

Dairy engineering meeting held

By SALLY BAIR
Feature Writer

LANCASTER, Pa. — Proper ventilation in dairy barns could increase production and could decrease herd health problems, according to Gerald Bodman, Penn State Extension agricultural engineer. Bodman spoke to nearly 60 Lancaster County farmers at a meeting organized by N. Alan Bair, Lancaster Co. Extension agent.

Bodman said that "lack of proper air inlets is the biggest problem in Pennsylvania barn ventilation." He added that very efficient air inlets can be installed at very low cost.

He said often builders are reluctant to build the necessary air inlets because they want "nice tight barns to keep the wind out." However, this reasoning can cause farmers some severe problems.

Air ventilation, Bodman said, must take into account the quality of air, which means outside air must be introduced; the quantity of air, which includes the proper size of fans; and the distribution of air, having fresh air throughout the structure without drafts.

Temperature, moisture and relative humidity are all important in considering air quality, and if they are not in the proper relationship, mildew and condensation can be the result. Either, Bodman said, means a farmer has a problem with ventilation.

Using slides to illustrate,

Bodman showed several alternatives for correct ventilation of barns. He emphasized the importance of getting fresh air to all parts of a building, and attributed many winter calf problems to "dead air space" in barns. He said often calves are housed in the back part of the barn, and this is just the place where air circulation is non-existent.

When installing fans, Bodman said it is most efficient to install them in banks, and added, "The greater the length of the air inlet, the smaller the openings required. And the smaller the opening, the less chance of draft." He said that in a long barn, two banks of fans should be used. "You can not efficiently move air for more than a distance of 100 feet," he said.

Bodman also suggested that farmers insist on installing fans which are "certified ratings fans." Fans are rated by the Air Moving and Conditioning Association, Inc., which is similar to electrical units

which are approved by the Underwriters Laboratory.

Bodman also cautioned that controls for fans should be located where they can sense average conditions in the building and they should be kept in a group for easy calibration. He said they need to be kept very clean for proper functioning. "After the third whitewash, they won't work!"

In a discussion of calf hutches, Bodman told dairymen that if they provide a wide range of conditions an animal will find a place which is good for its well-being and which is comfortable for it.

The real question farmers have about calf hutches, Bodman said, is not what is comfortable for the animal, but whether it is too cold to go out and feed it. He said, "If you're having calf problems, I would encourage you to try calf hutches. You the producer must provide a good environment if the animal is to survive."

Bodman also talked about manure management, saying that ventilation and



Ag Engineer Gerald Bodman makes a point at the blackboard as he discusses proper ventilation for farm buildings.

the handling of wastes are related areas. He urged farmers to consider all the alternatives before choosing a manure handling system. He said it is important to consider both storage cost and equipment cost, saying there is not enough money in manure to justify two sets of equipment. He pointed out that milking center effluent must be considered as part of the cost of the total system, so if a separate system must be added to handle milking wastes, the total cost can be quite high.

He told farmers it is a challenge to them to find a system they can afford, one they can easily manage and one that doesn't cause environmental problems.

In discussing the various options available, Bodman pointed out that some require handling the manure more than once. He said further that safety factors should also be considered in the final selection.

Basically, Bodman said, "We're ahead of the environmentalists, because we're doing things because we want to and because of good management practices."

Farmers are more concerned about the environment than 90 per cent of the population.

He discussed the clean streams law and its effect on farmers who are considering manure handling systems. He emphasized that daily hauling will not be outlawed under the present law, so farmers should not be pushed into buying a system they may not want or need. Fines for polluting, Bodman said, are now much stiffer than previously.

Bodman pointed out that dairymen operating with less than 200 head of cows need not have a permit to install or operate manure handling equipment, except in a case by case designation under current federal regulations. This means that a dairyman who is doing a good job will not be required to get a permit, Bodman said. A manual has been compiled which spells out acceptable methods of manure handling, under state environmental regulations, it will be available in the spring.

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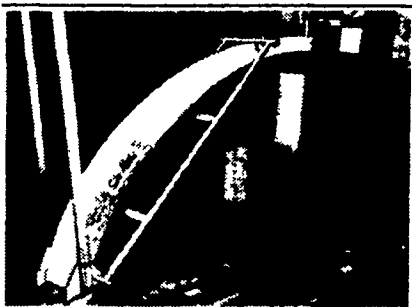
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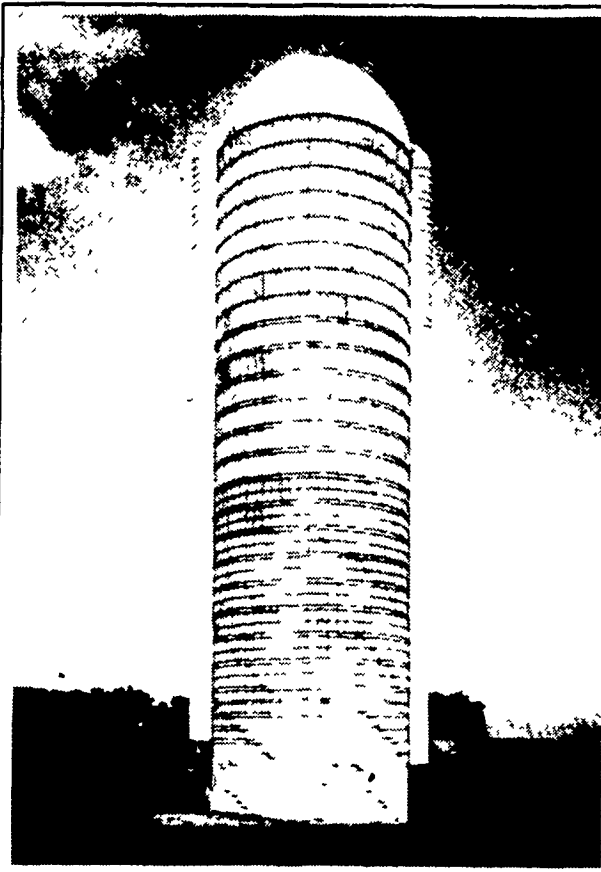
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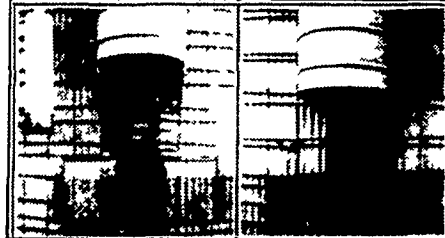
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