



CDQAP Resource Advisory: Heat Stress

August 14th, 2020

High temperatures approaching 108°F - 111°F are [forecast for Central Valley](#) this coming week, with near-record temperatures for some locations. Producers are understandably concerned about the effects of high environmental temperatures on both their livestock and their employees.

Heat Stress in Dairy Cows – Cows are more sensitive to heat stress than humans, with production losses (at low humidity) starting in the low 80 degrees. *Water intake may double during times of heat stress* and water should always be available free choice. Water consumption can also be encouraged by water troughs which are shaded and easily available after exiting the parlor, when cows consume half their daily intake.

Detect heat stress by counting respiration rates:

- Normal respiration rate for lactating dairy cattle is less than 40 breaths per minute.
- Severe heat stress is evident if five cows out of 10 have respiratory rates exceeding 100 breaths per minute.

Minimize impacts of heat stress:

- Be sure water is available free choice.
- Provide shade over clean water troughs at exit from the milking parlor (cows consume half their daily water intake here).
- Provide adequate shade which reduces heat load of cattle by 30 to 50% (this is the most cost-effective heat-stress mitigation available).
- Check nozzles on sprinklers/soakers or misters/foggers to be sure they are functioning correctly (water applications to livestock leverage heat stress reduction which is provided by shades).
- Sort cattle during cool morning hours.
- Schedule vaccinations after the heat event and in the morning.
- Emergency action may include installation of temporary shade structures and/or soaking lines.

Detailed information on management of both routine and emergency heat stress in dairy cattle can be found by linking to CDQAP's [heat stress page](#) or by visiting CDQAP home page at www.cdqap.org and searching under animal care topics.

Heat Stress in Dairy Employees – Heat stress can affect not only cattle but employees as well. Similar to cows, the same conditions do not impact all individuals the same way. Age, physical condition, use of medications, ambient temperature, wind, exertion, alcohol use, acclimatization, and water consumption all contribute to individual influences of heat stress.

Did you know a 150-pound man working moderately in warm weather would lose about 3/4 quart of water -- or 1 percent of his body weight -- per hour?

- All employees should be encouraged to drink water frequently, about one cup every 15 to 20 minutes.
- Work with farm managers to schedule hot jobs for the cooler part of the day.
- Acclimatize new employees to high-heat conditions.
- Provide shade and scheduled breaks.
- Monitor employees for signs of heat exhaustion or heat stroke. Such symptoms can start with fatigue, headache, dizziness and nausea and progress to confusion, slurred speech and fainting.
- Provide medical aid promptly for any employee that does exhibit signs of heat stress or heat stroke. For serious cases of heat stroke the most effective emergency first aid treatment (while awaiting medical services) is continuously soaking the patient's body with running water, such as from a hose.

California employers are required to provide employee training on heat illness, access to both water and shade for periodic breaks and a written heat illness prevention plan. [Cal-OSHA's heat illness prevention webpage](#) also provides considerable information including video links, pocket guides in English and Spanish and a calendar of training courses. Additional guidance is available from the University of California's [Heat Illness Prevention webpage](#).