

# Safeguard against deadly dust

NEWARK, Del. — With grain harvesting upon us, it's time for farmers to think about fire prevention and dust control in milling and grain storage operations.

The potential fire problem is great, but there are many things that can be done to lessen the risk of a fire or explosion, says

Delaware Extension safety specialist Ronald C. Jester.

Fire prevention begins by realizing that three basic elements are involved in every fire — fuel, oxygen and heat. Since oxygen must be present, eliminating either the dust or the heat (source of ignition) is the obvious way to reduce the hazard.

The following guidelines should be adhered to strictly for reducing the possibility of a grain dust explosion on your farm:

- ✓ Have a good housekeeping program. Prevent dust buildup on equipment, pipes, floors, and around grinders.
- ✓ Be sure dust-tight equipment is really dust-tight. Spouts and

positive-pressure air ducts should be kept in good repair to keep dust from escaping. Give immediate attention to leaks in grinding equipment and fans.

✓ Dust control systems will help reduce pressure buildup inside equipment, and keep dust from being forced into the mill.

✓ Prevent ignition by removing foreign materials from incoming ingredients. Magnets are typically installed in spouts leading to processing or grinding equipment.

✓ Lubricate bearings according to the manufacturer's recommendations to prevent overheating.

✓ Align belt drives properly. Misalignment can create friction and build up sufficient heat to generate a fire.

✓ Check tension on bucket elevators. Inspect periodically to insure proper operation.

✓ Enforce the no-smoking rule in mill and grain facilities.

✓ Install dust-tight lights and explosion-proof plug-in receptacles.

✓ Practice welding safety in the mill. This includes shutting down machinery, cleaning work area, covering combustible materials

with flame-proof tarpaulins, and having a fire extinguisher available.

✓ Be sure wiring conforms to the National Electrical Code.

✓ To reduce the buildup of static electricity, make positive metal connections between pieces of equipment and the ground.

Prevention is the name of the game, but it is also important to know what to do in the event of a fire. Portable fire extinguishers and hoses should be readily accessible and functional. The farmer and employees should be familiar with the different types of fire extinguishers and know how to operate them. It is also important that the local fire company be familiar with your mill, grain storage and its surroundings.

The University of Delaware Cooperative Extension Service has developed a program dealing with fire prevention in feed milling and grain handling facilities which is available to farm groups and organizations. To schedule the program or to obtain a safety checklist for grain elevators write to: Ronald C. Jester, University of Delaware Substation, R.D. 2, Box 48, Georgetown, DE. 19947.

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## BEAT THE SUMMER HEAT... SPRINKLER COOLING SYSTEM (Not Fogger) FOR HOGS

#### THE PROBLEM

When the temperature goes up, one of the first ways your body reacts is by breaking out in perspiration. That's nature's way of cooling off.

It's different with hogs. High temperatures cause them a great deal of stress because they can't sweat. When under this stress due to heat, hogs will lose their appetite, weight gains drop, there is poor feed conversion, conception rate is reduced and pens become a mess. All of this adds up to lost profits.

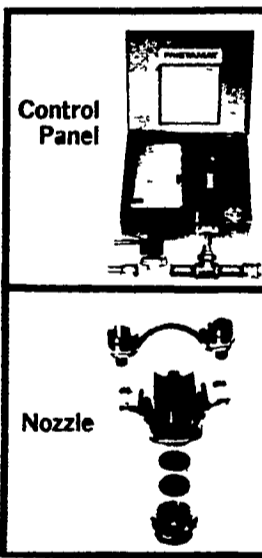
#### THE SOLUTION:

When the temperature is above 72° F even ventilation can't cure the stress that results. But a sprinkler cooling system can help your hogs where nature fell short, giving them a chance to cool off. It sprays them with coarse water droplets to reduce their body temperature. The idea is simple, but extremely effective.

#### THE SYSTEM:

The sprinkle cycle is turned on automatically whenever the barn temperature rises above a preset level 72° F. Throughout this "on" period the control functions to permit sprinkling to occur for a preset time period each hour (2 minutes/hour is recommended for best results). When the barn temperature drops below 72° F the cycle is automatically interrupted.

The nozzles are clamped to a plastic pipe strung over the gutter of slatted area at the rear of the pen. Each nozzle covers a 5.6 foot diameter area which usually means one nozzle per pen. The nozzle assures a coarse droplet spray pattern which is important for maximum cooling. A fine mist of fog is not desirable in geographical areas of generally high summer relative humidity.



#### THE PROOF:

	Control Hogs not sprayed	Hogs Sprayed 1 min per hr above 65°F	Hogs Sprayed 1 min per 1/2 hr above 70°F	Hogs Sprayed 1 min per hr above 70°F
Average daily gain per hog	1.37	1.62	1.62	1.72
Average daily feed consumption per hog	5.84	6.77	6.72	6.67
Lbs. feed per lb. gain per day	4.38	4.18	4.16	3.89
Lbs. feed saved/hog	0	22	22	49
Days earlier to market	0	1	11	15

Research done at Ridgetown College of Agricultural Technology in Ontario and at the University of California have shown these results.

\* These figures are calculated on hogs from 100 lbs. up to 200 lbs.

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