

MEDICINE AND MANAGEMENT

By CARL TROOP, VMD



Taming the heat wave

Man and beast alike are presently engaged in a battle with the weather conditions which have produced one of the most extreme heat waves in many years. Since any successful attempt in altering the weather does not look fruitful at the present time, attention has been turned to ways of making the heat a little less unbearable. I will try to make my contribution towards changing the weather by providing a column on heat and its related problems, then we will surely have a cool wave which will last the rest of the Summer.

Heat stroke is a disorder of the heat regulating mechanism which is a result of environmental high temperatures. Sunstroke is an acute form of heat stroke characterized by sudden onset, high temperature, and high mortality. Heat exhaustion is a mild form of heat stroke and is characterized by a gradual onset, depression, normal temperature, and low mortality.

To understand the causes of heat stroke it is necessary to know in a general way, how heat is produced and removed in the animals body. Body temperature is increased by many factors, but most importantly by muscular activity, disease, and adverse environmental conditions. Heat is lost primarily by conduction to the body surface and radiation into the surrounding air, and water vaporization from the body surface. Any increase of the factors that produce body heat, or interference of the factors that remove body heat may result in heatstroke.

In general, predisposing environmental factors of heatstroke are high temperature, (the heat itself) high humidity, (the air around the animal is already saturated with water vapor and evaporation from the body surface is minimal) and inadequate ventilation (once heat is radiated from the body surface it must be moved away or the air around the animal will soon become as warm as the animal itself and no more heat will be lost). Exposure to direct rays of the sun may be a contributing factor but not necessarily so.

All domestic animals are susceptible to heatstroke, and the incidence is greatest during a prolonged heat wave. In acute heatstroke the animal is usually dull and depressed with rapid breathing. Weakness develops very rapidly until the animal collapses after which it is usually unable

to rise. Temperature can range from 105 degrees to 115 degrees. Early treatment may lead to recovery, however circumstances often make effective treatment impossible and the mortality rate is high. Heatstroke complicated with any other problem, (milk fever, pneumonia, etc.) makes the situation even less hopeful.

Hogs are particularly predisposed to heatstroke. Lung capacity is small on a per pound basis, and most of the popular lard type hogs are covered by a thick layer of fat which interferes with heat loss from the body surface. In fact, any animal which is overly fat will have more problems staying cool than a lean one.

In horses the problem is usually caused by overexertion (the production of additional body heat by muscular activity) in a hot humid atmosphere, or from confinement in a hot, poorly ventilated area after a period of work. Inadequate water intake can also be a contributing factor. In most cases sweating ceases and the skin becomes dry. This is an important sign of a developing problem. If the horse is again forced to work after the initial signs develop, intense labored breathing, convulsions, collapse, and coma frequently occur.

Cattle are most susceptible to heatstroke and heat related problems during periods of stress. Calving time and the first couple days after calving are the most

vulnerable. Milk fever provides added problems as there is an inability of the cow to adequately regulate her own body temperature. Cattle with chronic respiratory problems are going to be the first adversely affected by the heat.

Treatment for heatstroke is very simple and fundamental. Prompt reduction of body temperature is essential. The animal should be constantly bathed or sprayed with cool water. Abundant amounts can be used on the floor surrounding the affected animal. In severe cases ice packs can be used on the head in an attempt to prevent lethal damage to the brain. This should be continued until the temperature drops to 103-104 degrees. The

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Holstein Assn. sets field day

AIRVILLE, Pa. - The Ellis Crowl farm, Airville R1, will host the annual York County Holstein Association's picnic and field day.

Activities will begin at 10:30 a.m. on Tuesday, July 26, with a dairy judging contest for both adults and children. Lunch is a chicken barbecue by county agent John Smith. Mr. Gerald Bodman, agriculture engineer from Penn State will head up the afternoon program with a discussion on manure handling systems.

Families are asked to bring lawn chairs for their comfort, and to make luncheon reservations through the county Extension Service.

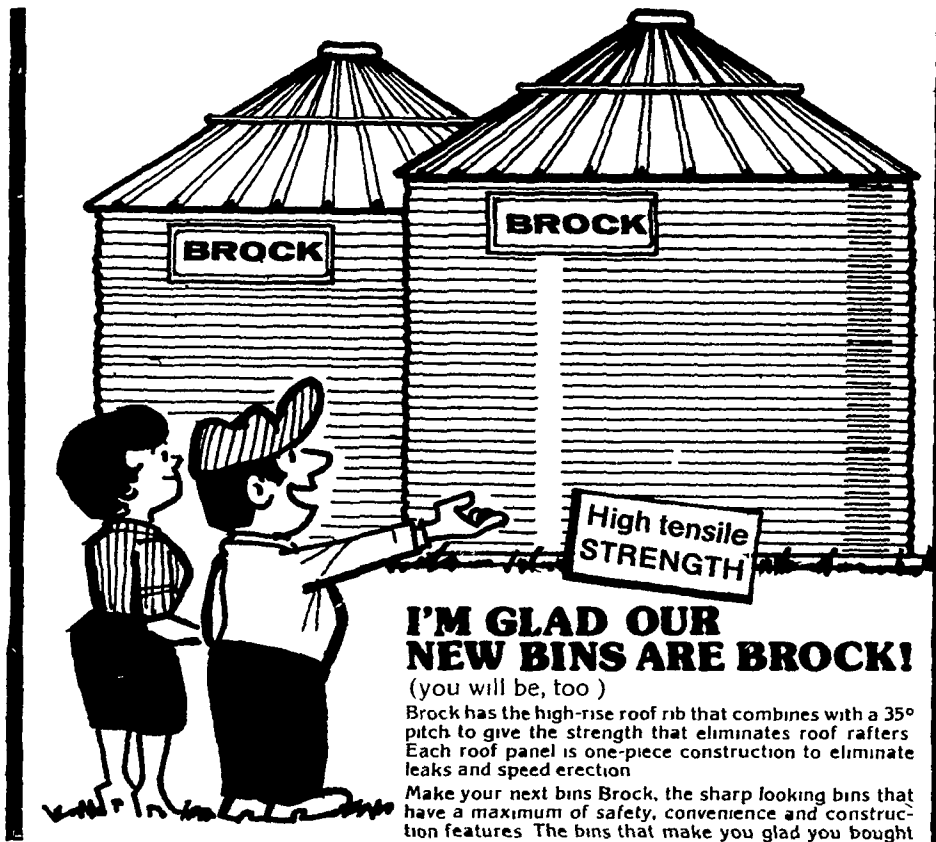
Fertilizer bill passed

HARRISBURG - The Pennsylvania House of Representatives on Tuesday passed House Bill 1197, a new law which treats soil conditioners and plant growth substances the same as fertilizers. All have to be labeled for contents.

The measure was co-sponsored by Lancaster County legislators Ken Brandt and Noah Wenger.

It's expected that the Senate will act on the bill this Fall.

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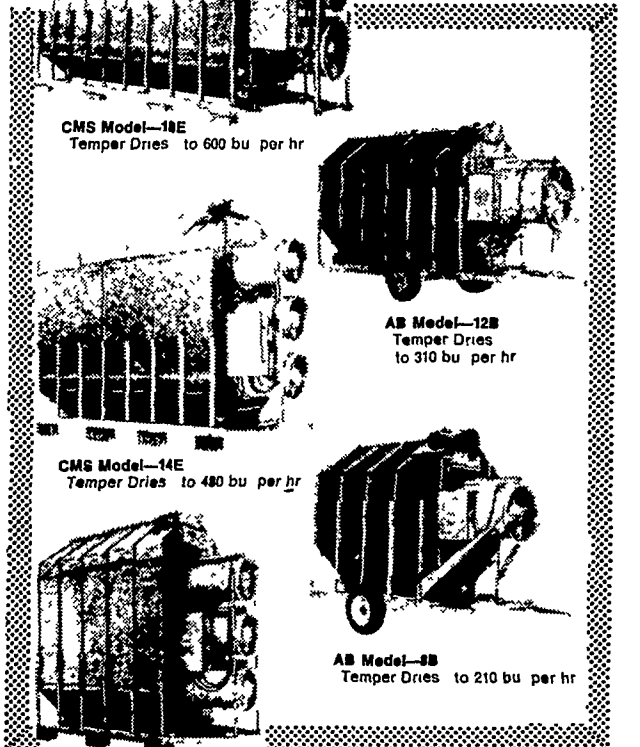
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