Using a 24' x 48' Deep Bedded Hoop Barn for Nursery Age Pigs

Principal Investigators

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Project Duration

2002 to 2004

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Project Summary and Description

We currently farm over 700 acres with Trent's parents. The majority of the acres are in a corn and soybean rotation with some alfalfa acreage and occasionally oats for feed and bedding. We raise butcher chickens, cattle, and purebred Berkshire hogs. We made the switch from Landrace/Yorkshire sows to purebred Berkshire gilts in May 2000 so that we could market in the Berkshire Gold Program. We currently have a 40 sow herd.

Our initial nursery building was a self-contained liquid manure confinement barn. With this building deteriorating, we decided to move away from a liquid manure system and into a deep bedded system. Also, our whole family has allergies and we wanted to get away from the dust collection that was associated with our old nursery building and move to a more natural ventilation building.

In this project we will study how nursery age pigs gain and interact in a deep bedded 24 x 48' hoop barn. We plan to use the hoop barn as a nursery in all seasons of the year. The amount of bedding, temperatures inside and outside of the building, manure pack temperatures, feed consumption, and daily rate of gain will be monitored.

The move to hoop buildings also helps us to be a more environmental and neighbor-friendly hog farm. With non-farming neighbors and East Sunburg Lake within 500' of our building site, we wanted to get away from liquid manure. This hoop barn fits into our farm's future because it can be used for farrowing, as a nursery, grower, or a finisher building. The building can also be used for other types of livestock, machinery, or hay storage.

Results

The first group of 84 nursery hogs was put in the hoop barn on May 11, 2002. Before moving the hogs into the nursery, we spread out one and a half round bales, leaving the other half for the hogs to explore. Approximately two weeks later another round bale was added and we manually bedded when and where needed, leaving the rest of the bale for them to forage/destroy themselves. The first group stayed in the barn for 41 days and all 84 hogs were taken out on June 23. A total of three round 1,000 lb bales and five small square bales were used for bedding during this period.

We had one runt in the first group. It weighed just 10 lb when he went into the nursery and was 40 lb when moved out 41 days later - a gain of .73 lb/day. The largest hog was 50 lb when moved in and 115 lb when moved out for 1.58 lb/day gain. We fed a total of 12,636 lb (150 lb/head) of feed during this period.

The hottest outside temperature during this period was 85°. The hottest inside temperature was 90°. We spent 22 hours on labor for daily chores over the 41 days and 1.25 hours to clean with the skid loader, tractor, and spreader after the group was removed.

Trent outside the nursery hoop barn.

The second group of nursery hogs was put in the nursery beginning on July 16 and taken out October 19, for a total of 96 days. We did a little experiment with this group by not bringing in all the hogs at one time to see how they behaved with split mingling. We put 32 hogs in on July 16, 18 pigs on July 17, and the last 47 on July 20. We were very pleased as they did not fight or single out any pig to pick on and all 97 hogs were moved out. The natural environment of foraging, digging, and burrowing seems to keep them quite active and content.

This group gained better than the first group. The smallest pig went in at 23 lb and left the nursery at 118 lb, gaining .99 lb/day. The largest pig was 51 lb when put in and 218 lb when leaving, gaining 1.74 lb/day. We fed a total of 34,386 lb of feed, or 354 lb/head. A total of 7 round bales and 30 small square bales were used for this group. We had 51 hours of labor with this batch and 3.5 hours of cleaning with machinery.

The second group had both summer and fall weather conditions. During the hotter months, the temperatures inside the hoop were 5° warmer then the outside temperatures. Whereas, when the outside temperatures became cooler, the inside temperatures averaged 11° warmer than the outside temperatures. The manure pack temperatures usually ranged 40 to 60° warmer than the barn temperature.

We are quite pleased with the hoop barn as a nursery. We have not yet had a single death among either of the two groups that used the barn. The one-pen system is a nice change. We noticed that the pigs get used to the one-pen system while in the nursery, and when they are moved to the finisher hoop barn, they adapt very easily because it is the same setup only on a larger scale. It is nice to not have a separate pen for the runt pigs. Even though the runts do not catch up to the larger pigs, they seem to be much more active and healthy than what we used to see in our old confinement barn.

The only thing we would change about this nursery barn is the vent doors. We made hinged green treated plywood doors with latches along both sides. We thought these vent doors would provide more air circulation on hot days because the building is situated between other buildings with a lot of protection from trees. However, with the manure pack and nosey pigs these vent doors were not a very good idea. We like the bi-fold doors that we have on our nursery hoop barn.

We have not yet tried the hoop barn as a nursery for pigs in the winter. Next year's report will have results of moving small pigs into the hoop barn from a heated farrowing facility.

Management Tips

1. Bed the floor of the barn immediately after cleaning to maintain ground heat.

2. Use plenty of bedding so the pigs can burrow without digging in the ground.

3. Do not use corn stalk bales for bedding in a nursery hoop in the winter. Corn stalks do not provide enough heat.

4. Bi-fold doors are a good investment. You can drop the doors from the top down to provide fresh air while keeping a direct draft off the pigs.

Cooperators

Wayne Martin, University of Minnesota Alternative Swine Program, St. Paul, MN

Project Location

Farm is located 2 miles south of Sunburg on Hwy. 104 in the northeast corner of the intersection with Cty. Rd. 40.

Other Resources

Appropriate Technology Transfer for Rural Areas (ATTRA). PO Box 3657, Fayetteville, AR 72702, 800-346-9140. Available at: www.attra.org
Provides assistance and resources free of charge to farmers and other ag professionals.

University of Minnesota Extension Service. 2001. Hogs your way: Choosing a hog production system in the Upper Midwest. Publication No. BU-7641-S. University of Minnesota Extension, St. Paul, MN, 612-625-8173 or 800-876-8636.

University of Minnesota Extension Service. 1999. Swine source book: Alternatives for pork producers. Publication No. PC-7289-S. University of Minnesota Extension, St. Paul, MN, 612-625-8173 or 800-876-8636.

Berkshire pigs in the hoop nursery.