

HEAT STRESS

*Luke Cella
Pottawatomie Golf Course*

It's the middle of May as I am writing this, and there were flurries this morning. It seems like the Bears should be playing this weekend instead of the Cubs. One day soon the earth will rotate on its axis, and our Northern Hemisphere will be again closer to

the sun. Seeds will germinate, trees will leaf out, and we may be faced battling the warm side of Mother Nature. Though the warmth is something we hope to see, it will be here soon enough and so will the underestimated danger of heat stress.

I have searched the Internet for information on this topic and have found some very pertinent information. As a manager of a staff that is exposed to some

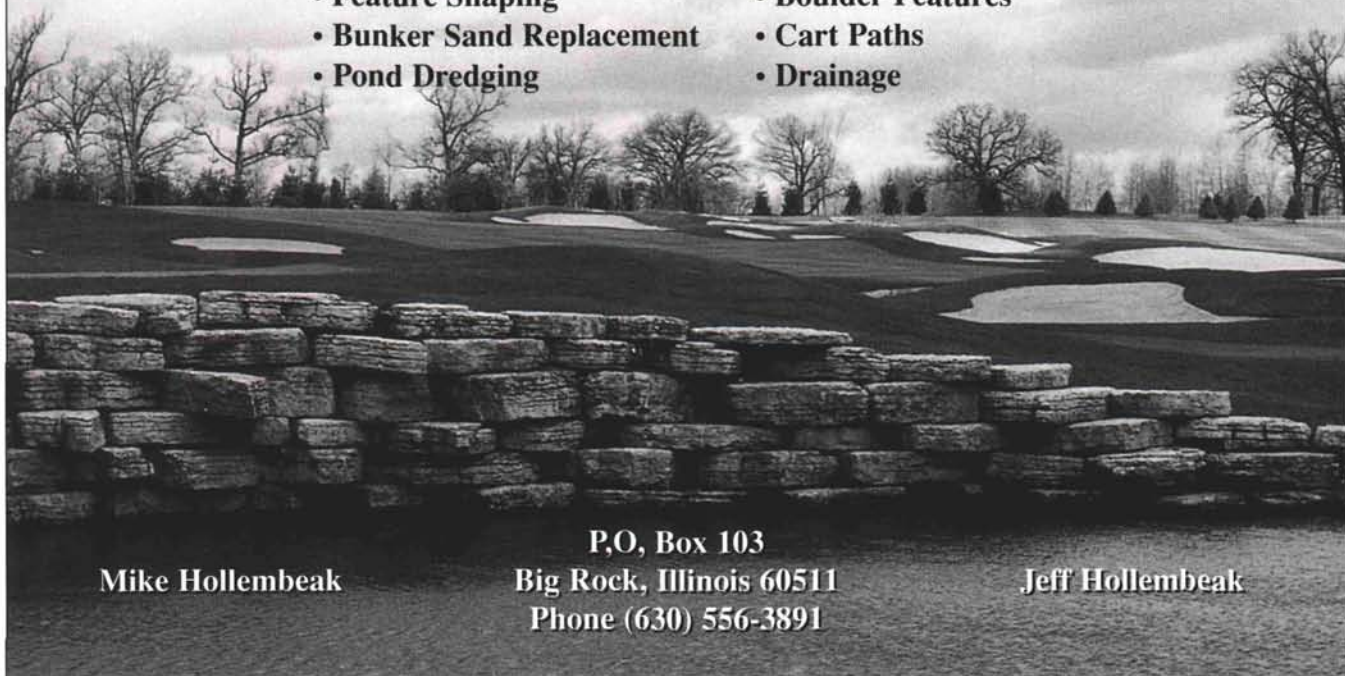
extreme weather conditions, I took an interest in what OSHA had to say about heat stress. There is no specific OSHA regulation relating to heat stress, but OSHA is able to issue a citation under The General Duty clause. The Occupational Health and Safety Act of 1970, Section 5(a)(1) states, "Each employer shall furnish to each of its 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 to his employees." This can place the event of heat stress on a higher level of importance than what we as managers have previously believed. No one of us would ever want to deal with OSHA on the topic of an employee's physical harm or death.

(continued on page 16)

Hollembek Construction, Inc. Golf Course Construction and Remodeling

"We believe in a quality job and take pride in our finished product."

- New Construction
- Feature Shaping
- Bunker Sand Replacement
- Pond Dredging
- Pond Construction
- Boulder Features
- Cart Paths
- Drainage



Mike Hollebek

P.O. Box 103
Big Rock, Illinois 60511
Phone (630) 556-3891

Jeff Hollebek

Heat Stress

(continued from page 14)

There are precautions and guidelines we can follow to avoid the dilemma of heat stress and our employees:

- Engineering controls, such as air conditioning and ventilation (Most of us do not have this luxury, but it can be an option for employees who are very susceptible to heat stress through a modified duty program during times of high risk exposure.);
- Administrative controls, such as work rotation, providing plenty of cool drinking fluids, scheduling strenuous labor during cooler parts of the day;
- Personal protective equipment, such as cooling vests and headbands or reflective clothing.

Most of us are aware of the National Weather Service's heat index now in place to alert the public when the combination of heat and humidity make weather hazardous. Though this system was

designed for the general public, it can be a useful tool in evaluating the exposure of our employees.

IDENTIFYING HEAT STRESS

Identifying problems is a process we do everyday as turf-grass managers. Here are keys to identifying heat stress before it poses a serious threat:

- Heat rash, commonly known as prickly heat, occurs when people are continually exposed to hot and humid air, causing a rash that can reduce the body's ability to sweat and, in turn, reduce the body's tolerance to heat.

First Aid: Cleanse the affected area thoroughly and dry completely. Apply calamine or other soothing lotion to relieve discomfort.

- Heat cramps may occur after long exposure to heat. They are painful, intermittent spasms of the abdomen and other voluntary muscles and usually occur after heavy sweating towards the end of the workday.

First Aid: Rest and drink plenty of water or an electrolyte drink.

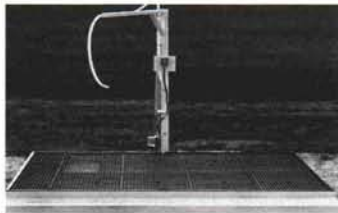
- Heat exhaustion may result from physical exertion in hot environments. Symptoms may include profuse sweating, weakness, pallor, rapid pulse, dizziness, nausea, headache, vomiting, and unconsciousness. The skin is cool and clammy with sweat, and the body temperature may be normal or subnormal.

First Aid: Rest in the shade or a cool place and drink plenty of water or an electrolyte drink.

- Heat stroke is a serious medical condition that requires medical attention. Sweating is diminished or absent, making the skin hot and dry. Body temperature is very high (106°F or higher) and if left uncontrolled may lead to delirium, convulsions, coma, brain damage and even death.

First Aid: Douse the body continually with a cool liquid and summon medical aid immediately.

(continued on page 22)



Our units are delivered ready for use after simple connection of utilities.



Computerized pump system keeps fluids within 1/4 inch depth, stainless steel removable screens filter large debris.

EAGLE CONTAINER CORPORATION
4214 Rome West Rd.
Chillicothe, IL 61523
Tel. (309) 274-5273
Fax (309) 274-4765



Environmentally correct process to reclaim tainted rinse water. Can be located anywhere

"Rinse, Reclaim, Recycle" An innovative pollution solution

Approved by the
State of Illinois Dept. of Agriculture



"U.S. Patent Pending"

Continuous welded, solid steel construction will not crack like concrete. Each unit is coated with a chemical and UV-resistant paint. With 16 standard sizes available ranging from 8' wide x 8' long to 12' wide x 20' long. We can meet your needs.

Call for your
state compliance sizing for your equipment

RINSATE PAD

Heat Stress

(continued from page 16)

Keep in mind that, temperature, humidity, air movement, radiant temperature of surroundings, amount and type of clothing, and physical activity, are all factors that can lead to heat stress.

PREVENTING HEAT STRESS

There are several ways in which heat-related illnesses can be prevented. Acclimatization, conditioning, hydration, air movement, and proper clothing can aid in the prevention of heat stress. Acclimatization is the adjustment to working in the heat and is essential if work is to be done in hot environments. In heat-related environments, acclimatized people will have lower heart rates, lower body temperatures, and higher sweat rates that consist of a more dilute sweat (with less salt) than persons who are not acclimatized.

New employees and employees who have been away from work for a few days should be given adequate time to acclimate to the heat. In *Fundamentals of Industrial Hygiene*, published by the National Safety Council, "both work and heat stress are required to initiate the body changes that result in acclimation. Working in the heat for about two hours per day for one to two weeks will result in complete acclimatization to a work/stress combination. Working more than two hours per day in the heat will not speed acclimatization, nor hinder it."

Employees in good physical condition have a lower heart rate and body temperature and a more efficient sweating mechanism. Obese and unfit employees are not able to tolerate the heat as well as lean people. Extremely obese individuals are six times

more likely to suffer heat stroke than thin people.

Evaporation of sweat from skin surfaces helps provide cooling. Fans may cool a person in many situations, but fans do not cool a person when the air temperature is above 90°F and the humidity is greater than 35 percent. In fact, fans have been associated with increased heat stress when the ambient temperature exceeds approximately 100°F. Air movement when the air temperature is greater than the body temperature may increase the likelihood of heat stress.

Hydration is an essential factor in working safely in elevated temperatures. To fight dehydration, adequate fluids should be consumed before, during and after the workday. Thirst is not

(continued on page 24)

Introducing Country Club²

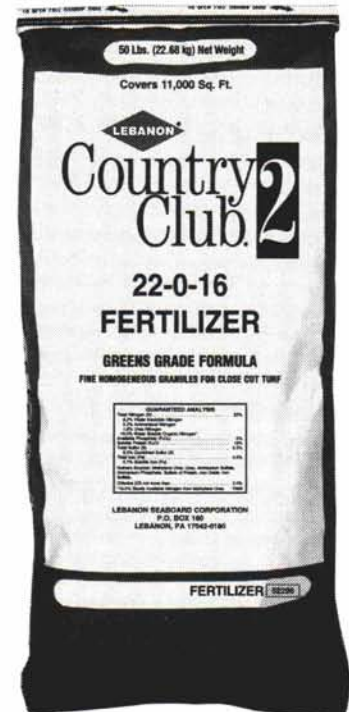
Country Club² contains short-chained water-soluble methylene ureas that deliver nitrogen consistently — even in sandy, low temperature or low moisture areas — providing up to 95% of its nitrogen source in 12 to 16 weeks. That's because Country Club² doesn't rely on microbial action alone. It also releases nitrogen through controlled solubility in the presence of water. So it works efficiently in any soil type — providing noticeable green-up within days and sustained feeding for weeks. For more information on Country Club², contact your authorized Lebanon Turf Products distributor or call 1-800-233-0628.

LEBANON
Country Club²

BoJo Turf Supply
(800) 732-9401

Available in greens
or fairway grades.

Turf Products, Ltd.
(630) 668-5537



Heat Stress

(continued from page 22)

always an early enough warning of dehydration, and employees should not be afraid to drink too much water because any excess will be eliminated in the urine. Workers should be encouraged to drink at set intervals instead of at the sign of thirst. All drinks should be non-alcoholic and non-caffeinated because both alcohol and caffeine increase urine output, which leads to dehydration.

Proper clothing is the last element in fighting heat stress. The body's ability to cool itself through sweat evaporation can be diminished greatly by improper clothing. Light colored clothing should be worn because it reflects the sun's radiant heat, whereas dark colors absorb it. Keeping clothing as simple as possible without interfering with job safety, will help keep the body cool. Also, changing from wet to dry clothing as needed helps to reduce heat stress exposure.

When weather conditions warrant, increased attention must be paid to the prevention of heat illnesses, and steps should be taken to lower the effects of heat and humidity. Learning to identify and properly train your staff on heat stresses can possibly mean the difference between life and death. ■

Golf Course Chemical Storage Buildings

Carlisle Building Systems, Inc.

Prefabricated Relocatable Steel Buildings

Featuring:

- Secondary spill containment which exceeds OSHA Codes. UL, FM approved.
- Heavy-duty locking mechanism for added security
- Forklift pockets for ease of relocation
- Constructed of 10 gauge steel to provide structural strength
- Optional ventilation, lighting, temperature control, Fire Suppression Systems
- No Building Permits required

Other Products

- Secondary Containment Pallets and Sumps
- Rinsate Collection Pads

Contact: **Larry Sievertsen** - (847)426-0164 FAX (847)426-0070

Fluid State Systems, Inc.

35W753 Parsons Rd., W. Dundee, IL. 60118

Specializing in Bedding Plants
Large Variety Fall Mums

ANTON'S Greenhouses & Garden Centers

Rick & Bob Anton
ANTON'S OF KENOSHA
914O Cooper Rd. (51st Ave.)
Kenosha, WI 53142
414/694-2666

Gary Anton
ANTON'S OF EVANSTON
1126 Pitner Avenue
Evanston, IL 60202
847/864-1134



**the
bruce
company**
of Wisconsin, Inc.

Construction Services to the Golf Industry

Your source for Golf Course Construction, Reconstruction & Improvement.

You have the Projects, Ideas & Needs. We have the Experience & Equipment to do the job Right the First time.

Many Trucks
Equipped with
High Floatation
Tires to
Minimize
Damage to your
Golf Course



- Water Control Structures
- Pond Cleaning
- New Ponds
- Pond Lining
- Cart Paths

- New Construction
- Remodelling
- Irrigation
- Drainage
- Feature Shaping
- Trap Sand Replacement



Specialized
Equipment
suited to
Cleaning your
existing Golf
Course
Water
Features.

CALL US TODAY!!

Lee Bruce

(608) 836-7041

Dave Weber

Established 1953