Notes From Farmer Round-table Discussions Around the State Of Minnesota

Contents:

Introduction

The following pages are a compilation of comments made by producers at Farmer Roundtable Discussion group meetings we've held during the last year. There were usually 8-10 producers who met for a 2-3 hours to discuss what works and what doesn't with hoop structures and other deep-bedded systems. The comments below generally represent a consensus by the group. It was sometimes necessary to list something stated by a single producer, if that had been part of their experience.

Why Deep Bedding?

Producers generally agreed that hoops and other deep-bedded systems are an effective way to raise hogs. The reasons for this are:
-low startup cost
-flexibility
-environmental considerations
-human health
-animal welfare

Bedding

- One producer uses sawdust in the wet/dirty parts of the bedding area, to help with absorption. Wherever pigs make manure. Buys a truckload (14x7x7) for $250/load. *Sawdust is far more absorbent than straw.* It could even be used as a 4" base for the whole area to be bedded.

- Producers use different types of bedding in different situations. Wheat straw is good for nursery pigs, while corn stalks are ok for bigger finish pigs. Flax straw is also recommended as a good clean (not dusty) straw. Pigs like to eat the flax straw.

- Most producers say that plenty of bedding in hoops is needed to make them work well. Plenty of straw is important. 2 bales/week as grow/finish pigs get older/bigger.

- One producer adds new bedding every two weeks to a standard hoop holding 60 gestating sows. Use plenty of bedding to keep gestating sows from rooting in clay base.

- Another formula would be 30-40 six-foot diameter bales/per building/per group (in about 3 ½ months).

- When enough bedding is used in a hoop, the bottom few inches of bedding will generally not get saturated with manure. It is unlikely that pollution is leaking out of the bottom of the structures into groundwater.

- It is important to store the bedding so that it remains dry and clean. It is critical to the success of the building. Net wrap was suggested as a good economical way to do this. Usually need 65-75 round bales per building per group *in the winter, and less in the summer*. Make them about 5 ft in diameter for easier handling.

- Producers generally agreed that cornstalks make good, economical bedding.

- Some producers say that barley or wheat straw is the best bedding, if they are priced economically.

- **Bean straw** is a subject on which there are different opinions. Some farmers think it is not a good bedding. Tends to pack, and does not

absorb moisture well. Might make pigs sick. Scratches teats on sows. May be ok for finish hogs.

- However, other farmers think **bean straw** is a great bedding. Sows love it-they eat it. It does need to be chopped. Rake into windrows prior to baling. *Drilled beans offer the best return for the effort invested, providing a little over one bale per acre. Rowed beans give about one bale for two acres.*

- One producer uses a bale shredder to shred and blow the bedding into the hoop. Works well. Gets more use out of bedding.

- After cleaning building, put bales near the edge of the concrete pad, so that the new batch of smaller pigs can tear them apart and build a ramp up onto the pad. It can be difficult for pigs to climb up onto it at first.

- Recycled paper makes decent bedding, but is more absorbent if it is shredded. Maybe not very warm as bedding. Costs about $20-30 per ton. Any county recycling center will be interested in getting rid of paper and cardboard. *However, one problem is that it tends to blow all over the field when spread, and blows onto neighbor's property. There also might be chemicals in the paper that could be harmful to pigs and the environment. Farmers who use it say pigs don't seemed to be bothered by the paper. They like to play with it.*

- Add cardboard boxes as toys.

- Outside solid manure storage areas need to be on an impermeable surface such as concrete or compacted clay.

- Dust Control-Dust can be a problem when dry clay underneath mixes with bedding. Corn stalks create dust. Lime helps control dust. Put lime over clay floor to reduce dust. Lime may also kill or slow the growth of bacteria. "Reject" or "dirty" lime can be purchased economically. Wet lime packs better than dry. Packs very hard.

- Cornstalks need to be dry. Otherwise they mold. Use conditioner to dry stalks.

- *Manure***-** A big manure spreader is important to lower the number of trips hauling manure. Get one that will hold at *least 350 bushels* of manure. Some suggested that buying new is better than used (merits further discussion).

- One producer uses the manure from the hoop to bed his cow barn. The cows like it and lay in it. Still composts and is warm.

- Most producers try to clean the hoop after every group. However, during the winter some may try to run two groups through the building before cleaning it out in the spring time.

Disease

- Cover feeders to keep out birds. Birds carry disease.

- Ileitis- The vaccine against ileitis works pretty well.

Farrowing/Gestation

- Space equipment so that dominant sow cannot control other sows.

- Avoid farrowing in hoops in January and February because can be too cold.

- Avoid farrowing in hoops in August as can be too hot.

- Hoops are good for gestation all year.

Genetics

- Raising Berks- It was mentioned that Ken Kursley was good contact- he is a buyer for a Berk program.
  Myron Dahmans was also mentioned as a purebred Berkshire producer located in Elkton, MN.

- Niman Ranch now has a genetic consultant to help producers select appropriate breeding stock to satisfy consumer demand. Producers are using Hampshire-Duroc-York crosses meet the specifications. For more information, call Niman Ranch.

Labor

- **Labor-** There is a tradeoff between more labor or more machinery. Do you have a 4-wheel drive tractor with an arm to put the straw bales over the gate and into the bedded area, or do you have another person to open the gates and also to prevent the hogs from getting out.

Marketing

Needs to be the focus of a meeting.

Nutrition

Feed Storage Bins**-** It's best to have a feed storage bin to fill the feeders in each building, rather than fill feeders often in the winter by driving in near the buildings. Trying to get near the buildings with trucks or tractors can be a problem if there is a lot of snow in the winter, or mud in the spring.

Oats- 200 lbs/ton in all rations. Good for the pigs.

"Ditch Hay" can be used to bed sows. Sows will eat some of the hay, helping to fill them up. Small square bales can be bought for $1.50-$2.00 per bale.

Ivomec kills worms and mange. Short (72 hours) withdrawal time before selling. There is also a natural treatment for mange recommended by some vets.

Pasture

- Hogs that have been moved from confinement to pasture need help to find water and feed. Perhaps close them in a corral where the water and feed will be, so they can find it and get used to it.

Pig Management

Caution: Small pigs can go into a hoop in winter, even in severe cold, *provided* that neither the bedding nor the ground beneath the bedding is cold or frozen. It takes the pigs a long time to warm up the bedding and ground. It is too harsh for little pigs (recently weaned). *Either leave the manure heat pack from the last bunch (and clean it later), or don't move the pigs in below zero weather.* Most seemed to think it's ok to move pigs in 10-20 degree weather.

If restocking with young pigs in the winter, DON'T clean out the manure pack from the previous group. Young pigs need the warmth of the compost material. New dry straw won't be composting for awhile. Pigs need the warmth from the pack right away.

Make "huts" for 40-60 lb. pigs to go into if introduced into the hoop during the winter. Build huts of square bales (corn or straw), or put round bales with planking or plastic on top. Put them along one side of the hoop, or in the center of the building- either seems to work.

One producer in the Worthington area commented that he never puts more than 150 hogs in his 30'x90' hoop, even though it could hold 225-250 hogs. It is "too hot in the summer" to have that many hogs in the building.

As a rule-
30' x 72' building should have only 150-175 head of hogs.
30' x 84' building should have no more than 200 head.
The hogs will gain better if not over-crowded.

Mixing groups can be difficult. Better to mix groups at weaning, than after nursery. They fight less.

Nursery pigs should protected from winds. Finish hogs need ventilation.

Wet the area of the building where you want the pigs to urinate and defecate. They'll quickly learn to use the wet spot.

Sows don't like to be outside in colder weather, because they carry less backfat than now than in the past. They need plenty of bedding to stay warm. Sows don't make compost out of the bedding, because of the low stocking density in a gestation barn.

Don't mix sow groups. They'll fight less.

Structures

Building Permits

Getting permits to build hoops is an issue in some areas (ie, Worthington). The applicant needs to be able to demonstrate that he has enough land for manure application. Sometimes a hearing is needed. There was concern expressed about the possible future need to track water seepage.

Building Directional Layout
Which is better, laying the building North/South or East/West? Some felt that N/S was better than E/W. Wind (air movement) is needed for ventilation during the summer months. Summer sunsets would produce too much heat in a hoop laid east to west.

Building Walls
Some producers have side walls made of concrete instead of wood. They like it because the pigs don't chew on the concrete the way they do wooden walls. Concrete walls will last a long time.

Six-foot pony walls are important. They allow more air movement in the summer time. Heat rises higher in a hoop with a higher ceiling. Stays cooler at pig level.

The high walls also allow for a longer time between cleanings. One producer ran 2-3 groups before cleaning.

Canvas Tops
Some thought that the darker or gray canvas made better tops than the translucent variety.

Concrete
The concrete pad inside the hoop should be bigger, so that it can be cleaned with a skid loader. It should be sloped in to the center of the building, so that liquid waste doesn't run out into the environment.

Are concrete floors through the whole hoop necessary? Some think that the bedding is wetter if there is concrete under it. Will end up using more bedding. *Does that mean liquid manure is seeping away through clay pack?*

What about heating the floor, or one area of the floor, especially if planning to use the hoop for farrowing? Most producers think it isn't a good idea…This will cause scours in the pigs that will be hard to cure. Heat may also cause mastitis in sows. The manure will also bake onto the floor and be hard to remove, causing more labor. Maybe only one area could be heated, or heat ½ of the building.

At least one producer has no concrete in his building at all. It is divided in half in the middle. Waterers are in the middle. Feeders near the doors. Likes it really well.

Doors
Doors should be wood or metal on a slide. Canvas doors don't work well in a strong wind.

Ventilation
Distance between buildings is also important. There needs to be room for prevailing winds to circulate through hoops.

Are fans necessary? The consensus was no. But it is important to keep the half moon at the top open year around regardless of the weather.

Wind (a breeze for air movement through the building) is more important in winter than summer.
Even in winter, it is best to have one end of the hoop open a little for airflow

Some hoops have side vents as well, which is a*n important feature for summertime ventilation*.

It is worthwhile to build hoops with both ridge vents and side vents, to maximize ventilation. Heat in the summer and dripping from the ceiling in winter are problems that can be best handled with more ventilation.

A windbreak of trees or straw bales on the north side helps slow down wind and snow swirling into the building. How close should it be to the hoops?

***One producer has replaced the upper layer of boards on the pony walls with re-bar. This allows air to flow through the sides and creates cross-ventilation. During the winter he covers the holes with plywood.

<u>Welfare</u>
Needs to be the focus of a meeting.

- How to prevent tail biting? A difficult issue for all producers. It could be related to stress, ie, snow, cold, not enough feeder space. Some throw in toys, such as gallon jugs, or fake tails.

- Oral iron is used by some producers as a treatment for an outbreak of tail biting. They throw the bag into the pen and let the pigs tear it open.

- It is important to get the problem under control, and treat the pig with antibiotics if necessary. If a pig develops an infection from a tailbiting injury that goes throughout its body, the meat processors will condemn the whole carcass. It is better to treat the pig with antibiotics and sell it through the commodity market.

- Copper Tox or diesel fuel were also recommended as treatments for the wounded tail. Can't be marketed for two weeks after using Copper Tox.

Research and Demonstration Needs and Ideas

Bedding:

- Ways to bed hoops with only one person.

Genetics:

- Mothering ability.
- Meat Quality in hoops vs confinement.

Nutrition:

- Feed efficiency.
- Rations in hoops – can you decrease protein to control backfat?
- Effects of adding hay to the bedding – effects of legumes in diet, effects of hay in producing heat in the bedding.
- Does increasing fiber in diet increase amount of manure?
- Effect of using 1 to 1.5 feet of silage in the base of bedding in hoops.
- Nutrient Value of Compost.
- Pelleted feed for pigs in hoops.

Structures:

- Effectiveness of a pit under hoop structure- slatted floor.
- Placing hoops east-west or north-south.
- How to minimize cold winter winds if hoop has no wind barriers.
- Sorting techniques needs investigation.
- Estimating live weights in a hoop.
- Best type of doors?
- Sorting techniques.
- Reducing labor.
- Fans vs sprinklers vs ridgevents.