

Volume 5  
March 30, 2006

## This Month's Topics

- \* Cow Comfort in Compost Dairy Barns
- \* Frequently Asked Questions
- \* Successful Compost Dairy Barn Meetings

## Ideas? Suggestions?

Welcome to the Compost Dairy Barn Newsletter. This newsletter is intended to facilitate networking among dairy producers using compost dairy barns and people interested in these facilities. We encourage your input. If you would like to share some of your experiences or have ideas for topics in future newsletters, contact Mindy Spiehs, Wayne Schoper, or Vince Crary.



Clean, comfortable cows in a Minnesota Compost Dairy Barn

## Cow Comfort in Compost Dairy Barns

There has been a lot of interest from dairy producers in Minnesota and beyond about compost dairy barns. We get calls or emails almost every day! There are yet a lot of unanswered questions. My graduate student Abby Barberg and I visited a number of compost dairy barns in the state during last summer. We decided that the first step was to learn what these barns looked like, how they are managed, and collect some data. Follow-up studies are planned that will address some of the concerns raised during the survey and observation we conducted. We wanted to visit dairies that had been using a compost dairy barn for a while, so that cows (and people) were adapted to the system. We collected various types of samples and information, but today I will summarize some of our findings that relate to cow comfort. The main reason producers have mentioned for adopting this alternative housing system is the perception of improved cow com-

fort and longevity. A compost dairy barn allows cows more freedom of movement than conventional tie stalls or free stalls. Lameness is a major welfare and economic problem in the dairy industry and it is associated with cow comfort. It is proposed that the use of a deep bedded loose housing system would reduce the prevalence of lameness. Singh et al (1994) reported that the incidence of sole lesions causing lameness was reduced when cows were moved from a free stall barn to a straw yard. Cows were never reluctant to lie down in the straw yard most likely because they preferred the absence of restrictions and the more comfortable surface. There were no reported data on the prevalence of lameness in compost dairy barns. What we found in our study of compost dairy barns in Minnesota was that on average, *only 7.8%* of the cows were clinically lame (score of 3 or greater for locomotion). Two farms had 0% lameness prevalence! A re-

cent lameness prevalence study that we conducted in Minnesota estimated that approximately 25% of cows were lame in free stalls. Another positive finding was that on average, 77.7% of the cows had no hock lesions, 22.3% showed mild lesions (hair loss) and *only 0.97%* of cows had severe lesions (swollen hocks plus hair loss). These results are very encouraging! It appears that compost dairy barns are a very good housing option for improving cow comfort. We are summarizing results on lying behavior to be reported at a later time. The main concern with these systems, however, is availability and cost of bedding. Research is needed on alternative bedding materials (and our U of M compost dairy barn team is working on getting it done... stay tuned).

*Marcia Endres is a Dairy Extension Specialist with the University of Minnesota Dept. of Animal Science*

## Frequently Asked Questions From Compost Dairy Barn Tours

During the recent series of compost dairy barn tours in Southern Minnesota, the following questions were asked repeatedly.

**Question:** Why can't we just dump scrape alley manure back on the pack and mix it in rather than have to worry about hauling it?

**Answer:** A couple of reasons - first, it will increase the amount of nutrients added to the compost

pack and "burn up" the saw dust quicker. You would probably need to use more bedding. Secondly it would be necessary to distribute the scrape alley manure across the pack to avoid creating a wet spots in the pack. But it would save you from having to haul during the winter time or having a separate manure holding area for the scrapings. Mini-pits either inside or outside the barn are an option some

producers are using to avoid dairy hauling.

**Question:** Will this kind of barn work for heifers or dry cows? How about beef cow?

**Answer:** I think that a compost dairy barn would work fine for housing heifers and dry cows but I am not sure that the time and expense of dry saw dust and two times a day stirring is needed for heifers and dry cows.

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## Frequently Asked Questions From Compost Dairy Barn Tours (Con't)

**Question:** I graze my cows during the summer and they would only be in the barn for six months, could I get by with a two foot outside wall rather than spend the money on a four foot wall?

**Answer:** Let's assume that the cows would be coming into the barn in October. Our experience shows that the pack builds up

quickly during the winter months and then levels off once the warm months come around. My perception is that you would have a full barn come spring with only a two foot wall. If this works for you, you could just clean it out at that time. Admittedly you will save some money with a shorter wall but not much considering

that most walls are installed to the frost line.

*Answers provided by: Wayne Schoper, Extension Educator, Brown/Nicollet Counties*

*Kevin Janni, Extension Engineer, University of Minnesota Dept. of Biosystems and Agriculture Engineering*

## Successful Compost Dairy Barn Meetings

Three compost dairy barn meetings were held in northwestern Minnesota during the first week of March. Meetings were held in Parkers Prairie, Wolf Lake, and Pelican Rapids. Twenty to thirty people were present at each meeting.

Producers Ray and Cheryl Seibert and Seth and Bobbi Saari of Sebeka, MN Jesse Fraki of Ottertail, MN and John and Mike Schouviller of Callway, MN addressed the audience. The producers showed slides of their respective operations and shared their experiences with compost dairy barns. The meetings were hosted by Vince Crary—Otter Tail Co. Extension Educator, Mindy Spiehs—Regional Extension Educator, and Rick Olson and Chuck Erickson, Coordinators—West Central Dairy Diagnostic Group.

It would be impossible to describe all the details about each operation but I will highlight some of the features that were unique to each farm.

**Ray and Cheryl Seibert:** The Seiberts were featured in the Dec 2005 newsletter. They have a curtain-sided barn with a feed alley on the east-side of the barn. Ray spreads some compost material into this feed alley every day. It helps absorb the moisture

and makes it easier to handle when he scrapes the feed alley. The Seiberts will be adding some ceiling fans this summer.

**Seth and Bobbi Saari:** The Saari family used the Seibert's barn as a model when designing their own barn. However, they chose not to put curtains on their barn. The north wall is solid steel. A drive-by feed alley is on the south side of the barn. The entire drive-by feed alley is protected from the elements by a 15 ft over-hang, but the south wall is open. Because the Saaris wanted the barn to be versatile, they used treated plank walls to divide the pack and the feeding area instead of concrete. That way the wall could be removed if they decided to feed cattle instead of milking cows. The Saaris stock-pile saw dust during the summer months in an outdoor area protected from the wind.

**Fraki Family:** Jesse Fraki and his sons Joe and Noah built their barn with a drive-by feed alley on the east side of the barn, with an 8 ft. over-hang to protect the feed area. One unique feature about the Fraki's barn is that they have a split pack, which allows them to separate the high producing cows from the lower producing cows and dry cows. They use

irrigation pipe cemented in tires to separate the pack.

**John and Mike Schouviller:** The most memorable feature of the Schouviller's barn is the two Big Ass Fans® that they have installed above the pack. They are still experimenting with the correct air flow, but they clearly have the potential to move some air during the warm summer months! The Schouvillers are also planning to put up a commodity shed this summer. The commodity shed will be used to stock-pile saw dust during the summer months when it is available at a lower cost.

It was interesting to see how four families could each operate a successful compost dairy barn, but each managed their operation a little differently and designed their barn somewhat differently. Clearly, the common feature for all four operations is good management, attention to cow prep, and the willingness to learn and make adjustments as needed.

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