planning are the keys to keeping employees healthy and safe.



RISK SERVICES DEPARTMENT

Risk.Services@AmericanNational.com
518.431.5098

www.AmericanNational.com

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