

COST BENEFIT OF VACCINES AND MEDICATION - NICKELS AND DIMES?

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ABSTRACT

Recent low hog prices have driven successful Ontario producers to focus on cost control like never before. While not one of the major cost centres in swine production, veterinary inputs are a significant expense, and there are opportunities to review and reduce costs.

INTRODUCTION

Veterinary or health-related costs, per pig, for a farrow-to-finish farm in Ontario have been estimated at \$7.70 per pig, or 4.5% of the total cost of production (\$167.46 total cost per pig) (Richards, 2008). Of course, much of the variation in health cost amongst different farms is due to differences in productivity, health status, and business goals, but aside from this, costs may also vary because a critical review of health spending has not been undertaken. This paper will review the costs and benefits of some veterinary and health inputs, with the purpose of providing a framework for discussion between producers and their attending veterinarians.

VETERINARY INPUTS AS COMMODITIES

Vaccines

It is not, strictly speaking, appropriate to treat swine biologics as commodities; each manufacturer has obtained a unique drug identification number (DIN) from Health Canada, based on the fact that their products have real differences in: manufacturing method, antigen, adjuvant, presentation, and labelling. In spite of this, efficacy comparisons, when available, are not commonly based on randomized, controlled trials. Some such comparisons are equivocal regarding real economic differences between vaccines (Thacker, 1998; Cunningham, 2005) Thus, on some farms, for some pathogens, moving from a higher-cost biologic to a lower-cost biologic is a sensible option, especially if the disease challenge is low. This decision should be made carefully, in consultation with the herd veterinarian. Examples of diseases for which the producer might consider a low-cost biologic could include: enzootic (*Mycoplasma*) pneumonia, parvovirus/leptospirosis/erysipelas, suckling piglet diarrhea.

In addition to vaccines, producers and veterinarians can collaborate to consider lower cost antiparasitic programs, reproductive hormone protocols, and ancillary treatment protocols (e.g. piglet iron injections) to reduce cost in some situations.

Injectable Antibiotics

Swine producers and veterinarians are fortunate that in 2009, in PCV-2-controlled herds, the use of many of the available injectable antibiotics will result in a clinical response! This was not the case prior to the introduction of PCV-2 vaccines.

There are several considerations in choosing an appropriate injectable antibiotic for use in swine: label indications and withdrawal time are usually the primary concerns. But when creating a medication plan, cost per dose should be another deciding factor. Selecting a low cost injectable antibiotic as the primary treatment—in consultation with the herd veterinarian—can significantly reduce cost, especially in disease-challenged finishing herds.

COST BENEFIT ANALYSIS OF VETERINARY INPUTS

Circovirus Vaccines

PCV-2 vaccines have been the most significant advancement in swine health in the past decade. The stark improvements in clinical presentation, and subsequent improvements in performance, have been remarkable. The cost to benefit ratio for PCV-2 vaccine use is very strongly positive, even for farms with minimal evidence of clinical PCV-2 disease (Maitland, 2008).

There does not appear to be one standardized approach to PCV-2 vaccine protocol design; there are significant differences between commercial products which make the PCV-2 vaccine decision a critical point at which a producer needs to involve his/her veterinarian. Questions of dosage, timing, product, and use with other vaccines are all critical to successful PCV-2 control.

Feed Medications

Many feed budgets have been stripped of the high levels of feed-grade antibiotics that were used to control clinical signs during the worst years of PCV-2. However, we should not forget that growth promotion through use of feed medication is efficacious and cost effective (Walsh, 2007; Walter, 2000). Feed budgets should be reviewed to minimize cost without impacting productivity. Of course, the benefit of growth promoters is through sparing feed ingredients through improved feed efficiency. A simple spreadsheet can help guide feed medication decisions as feed prices change.

Metaphylaxis

The recent introduction of several long-acting, broad-spectrum injectable antibiotics has stimulated interest in metaphylaxis (treatment of an at-risk group within a population of pigs). For example, the use of Draxxin Injectable has been shown to be cost effective for metaphylaxis in several species, including lightweight weaned pigs (Allerson, 2007; Booker, 2007).

Health Program Review

Because many production systems are complicated, involving numerous participants, and because there is a tendency for health product use to be additive over time, we promote and facilitate a periodic review of veterinary costs to ensure that:

- 1) Product purchase over time is in line with pig inventory (e.g. doses of iron purchased versus number of pigs born).
- 2) Ineffective, costly products are purged from the animal health plan.
- 3) Opportunities to add value through new health products (e.g. metaphylaxis using long-acting injectable antibiotics) are explored.
- 4) Health care cost per pig is in line with other similar production units (i.e. benchmarking).

This review can be conveniently incorporated into the CQA validation process, when producers and veterinarian are already reviewing animal health products from the food safety perspective.

CONCLUSIONS

In our highly competitive, global, meat production system, the ability to analyze and reduce costs without sacrificing productivity is a core competency for all farms, small or large. Working in collaboration with one's herd veterinarian, a periodic, thorough review of all animal health-related spending can save thousands of dollars for an average Ontario farrow-to-finish farm.

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