

GROUP HOUSING FOR SOWS

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ABSTRACT

In 1994, Heronbrook Farm decided to change its focus from an on-site 440 Sow Farrow-to-Feeder pig enterprise to a two site 950 Sow Unit. A 2400 head Nursery barn was constructed on an adjacent farm and the existing sow barn was remodeled to accommodate the extra sows. The existing nursery/grower rooms lent themselves very well for conversion to farrowing rooms, but the need to construct a building to house approximately 400 sows in gestation became evident. The existing breeding room housed 70 sows and this would be ideal for one weeks breeding; the sows would then be moved before the critical fourth day to the existing gestation barn. This barn had 288 stalls, and this would allow six weeks for the sows to settle, and was ideal for carrying out heat and pregnancy checks before moving them into the final dry sow accommodation.

For some time, I had been concerned about the impact of the animal welfare issues being raised in Europe as well as in North America. I was also concerned that in our own barns, our gilts have always been raised, bred and housed in group pens, and have always been far more contented and quieter than the sows in gestation stalls. At feeding time the gilts are curious and interested, the sows are very loud, aggressive and agitated. Stereotypical behaviour was quite often evident. Licking, bar biting, scratching, and dog sitting were a few of these behaviours observed. We began to ask ourselves if there was an alternative housing system available that would be economical, practical, easily managed and would address the animal welfare issues that were being raised at the time, namely that the animals should be able to turn around, and be able to exhibit its natural behaviour such as rooting, co-mingling, etc.

The design that we implemented was one of my original drawings, but at the time I was fortunate enough to attend a seminar that Dr. Peter Brooks was presenting, and I had the opportunity to show him my plans and get his input. He invited me to England to visit some extensive housing systems with a number of different feeding systems. Although I was very impressed with the systems we saw: large strawed yards with Electronic Sow Feeders, I could not justify the building costs of creating such a system in Ontario. Keeping the information in mind, 35 square feet per sow, I took a look at the square feet per sow required for a stalled barn in order to get an idea of what square footage we were competing with. A dry sow stall 2' x 7' equals 14 sq ft plus front passage of 3' shared, and the back passage of 2' shared giving a total of 19 sq ft/sow. Would this be enough? I surmised that if 25 sows were in a group, then it would generate some surplus space because of the multiple affect. I thought it would be helpful if the sows were divided in to two groups per week, so that the smaller sows were grouped together, and the older, larger sows were grouped together in an attempt to reduce fighting or bullying when creating the initial groups.

Our genetics at the time were a maternal animal that included Large White, Landrace, and Duroc and exhibited tremendous leg, bone and hoof quality. Due to these traits I had very minor reservations about the ability of the sow to handle a more extensive housing system. The feed intake of these sows was voracious, and her ability to maintain condition was without question.

Taking all this information into consideration, I came up with the present design of 16 pens 16' x 28' with 16' of solid concrete at the front of the pen and 12' of slats at the back (Figure 1). The feeding system comprises a flex auger with a 3 x 50 lb drop feeder located in the middle of the solid flooring of each pen. We went with a naturally ventilated barn, with solid side panels, each panel with a window and automatic chimney ventilators. We use approximately half a small bale of straw per day for bedding and this gives the sows just enough to have something to chew and be contented.

This barn was built in 1996 and performed better than we could have expected. The level of fighting on entry was virtually non-existent, removal of sows from the pens due to poor conditioning - either getting too fat or too thin- was less than 5%. There was little variation in farrowing rate or numbers born alive, but we did see an improvement in the farrowing process as a result of the sows having more exercise.

CONCLUSIONS / OBSERVATIONS

In 1998, our genetic supplier changed the composition of the maternal line, removing the Duroc portion of the equation. This has demonstrated itself in a female that is finer boned, less hoof development and more prone to lameness, therefore not being suited to an extensive housing system. Consequently, a higher percentage of sows have to be removed from the loose housing. Also, when sows are stiffer or lame, they will defecate and urinate upon rising, rather than follow the group instinct of keeping a good manure pattern. The solid floors in the pens have a 1% slope, so if the sows do urinate in the wrong place it does not run off and encourages poor manuring habits. The recommended slope is now 5%.

The natural ventilation has created excellent air quality with a very quiet barn. This could be improved, however, by incorporating dual ventilation. On very cold days in Jan./Feb., we get too much down-drafting from the chimneys over our central passage. The wide centre passage has made animal movement very easy and has removed the stress of moving and/or grouping sows.

Management of sows in this system is easy: vaccinating, and preg-checking for instance. The 19 sqft that I calculated is the absolute minimum. The recommended number of 25 sqft is probably more appropriate, and would still be cost effective in comparison to stalled systems.

Introduction of some organic material, hay or straw, has been advantageous but probably not necessary. The drop feeding system has worked well and is simple to adjust and operate.

