

TOOLS FOR DECISION-MAKING IN MARKETING HOGS

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ABSTRACT

This paper considers some of the factors relevant to maximising revenue when marketing hogs, the sources of information related to those factors, and some topics concerning the interpretation and use of information. It reviews some of the tools available to help make profitable marketing decisions.

INTRODUCTION

After the job of raising a hog is done, whether or not a profit is made may depend on the final step: marketing. We all know that cost of production is a key component of the profitability of any operation. The other side of the profitability equation is revenue. Maximising revenue is as worthy a business pursuit as reducing cost of production.

The carcass weight targeted by a grading grid primarily determines when hogs are marketed. A variety of factors, from pig variation to space requirements to holidays, influence shipping practices resulting in a less-than-perfect fit with the grading grid's target range. Some of these factors can be controlled or managed to maximise financial returns.

MAKING INFORMED DECISIONS

Market Information

Most producers in Ontario will be familiar with the swine budgets in OMAF's Pork News and Views Newsletter, and the weekly Hog Market Facts¹. Ontario Pork's website currently has a page devoted to sources of market information². Their site also provides information on forward contracts, price determination, and historical sales data among many other relevant topics, as well as the Online Information Knowledge Database that allows producers access to their own data online.

These and other sources of market information provide the basis for making decisions involving feed or hog prices, and so on. I won't elaborate on these resources - the need for such essential information is obvious. Basing shipping decisions on predictions of weekly rises or falls in hog price is also outside of the scope of this paper.

¹ The swine budgets and the Hog Market Facts are prepared by John Bancroft, Swine Grower-Finisher Specialist, OMAF.

² <http://www.ontariopork.on.ca/ProducerInfo/marketinformation.htm>

Grading Grids

There are a number of grids available, and choosing one that suits the pigs (performance capacity) and producer (shipping flexibility, potential premiums, etc.) requires weighing options as well as pigs.

Two computer software tools that can incorporate grid data and allow comparisons relevant to a particular operation are the "PorkMaster" software³ for the PC, from the Department of Animal and Poultry Science, University of Guelph, and OMAF and Ridgetown College's "Finishing Sense" Returns Model, also for the PC. Both programs allow the input of new grading grids, calculate the effect on revenue based on entered values for market price, feed costs (based on phase feeding), and animal performance, etc. PorkMaster has the ability to evaluate the effect of variation in carcass characteristics, including sort loss (discussed in the next section). The Returns Model incorporates premiums that grids may offer, and a number of other factors, but does not currently model variation.

Sort Loss

Loss of revenue is incurred when carcasses miss the grading grid's targets for lean yield or weight. Unfortunately the value of this loss isn't itemised on the settlement statement, but it can be estimated by tallying the numbers of carcasses on the statement that didn't fit into the target and calculating the resulting revenue missed. This will also illustrate that even if the average weight and average lean yield of a group appear to hit the target, many carcasses may in fact lie outside it. While an average weight for a pen may seem adequate for shipping, it's important to remember that carcasses are graded individually.

It has been suggested that in herds where weights are closely monitored, and hogs are shipped weekly, the standard deviation of carcass weights should be around 4 kg, so that 66% of carcass weights should fall within plus or minus 4 kg of the average weight (de Lange, 1997). Many grids (but not all, especially certain newer ones) will accommodate biweekly shipping without penalty as long as weight is accurately monitored. With a narrow grid, accurate weekly shipping can be very important.

To minimise this source of lost revenue, careful attention needs to be paid to the grading grid in effect, and knowledge of the shipping weight necessary to achieve the best possible fit with the targeted carcass weight and lean yield. This in turn requires an understanding of the growth characteristics of the pigs and the dressing percentage at the packing plant. This information can be developed only by a routine review of shipping weights and the resulting settlement statement. Knowing how shipping weight affects carcass weight and lean yield enables effective adjustment of the shipping strategy. Obviously, getting the shipping weight right is a fundamental starting point. There is always variation in a herd, but here is where it can be managed, at least to some extent. Grading grids use a sharp cut-off, not a gradual one, and hitting the next higher weight class could mean a loss of 10-14 points (using the Ontario Grid as an example). This translates directly to lost revenue.

³ See: <http://www.aps.uoguelph.ca/~porkm/>

The first tool to have on hand in order to obtain this objective is, of course, an accurate weigh scale. In addition, the “Hog Target Weight Calculator”⁴ is a tool for quickly determining the required shipping weight depending on the target carcass weight and dressing percentage. It can also be used to see what carcass weight is likely to result from shipping hogs at a given live weight, or to see what effect a change in dressing percentage (which may result from extended transport times) might have on carcass weight.

Accurately weighing pigs prior to shipping can result in greater returns than possibly any other manual effort in pork production. Hiring a neighbouring student to spend a few evening hours weighing and marking could produce a fine return. From a survey of 34 pork producers in Kansas, the estimated return on one employee spending 2 hours per week weighing market hogs ranged from US\$41.53 to US\$190.38 per hour, depending on the sort loss to begin with (Keeler *et al.*, 1994). Automatic sorters are another approach.

Carcass quality can also be affected by handling decisions - shipping time is not the time to take chances with the investment already made in a finished animal. Relevant resources are the “Should this pig be transported?”⁵ and “Caring for Compromised Pigs” publications from Ontario Pork.

Marginal Feed Cost and Marginal Return

After pigs have reached the minimum weight demanded by the grading grid, another consideration may be whether or not it is profitable to continue to feed to higher weights. This is particularly important when feed cost is high, and more so if market prices are also low. It also assumes that the main driver is not the need to free up the facilities for incoming animals. In order to make an informed decision, good information is needed on the feed conversion ratio (FCR) of the herd over the relevant weight range (in addition to the change in lean yield discussed earlier). This is important since conversion normally declines as animals get larger, and can really only be estimated with any accuracy by measuring it in the barn. Once this information is in hand, incremental calculations of the added cost of feed (the marginal feed cost) and the added value of the carcass (the marginal return) can be made, and the point where profit peaks can be determined.

While the calculations can be done by anyone handy with a pocket calculator or spreadsheet and comfortable with the math, there are tools available to make it easier. The PorkMaster and Returns Model programs mentioned earlier can both help with this question, although in different ways. As described already, PorkMaster can help interpret the impact of variation in carcass characteristics on the results, but the incremental calculations must be done step-by-step. The Returns Model, on the other hand, ignores variation but automatically iterates over a range of market weights while accounting for changes in cost of feed and carcass value. I have run a number of scenarios in both programs and the results are essentially the same. Besides being a mutual confirmation of the validity of the two models, this result suggests that either program could be used to evaluate marginal cost questions⁶.

⁴ Supplied at the conference; available from OMAF.

⁵ Available at <http://www.ontariopork.on.ca/issues/animalcare/decisiontree.pdf>

⁶ We hope to join these two complementary programs at some time.

Another tool for the hard-core spreadsheet buff is the BEAR2000: Budgeting Enterprises and Analysing Risk program from OMAF. BEAR2000 is a powerful Excel template for analysing the financial aspects of a number of different agricultural operations. It does require some commitment in setting up the enterprise data.

“Tail-enders”

Another important question that has not been adequately modelled (to my knowledge) is the problem of when to move light pigs at the end of a batch. This is particularly relevant to all-in/all-out systems. Is it worthwhile keeping these pigs, or moving them to a separate facility for finishing? The latter is certainly necessary to reduce disease transmission to newcomers if the space is needed for incoming pigs. Nevertheless, are the economics valid? Good record-keeping will provide the answer here as elsewhere - are these pigs “tail-enders” because they got a slow start, or because they are poor performers and trying to get them to finish weight is throwing more feed away? They may cost more than they are worth, especially if they tie up space. The best strategy may be to arrange to ship on two separate grids to accommodate another degree of variation in the herd.

CONCLUSIONS

The information required for making good marketing decisions, and the advice and tools for interpreting the information, are all available. Putting it all together is worth the effort.

Niche marketing gets a lot of attention these days. There is one niche available to every producer, with little risk and modest effort required - providing carcasses that fit into the highest possible index score on the relevant grading grid. Shipping weight is under the producer's control, and lean yield is to some extent if the factors determining it are understood. So is pork quality, as affected by handling and transport and pre-shipping feeding strategies. The potential impact on revenue is very great.

LITERATURE CITED

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