Bedding on trial

By MARJORIE STRUCKLE

LIKE most dairy producers, Doug Young wants to use the best cow bedding. “Best,” as he defines it for Spruce Haven Farms, Union Springs, N.Y., means best cost and best cow comfort, as well as reducing mastitis and lowering the average somatic cell count of the 1,850-cow milking herd.

To find that best bedding, Young pursued a team approach. With funding from the New York Farm Viability Institute and the New York State Energy Research and Development Authority, Cornell University researchers Jean Bonhotal, Ellen Harries and Mary Schwartz began working with him, other dairy owners, veterinarians and soil nutrient specialists last spring to evaluate manure-based bedding options.

The team is monitoring changes to cow health, hoofs, and udder and teat ends; and tracking bedding-associated pathogens and economics.

The setup

They started with three 100-cow groups at Spruce Haven producing 100 pounds of milk per day. The groups are bedded on sand-based freestalls. Those freestalls are covered with uncomposted, separated manure solids; separated and drum-composted manure; or sand.

Fresh manure is removed and holes filled while the cows are in the milking parlors. The uncomposted, separated solids and compost are added twice a week. Sand is added once a week.

Green separated solids are used directly from a manure separator. The separator was adapted with extensions on the screw press to produce 31% dry-matter solids. The original system produced only 28% dry-matter manure solids and compost.

Manure bedding for the compost trial also came out of the separator. Then it was naturally heated to 120 to 150 degrees F by organisms breaking down the organic material in a rotating drum for three days.

The sand-only trial used only washed sand placed at a local quarry. Currently, only 30% of the farm’s total manure goes through the separator; the remainder is spread on fields. All manure bedding is used within 10 days of being produced. Each bedding type is monitored for eight types of bacteria before and several days after being placed in the stalls.

Young is most interested in how warm summer weather and humidity affect bedding. Spruce Haven’s somatic cell counts hit 320,000 during summer. That includes cows on dry-manure bedding and sand bedding, and heifers on mattresses.

Early findings

Part of this project is evaluating whether heating dried manure for bedding will kill pathogens. “I was surprised to learn that each bedding type, particularly the sand, contains E. coli and similar types and quantities of bacteria after being in the stalls for a few days,” says Young.

Some findings:

■ Threfar, there has been no significant SCC differences between bedding groups. The whole herd average runs close to 240,000, with 2%clinicals, adds the Cayuga County dairyman.

■ Young has ruled out future use of the composting drum due to its increased labor and expense. Pathogen levels were similar to those of green separated solids once the composted solids were used in the stalls.

■ Sand bedding is preferred for cow comfort and because it allows the fewest holes dug into the deep-filled stalls. But Young says its increased cost, abrasive nature, local supply issues and the extreme difficulty of removing it from the manure storage make sand an unfavorable bedding choice.

“We’re still finding ways to reduce labor of bed leveling,” he adds.

■ The dairy has also found centrifugal pumps difficult to manage.

For more information on the bedding trial, visit the Cornell Waste Management Institute Web site at cwm. cornell.edu/bedding.html.

Ready for Pa. Farm Show?

By JOHN VOGEL

The 91st Pennsylvania Farm Show officially kicks off at the Farm Show Complex in Harrisburg on Jan. 6. Hundreds of Pennsylvania farm families already are preparing for the eight-day event involving some 10,000 animals and 8,000 competitive events — all vying for more than $440,000 in prize money.

This year’s theme, “Growing Pennsylvania Agriculture to Feed and Fuel Our Future,” will be expanded to show how agriculture is becoming more involved in alternative-energy development, reports state Ag Secretary Dennis Wolff.

“Our farmers are playing a major role,” he adds. You’ll find the display in the Expo Hall, along with many commercial ag exhibits.

Also in the Expo Hall, FFA chapters from across the state will hold competitive “Growing technology” exhibits about new technology in agriculture. Exhibits on biodiesel, alternative energy, anaerobic digesters, wind power, animal genetics and aquaponics, for example, will compete for “best of show” and “people’s choice” honors. Visit the exhibits and vote.

One of this year’s most notable additions is the growth in goat competition, due to the fast-rising East Coast demand. Boer goats are the latest breed to be added. Those classes will be judged on Saturday, Jan. 13.

Antique tractors always draw a crowd. This year’s show will have an antique-tractor display area. And adding a new twist to an old activity, tractors will hit the dance floor for a tractor square dance on Friday, Jan. 12, in the Large Arena.

The farm show is revered for its foods freshly prepared by state commodity organizations. New plates for your palate this year include: warm apple turnovers, caramel apples and sweet peach sundaes from the Horticultural Association; and tortilla-crusted fish, chicken parmesan sandwiches, and chicken and waffles served by PennAg Industries.

Longtime favorites will still be there. That includes baked potatoes, milk shakes and more.

In this issue ...

Switchgrass has biofuel potential 12
Pay Mom more rent? 16
rBST: Show yourself the money 24
Northeast economic outlook 28
How crude oil impacts corn 30

Vol. 204 No. 1

News & Issues 1
Opinions & Comments 9
Crops 12
Machinery 14
Property/Financial Management 16
Marketplace/Classified 17
Dairy and Livestock 23
Fields of Home 26
Marketing 28

Contact us:
Editor: John Vogel, Jvogel@farmprogress.com
Corporate Editorial Director: Dan Crummett
Executive Editor: Dan Crummett
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