Managing Grow-Finish Pigs in Large Groups

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■ Introduction

Conventional management of grow-finish pigs has been in groups of 30 or fewer pigs in a pen. Group size has often been determined after selecting a feeder type, and thus groups of 24-28 for a two-space wet/dry feeder have been common in the past decade. However, larger operations have resulted in hundreds of animals being weaned simultaneously and moved into nursery and eventually grow-finish facilities. Even after sorting these animals by sex, it is possible on many farms to have several hundred males and females available for placement at one time. Keeping animals in groups of 100 or more has the potential of reducing housing costs, specifically penning, and giving producers more flexibility in building design and management.

In the past, professional judgment would have urged caution in adopting large group management. Concerns were expressed about growth performance, variability, morbidity and vices. Because these opinions were formed when large groups meant that pigs from several farms and weeks were mixed together, we should now question the advice to keep groups small. In addition to being assured that good productivity is possible, we must also learn how best to manage pigs in large groups. As the industry moves toward this change in systems, we have encountered challenges, but also great potential in new management approaches.

■ Productivity

Two recent reviews of studies on large groups for wean-finish pigs (Wolter and Ellis, 2002; Turner et al., 2003), as well as analysis of our own data from the Prairie Swine Centre (Samarakone and Gonyou, 2003), have reached similar conclusions concerning the effect of large groups on productivity. Managing pigs in large groups of 100 or more will result in a reduction in average daily

gain of 1-2%. In general the reduction occurs during the nursery or grower phase. Our own data suggest that the reduction takes place during the first 2-4 weeks after the group is formed (generally the nursery or grower phase) and that gain is equivalent in large and small groups thereafter. Greater emphasis on the management immediately after group formation is needed and may reduce this problem.

Other aspects of productivity show little or no response to large group sizes. The variability of weights within a weekly weaning group is similar at the time of marketing in both large and small groups. The proportion of pigs removed for health reasons has also been reported to be similar in the studies reported. In fact, several studies and reports from producers suggest that morbidity may be reduced by up to one half in large groups. Outbreaks of behavioural vices, such as tail biting, have been anticipated, but not forthcoming as researchers and producers adopt large group management.

In short, any loss in productivity in large groups appears to be small, and is likely offset by advantages in facility costs and flexibility of management. We need to improve our care of the animals at the time of regrouping, hoping to reduce the temporary reduction in growth rate. But there are other aspects of management that we recognize need to be addressed.

▪ Social Management

We have studied the level of aggression when large groups are formed. It is not any greater than in small groups, and many pigs are able to escape fighting altogether. Pigs in large groups also develop a 'tolerant' attitude to strangers. New pigs can be added to the group with little ensuing aggression. This is true both within the large pens, and also in separate pens similar to temporary holding facilities. I have seen market weight pigs from two large groups combined in holding pens prior to loading with no evidence of aggressive behaviour. The use of large groups may have significant positive implications for the social management of animals going to market or remaining behind on the farm. It may also be the case that animals from large grow-finish groups will better adapt to group housing systems for the breeding herd.

▪ Facility Design

Managers of very large groups (over 500 pigs) have reported that lying and dunging patterns are very consistent. Pigs lie against the wall or pen dividers, and dung in the centre of the pen. It is tempting to suggest that a partial slat system could be used in barn design. However, experience with remodeling existing partial-slat facilities suggests caution is necessary. One feature of

large groups is that space utilization can change considerably as pigs grow to fill the pen. My experience has been that it would be unwise to attempt to renovate partial-slat facilities from small to large group pens. Poor dunging patterns may become established early, resulting in unacceptably high levels of ammonia and increased labour costs for cleaning.

■ Day-to-Day Management

One of the biggest changes to management is that of health and feeder checks. Whereas many technicians will inspect small pens from the centre alley (even when encouraged to enter the pen), this is impossible with large groups. Entering the pen is necessary to inspect both the pigs and the feeders. Typically the technician will enter the pen and follow a circuit that takes them by each feeder and into most areas of the pen. In fact, a thorough inspection of animals and feeders takes less time in large group pens than an inspection of a similar number of pigs in small pens. However, the technician must be prepared to fend off a large number of pigs that crowd around during this inspection. Whenever possible, two or more technicians should work together to ensure safety.

Treatment of animals in large groups would, on first impression, be problematic. How does one catch and inject an animal requiring treatment? However, pigs in large groups are generally approachable, and particularly so when ill or lame. Animals may be herded out of the pen and retained elsewhere for repeated treatment. Others have reported that pigs requiring treatment are easy to find as they generally seek out protected areas of the pen, such as in a corner out of the traffic flow.

■ Sorting and Handling

Handling large groups can be difficult, particularly if facilities are not adequately planned. Hallways need to be wider than conventional barns to allow larger groups to move through them. The handler must still be able to contact the front pigs in the group. In some situations it will be best to have two handlers, one working near the front of the group and another at the rear. Doorways should be wider as well. Working within the pen, it will be harder to prevent animals from coming back past you as you cannot control the entire width of the pen. However, but providing properly sized hallways and holding pens, it is possible to greatly improve handling of large groups.

Having recognized that handling can be a problem, the question of sorting becomes very important. Most of our systems require frequent and precise sorts, meaning that animals must go across a scale. If a manual sort is done,

that is pigs are driven across a scale, the facilities must be very well planned. The use of a circular 'tub' with crowding gates to move animals into a short single file chute into a scale would be well worth the investment in terms of saved time.

The alternative to a manual sort is to use automatic or electronic sorters. In general, these single pig scales are set up in the entrance to a feeding 'court'. One manufacturer places them in the exit from a drinking court. As pigs move through the scale, they are weighed and directed to a light or heavy side. The sorters are used not only to separate out the pigs ready for market, but also to sort for diet or feed supplement.

Electronic sorters are being used in two ways: for forced or voluntary sorts. In a forced sort the pigs are herded though the sorter when markets are being assembled. As would be expected, good gating and lots of labour are required. The second type of sort is a continuous voluntary sort. The pig moves through the scale as it goes to feed. Such a sort is much less stressful on the pig. However, pigs require training if they are to sort themselves.

Training must be done when the system is first put into place. Pigs are trained by being herded through the scale. However, they need not be herded quickly. Confining the pigs to a training area from which they must exit through the scale can be effective. Only the last few pigs will have to be herded through. It may take 3-4 days before pigs are sufficiently comfortable with the procedure that they will enter the scale on their own.

The problems encountered with training usually involve poorly designed facilities or lack of dedication in management. The key to success is to think through and design appropriate penning for training as well as market sorting. It is then necessary to ensure that this is a priority for the staff. Pigs that fail to learn to use the sorter will be deprived of feed, experience inappropriate levels of suffering, and increase labour requirements for separation and treatment.

Although groups of 100 may be manually sorted relatively easily, groups of 500 or more should be sorted electronically. It is generally recommended that such large pens have permanent sorters, rather than attempting to train large pigs to sort during the last few weeks in the pen. We know little about the set back that occurs during training, but we would anticipate that some would occur.

We do not know how large of a group can be managed with one sorter. Certainly groups of 500 are being managed on a single sorter. Some farms are operating groups of 700, but the impact on performance is unknown. Counting the number of entrances into a sorter in a day would indicate that between 1500 and 2000 are possible during a 24 hour period. This would provide an average of three entrances per pig for groups of 500-700.

Sorters also enable producers to better manage variation in their herds. By collecting weight data on each pig that enters the scale, a very accurate distribution of weights in the pen can be obtained. The manager then knows to within a few pigs how many have reached market weight, or what minimum weight must be met in order to obtain a full load.

Conclusions

Large groups of grow-finish pigs represent a new development in swine management. Productivity can be maintained at a high level, and any decrease is probably offset by reduced costs. The key to good management is to understand how to handle large groups and to design appropriate gating and penning arrangements. The use of electronic sorters is likely to become standard for very large groups. Training the animals to use the sorters is critical, but once accomplished, the sorters can be used to incorporate new management possibilities such as phase feeding and grid sensitive marketing.

References

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