

# VETERINARY CALL

by Bob Larson, Kansas State University

## Cattle Health Affects Carcass Traits

*Carcass traits are influenced by more than just genetics.*

While it is true carcass traits are largely influenced by the genetic decisions of seedstock and commercial cow-calf producers and the feeding decisions of feedlot managers and nutritionists, the animal health decisions made by producers and veterinarians also play a role. A number of studies have indicated muscling, marbling and tenderness all can be negatively affected by cattle health problems.

Bovine respiratory disease (pneumonia) is the most important cause of illness and death in feedlot cattle. Several studies have shown cattle that experienced respiratory disease had lighter hot carcass weight, lower dressing percent, less internal fat, lower marbling scores, less external fat and smaller ribeye areas compared to cattle that had not experienced respiratory disease.

Scientists don't have a clear picture of how disease affects carcass traits, but a combination of changes in hormones such as insulin, growth hormone and other signals that direct the growth of muscle and the deposition of fat, are likely involved. In addition, just the fact that cattle are off feed while they are sick may affect the pattern of muscle growth and fat deposition.

The negative effects of disease on carcass traits may not be confined to

the time cattle are in a feedyard. As we learn more about muscle growth and fat deposition, it appears stress, disease or poor nutrition — even early in life — can have consequences on feedlot and carcass performance.

This understanding makes a lifelong health and nutrition plan to minimize disease risk and ensure optimum growth important for efficient production of a desirable beef product.


Lifelong cattle health starts with the cow being in good body condition and receiving all necessary nutrients throughout pregnancy and then giving birth without calving difficulty in a clean environment.

If the calf is born healthy, able to quickly stand and suckle, and not exposed to mud and manure, it is likely to avoid the risk of scours and pneumonia during the time period from birth to weaning. Adequate forage availability for both the cow and calf until weaning is essential to maintain optimum health and to ensure the calf has optimum postweaning growth and health.

Effective vaccines are available for a number of important disease-causing germs, including those that contribute to bovine respiratory disease. In addition, proper use and timing of deworming and external parasite treatments greatly aids cattle

health and well-being. The time period around weaning is a period of high risk for respiratory disease and other diseases. Implementation of well-designed preconditioning programs that utilize low-stress weaning, vaccinations, parasite control, and acclimation to postweaning diets and feeding and watering equipment is an excellent disease control strategy.

Carcass premiums such as *Certified Angus Beef*® (CAB®) and pricing on carcass merit grids have caused the veterinary profession to re-evaluate the cost of cattle diseases.

Historically, veterinarians and beef producers have considered the cost of disease to be confined to death loss, treatment cost, decreased feed efficiency and reduced live weight. However, because many cattle are now sold on a carcass merit basis, disease has the potential to affect profitability also through the amount, location and ratio of muscle, fat, water and the ultimate desirability of the final product. 

*Editor's note: Robert L. Larson is a professor of production medicine and executive director of Veterinary Medicine Continuing Education at Kansas State University.*