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Extreme Heat Awareness

An extreme heat event/incident is often defined as 3 or more days with abnormally high heat exceeding 90 degrees. As a producer, your “office” is located outdoors without air conditioning and sometimes without much shade or cover from the sun.

There are several simple but effective strategies you can take to mitigate the effects of extreme heat and keep your staff and livestock safe, including:

- Actively encouraging workers to stay hydrated throughout the day with water or sports drinks containing electrolytes;
- Shortening working shifts or starting work earlier in the day or later in the evening when the weather is cooler;
- Providing frequent break times under shaded areas; and
- Educating staff/workers on heat illness symptoms.

More information about excessive heat, including additional classification terminology like advisories, watches, and warnings can be found at weather.gov.

Additional information regarding employee workplace conditions during extreme heat can be found on the NYS Department of Labor [Website](#) and NYS Department of Health [Website](#).

Heat Illness Signs and Symptoms

Ensuring your staff understand the cause, treatment, and prevention of heat-related illnesses like heat cramps, heat rash, heat exhaustion, and heat stroke is critical to keeping them safe and reducing the risk of illness. According to the [Occupational Safety and Health Administration \(OSHA\)](#), the common signs and symptoms of heat-related illness are listed below:

Heat Stroke

Symptoms and Signs: confusion, slurred speech, unconsciousness, seizures, heavy sweating, high body temperature, rapid heart rate

Heat Exhaustion

Symptoms and Signs: fatigue, irritability, thirst, nausea or vomiting, dizziness or lightheadedness, heavy sweating, elevated body temperature or fast heart rate

Heat Cramps

Symptoms and Signs: muscle spasms or pain in legs, arms, or trunk

Heat Rash

Symptoms and Signs: clusters of red bumps on skin that often appear on neck, upper chest and skin folds

If any of these symptoms present themselves, try to act quickly by providing first aid. ([OSHA First Aid](#)).

Please refer to the New York State [Department of Labor](#) and [Department of Health](#) for inquiries including worker safety. Below are additional Heat Related Resource Links:

[Heat Illness Prevention Plan Guidance](#)

[Heat Safety Index Tool](#)

[Employer's Responsibility During Heat](#)

[DEC OCC](#)

Heat Preparedness Steps for Livestock

Extreme heat events can cause significant stress on livestock. It is important to monitor the weather forecast or subscribe to weather alerts so your agriculture location can be prepared for heat events.

Access to water, ventilation, and shade are critical to keeping livestock healthy during an extreme heat event. Consider developing a short plan that helps identify these key resources to address possible scenarios, like your location's water source drying up or experiencing a power outage that limits proper ventilation to large livestock. Coming up with pre-determined plans will help you act timely and keep your livestock safe in the event of an emergency.

Your local fire department may also be able to assist in an emergency by pumping water from one location to another.

Agriculture locations are home to many different types and sizes of livestock. Livestock that display signs of heat stress are generally the same, and include:

- Panting;
- Increased respiration rate;
- Increased water intake;
- Loss of appetite; and
- Increased salivation.

If the livestock at your location are displaying any of these heat stress signs, the following actions can help cool them down:

- Activating your extreme heat plan to identify water, ventilation, and shade;
- Increasing air movement around livestock with fans or moving them to shaded breezy areas;
- Decreasing numbers inside barns to reduce temperature and increase ventilation;
- Always keeping water sources stocked and using sprinklers or misting fans in areas with large concentrations of livestock; and
- Identifying over-stressed animals and treating them individually by spraying cool water on the legs and feet. Poultry should not be wet down.

Heat Preparedness Steps for Greenhouses or Controlled Environment

Extreme heat event can take a significant toll on crops and employees in greenhouses or high-tunnel production environments. Producers who have greenhouse or high-tunnel production facilities should have adequate irrigation systems to meet the increased water needs of crops during extreme heat events. Shading can help to reduce temperatures and protect crops grown in these facilities, so producers should have shade cloth or shade compound available. They should also plan for adequate mechanical or natural ventilation in these types of facilities during unexpected heat events.

Drought, Heat Stress, and Crop Production in New York State

With the frequency of extreme weather events in the Northeast rising, it is important for farmers and their advisors to adapt to less consistent weather windows for key seasonal crop management steps, as well as excessively wet and excessively dry field conditions. Public and private partnerships, like those accomplished year in and out by farmers, Soil and Water Conservation Districts, and other partners through the Agricultural Environmental Management (AEM) framework, will continue to help implement these changes in farm management, equipment, and infrastructure. Learn more here: <https://agriculture.ny.gov/soil-and-water/agricultural-environmental-management>.

Best management and soil health practices are critical to producing high yielding, high quality crops that are challenged by both extreme precipitation and drought/heat stress. Seeking feasible solutions to maintain soil coverage, living roots, crop diversity, and limited soil disturbance help crops tolerate extremes while continuing to produce consistent yields. More farms, including specialty crop, forage, and grain crop farms, should begin the process of evaluating the need for efficient, environmentally sound irrigation systems. This would include considering irrigation infrastructure and management, as well as access to additional water sources for occasional, but necessary, crop irrigation. Additionally, Farmstead and cropland practices that capture storm and process waters are increasingly useful for cropland irrigation and fertilization. Lastly, controlled environment agriculture, equipped with efficient lighting, temperature, humidity, and irrigation systems, offers greater opportunities to adapt to weather extremes, particularly for high value crops.

For more information, please contact your County Soil and Water Conservation District and your regional Cornell Cooperative Extension crop specific specialist.