

# Profitability of preconditioning: lessons learned from an 11-year case study of an Indiana beef herd

W. Mark Hilton, DVM, DABVP<sup>1</sup>; Nicole J. Olynk, PhD<sup>2</sup>

<sup>1</sup>College of Veterinary Medicine, Purdue University, West Lafayette, IN 47907

<sup>2</sup>Department of Agricultural Economics, Purdue University, West Lafayette, IN 47907

## Introduction

Preconditioning (PC) generally refers to methods used to adequately prepare a calf for a successful feedlot experience. The details of various preconditioning programs have been annotated elsewhere. In all programs, calves are vaccinated for viral respiratory diseases and seven to eight clostridial organisms; dewormed; treated for lice and grubs; bulls are castrated; and horned calves are dehorned. In most programs calves are weaned for  $\geq 30$  days, and calves are trained to eat from a bank and drink from a fountain or tank.

## Materials and Methods

Financial and production data from a beef cow herd (n=125 cows) in Indiana were collected and analyzed from 1999 - 2009 to determine the profitability of PC.

## Results

### Keys to PC Success

**1. Team Building:** Developing a team—It takes time and practice to develop a beef management team for a farm and acknowledge skill building. Beef production is becoming increasingly complex, and producers are relying on advisers in health, nutrition, finances, pasture management, and genetics to yield the best results. The herd health veterinarian and extension educator can be key resource people for the team.

**Practice makes perfect—**In our test herd, the mean return to labor and management was \$37.28 per calf during the first three years on the program and \$91.41 per calf in years nine through 11. Managerial skill building to successfully incorporate PC into the farm operation will take time.

**2. Weight Gain:** Pounds pay—Results of research on the profitability of PC indicates that increased gain means increased profits. Calves gaining only 1 to 1.5 lb (0.5 to 0.7 kg) per day have the majority of their nutrition going to maintenance functions, whereas calves gaining 2.5 to 3 lb (1.1 to 1.4 kg) per day have the majority of their dry matter intake going toward weight gain. Farmers get paid for gain, not maintenance. Develop a ration where a gain of 2.5 to 3 lb (1.1 to 1.4 kg) per day is possible.

**Efficiency pays—**Newly weaned calves are very efficient in converting feedstuffs to beef. The cost per pound

of gain generally increases as calves get heavier, so adding these “cheapest” pounds is very cost effective and is best done on the farm of origin.

**More days equals more profit—**In our study herd, there was a positive relationship between days preconditioned and overall profit. Newly weaned calves are stressed, and weight gain the first week post-weaning can be negative to miniscule. If we have a 30-day PC program, the first week during which there is approximately 0 lb gained represents almost 25% of the total PC time. If calves are PC for 70 days, that first week becomes an almost insignificant 10% of the overall PC timetable.

### 2. Herd Health and Nutrition

**Nutrition is key—**Newly weaned calves can consume the majority of their calories from co-product feeds that are high in fiber. Prices for these feedstuffs tend to be lower than feedstuffs with similar energy values, such as corn and oats. Working with a nutritionist will allow cattle to eat a balanced ration that optimizes growth rate while adding muscle and not fat.

**Health during PC—**Calves weaned in a low-stress manner at the farm of origin experience minimal health concerns. Morbidity rates  $< 2\%$  and mortality rates  $< 0.5\%$  are common. With a solid vaccination, weaning, nutrition, and environmental plan, health concerns should be nearly non-existent.

**3. Marketing Preconditioned Calves:** PC bonus—Many papers on PC focus mostly to exclusively on the PC bonus that the buyer pays because the calves have PC tags or paperwork. The study we conducted showed that 63% of the profit for PC was because of added weight sold, and only 37% because of the bonus. Our conclusion is to focus on the items outlined above, which provide the best opportunity to make PC pay.

**Selling calves—**If a bonus for PC is to be obtained, the herd owner must take a more active role in marketing the calves. Examples are to sell calves at a sale where PC calves are featured, or sell via private treaty. If calves are sold through normal marketing channels, the chances that there will be a PC bonus are remote.

## Significance

Each beef herd is unique, and an assessment of cost-effective strategies should be examined with a team of advisers. In most herds, preconditioning calves before sale will have a significant impact on overall herd profitability.