## Tillers Turn 'Trash' To Topsoil Treasure At Ag Progress Days

ROCKSPRING (Centre Co.) Conserving crop residue is important in reducing topsoil erosion and nutrient runoff, and the latest tools and techniques for surface residue conservation will be on display at special tillage demonstrations that will be held at 11:30 a.m. daily at Penn State's 2003 Ag Progress Days, Aug. 19-21.

The event takes place at the Russell E. Larson Agricultural Research Center at Rock Springs, nine miles southwest of State College on Rt. 45.

Ron Hoover, senior project as-

sociate in crop and soil sciences, explains that crop residue ---what farmers call "trash" - is important in reducing water-induced soil erosion.

"Raindrops that fall directly onto bare soil break the larger soil aggregates into smaller particles that are more easily transported in runoff," Hoover said. 'Costly fertilizer nutrients also are lost with the topsoil. So manufacturers have responded with the increasingly popular one-pass tools that we will be demonstrating.

"Most implements will per-

form some medium to deep tillage, followed by a gang of discs or a field cultivator to reduce clods, and finish with a field leveling attachment. Other tools simply will level the surface of the field with little soil penetration."

Conservation tillage has been gaining in popularity in recent decades, Hoover says, but experts are concerned that unnecessary tillage continues. With each pass of most tillage implements, less plant residue remains on the surface.

"With some of the newer, onepass tillage tools available today, many of the follow-up passes may be unnecessary," he noted. "In addition to reducing muchneeded surface residue, these additional operations cost producers in the form of extra time, fuel and wear on equipment."

Hoover said many of the planters available to farmers in the past decade are more than able to place seed properly into a less than perfectly smooth field. "Our growers spend a lot of money on new state-of-the-art planters," he said. "If they aren't comfortable with no-till, they at least need to cut back on tillage and let the planter do more of the work."

The demonstration each day will begin with a short discussion led by Sjoerd Duiker, assistant professor of soil management, followed with comments from implement manufacturers' representatives of the tillage implements. Last year's deep-tillage demonstrations drew more than 1,000 spectators, and Hoover expects interest in this year's demonstration to be at least as great.

Other field machinery demonstrations will feature hay mowing, hay rakes and tedders, baling, bale handling and manure application to reduce odor and preserve residue cover.

### Farm Health Screenings, Safety Demonstration At Ag Progress Days

ROCKSPRING (Centre Co.) - With a tractor-accident rescue demonstration, free health screenings, and on-site agricultural emergency specialists, this year's Ag Progress Days, Aug. 19-21, focuses on the health and safety of farmers like never before.

Farmers won't want to miss the farm-safety demonstration area. Agricultural Health and Safety tent, and the AgrAbility and Agromedicine Tent.

On Wednesday, Aug. 20, two tractor emergency response demonstrations will be conducted in the demonstration area. "An overturned tractor will be used to demonstrate scene stabilization and extrication techniques," said Dave Hill, Penn State senior extension associate and agricultural emergency management program director. 'The purpose of these demonstrations is to show people the typical 'tiered' emergency response to a farm-related injury emergency.

An ambulance crew and fire department crew are scheduled to attend and assist with the demonstration. State College-area Future Farmers of America (FFA) will operate an all-terrain vehicle to demonstrate how the farm community can be involved with on-farm rescues.

The risk of grain entrapment will be featured in the demonstration area and in the Health and Safety tent. On Tuesday and Thursday, safety specialists will demonstrate the hazards of flowing grain with a <sup>1</sup>/<sub>4</sub>-scale grain entrapment simulator. Emergency response also will be shown. Visitors can examine the latest Pennsylvania farm injury statistics and talk to farm safety and agricultural

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emergency management specialists about programs and resources in the Health and Safety tent.

the AgrAbility/ At Agromedicine Tent, a variety of health screenings will be offered all three days. AgrAbility is a national information and technology network for farmers, farm workers and family members who continue to farm despite ongoing physical or medical difficulties. The program emphasizes health and safety on the farm.

Geisinger Health Systems will conduct free osteoporosis screenings, the state Department of Health will provide free tetanus shots and the Home Nursing Agency will providing free stroke assessments and blood pressure readings. The New York Center for Agricultural Medicine and Health will be conducting respiratory screenings on Tuesday and Wednesday.

On Wednesday, 4-H and FFA teams will compete in the Farm Safety and Health Quiz Bowl. Team members will answer farm safety and health questions in this semi-final quiz bowl event. The winning teams will advance to the state finals in January at the Pennsylvania Farm Show.

# **Heat Stress Lowers Milk Production** Eliminate Heat Stress with Evaporative Cooling

#### What is Evaporative Cooling?

When water evaporates, heat energy is converted into a different form, which lowers the temperature of the air or the object that the water was on. As water evaporates the temperature continues to drop until the air reaches the 100% saturated point. In the northeast U.S. there is typically a 16 degree F. cooling potential on an average 90 degree day. Since most evaporative pad systems are designed to be 75% efficient, that means that a 12 degree temperature drop could be expected. When temperatures reach 98 to 100 degrees, there is often a cooling potential of up to 24 degrees, resulting in an 18 degree drop in barn air temperatures. THE HOTTER IT IS, THE MORE COOLING YOU GET!

#### **Evaporative Cooling for Dairy** Tie-stall and Free Stall Barns

The use of evaporative cooling for livestock and poultry in the northeast United States has been gaining acceptance in recent years. The main reason being that producers now understand that during the hottest part of the day, the relative humidity is often very low, which allows for the effective use of evaporative cooling. Since many tie-stall dairy barns now use tunnel ventilation systems for hot weather, dairy farmers can further enhance their hot weather ventilation by adding evaporative cooling pads. These systems work hand-in-hand to increase the amount of heat removed from the cow due to the high air speeds. The cost of the cooling system is minimized when designing it for tunnel ventilation compared to a cross-flow ventilation system.



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