

# Large Group Auto-Sort: Potential and Problems

H.W. Gonyou and D.L. Whittington

## SUMMARY

Large Group Auto Sort (LGAS) systems are being used successfully on a number of operations. In general they are achieving their potential in terms of sorting pigs for market. They are infrequently used to sort pigs towards different diets, even though considerable potential exists for improved efficiency. Loss of productivity remains a significant problem on some operations, although better designed food courts and better training generally address the problem. LGAS requires the collaboration and dedication of the manufacturer/distributor, the farm manager, and staff to ensure its success.

## INTRODUCTION

Large Group Auto Sort (LGAS) is a relatively new system that applies electronic technology to the management of grow-finish pigs. The ability of the modern industry to assemble several hundred animals of a similar weight into one pen has made the application of electronic scales and sorting gates cost effective. But the method has received mixed reviews. A number of operations have removed the scales or are using them at less than their planned efficiency, yet others are enthusiastic about the benefits to their operation. We have been monitoring progress in the technology over the past few years, been involved in a producer satisfaction survey, and are conducting a series of trials at our PSC Elstow Research Farm. LGAS has a number of potential advantages, but a number of problems have also been identified.



Individual pigs are weighed each time they pass through the sorter in order to enter the food court

## POTENTIAL

1. Reduced labour at sorting. Rather than herding pigs to and through a set of scales, LGAS weighs and sorts pigs as they enter the food court.
2. Hitting the grid. Pigs can be sorted for market the day before shipping, reducing the error involved in pulling pigs based on week-old weights.
3. Split phase feeding. Large and small pigs within the same pen can be fed separate diets that better match their nutrient requirements. Although recognized as a potential for the system, it is rarely practiced. Most systems have not installed additional feed lines that would be needed to accomplish this option.
4. Paylean management. As pigs approach market weight they can be sorted to the heavy feed court to receive Paylean for the maximum allowable period. All pigs in the group can receive Paylean rather than the final two groups to be marketed. Again, this potential has rarely been achieved.
5. Easier handling, reduced losses during transport. Easier handling and loading has been anecdotally reported, and transport surveys have confirmed an advantage of LGAS.

*'While there are many benefits to a large group, auto-sort system, one must ensure the system is managed properly to ensure the greatest potential possible.'*

## PROBLEMS

1. Poor performance. The most successful operations report losses of less than 3% in average daily gain, but some report in excess of 10%. Food court design probably accounts for much of this discrepancy. It is critical that the food court provide easily accessible feeding spaces.
2. Training of pigs. LGAS only works if pigs move easily through the scale en-route to the food court. Most producers favour a gradual training method in which the food court is accessible through several openings for the first few weeks. These openings are gradually closed until the pigs must enter through the scale only. Fewer than 5% of pigs should fail to learn the system.
3. Managing the pigs. Although pigs in large groups are generally as healthy as pigs in conventional pens, they do require health checks and occasional treatment. Health checking requires walking through all areas of the pen. Relief pens, for suspect animals at the beginning of the grow-out period, for those requiring treatment, and for those that fail to learn the system.

4. Managing the program. Although the software is generally easy to manage, there is a learning curve. Managers must ensure that their staff understands the need to monitor pig performance and ensure the program sorts properly.
5. Manufacturer/distributor support. A number of operations have indicated that they could have used more support from the manufacturers or distributors in planning their system, installation, and initial operation.



A one-way gate allows pigs to re-enter the lying area from the food court, but ensures the sorter remains the only access to the food court from the lying area.

Although results from LGAS are improving, and the majority of operations that have used them would install them again, some operations continue to report substantial problems even though they have done everything according to recommendations. The causes of these problems are sometimes difficult to identify, and some producers consider the program a failure.

#### FURTHER RESEARCH AT PRAIRIE SWINE CENTRE

In 2005, two fully-slatted large group grower-finisher rooms with capacity for 280 pigs each were modified to include auto sorters. A series of studies have been proposed to identify aspects of pen layout, design and pig behaviour that are limiting productivity or impacting on pig behaviour. The first series of studies will be completed in early 2007 and look at the question of handling ease and indicators of stress at transport and comparing pigs housed in large groups (approx. 280 pigs/pen versus small groups (18 pigs per pen).

During the grow-out period animals will be housed and managed as per typical industry norms in each housing system. Measures included are days of transport, physiological sampling for breathing rate, body temperature, skin blotching and cortisol (hormone levels). These measure were taken in the barn, on the truck and at the packing plant After being off loaded from the truck. Comparison of these indicators of stress will help to determine any physiological differences on animals linked to differences in ease of handling at market. Additional observations of speed of pig movement at loading and the amount of required use of pushing or use of prod were also made.

#### IMPLICATIONS

Manufacturers, distributors and managers must be aware that LGAS requires their attention during the design, installation, and initial operating phases. Only when staff feel comfortable with the day to day management of the system will LGAS be capable of achieving its potential. The potential to differentially feed animals of different weights within a pen is yet to be achieved, and requires greater attention to feed delivery systems.