

CALVING EASE

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Sam Leadley (Attica Veterinary Associates) and Pam Sojda (Offhaus Farms)

FEED ME!! I'M YOURS!

As a follow-up to the January discussion led by Dr. Jerry Bertoldo (Attica Vet) on "normal" pre-weaned calf digestion, Jerry adds these notes.

"Just like the handy book about feeding your new infant, we need to have information about the dietary peculiarities of the steady stream of bovine newborns. Their mothers provide us with an ideal, no-questions-asked product. Colostrum and milk. We would need to know little else about digestion in the pre-ruminant calf if we fed whole milk and some tender grass until 80 days of age or so. (That's the age when we consider them 'rumen competent'.)

Calves could be weaned at this age (11-12 weeks), put on a high quality forage-based diet with ionophores [Ed. note - Rumensin, Bovatec are examples], vitamins and minerals. Things would be peachy - no problems.

BUT, reality and economics don't agree with those practices. Earlier weaning and the use of milk replacers are widely accepted practices. Given these methods, now we need to know about the quality and digestibility of what goes into that bag of milk replacer. Here are some one-liner suggestions about young calf nutrition.

- Since rennin is the major protein enzyme in the calf for the first three weeks, non-milk source proteins are not well digested in this period. Modified soy-based proteins after this time are fair substitutes.
- No matter what the source of protein, excessive heat generated in processing the material can turn the milk replacer protein in a true 'by-pass' protein. The whiter and sweeter the replacer, the better. Darker color and caramelized odors may indicate denatured [Ed., that is, cooked] and unavailable proteins.
- Although fat digestion capabilities do not get into high gear

until a calf is eight days old, high fat replacers (as well as high milkfat colostrum and milk) have a scour preventing effect.

- Of the sugars, lactose (aka milk sugar) is the best followed by glucose and dextrose.
- Starch digestion becomes efficient past three to four weeks of age. This lag is due primarily to rumen function, not enzyme activity. This may tell us that starch from wheat, barley, corn and other grains found in calf starters is not very useful in the first few weeks of life.
- Anything that is eaten, but not digested by the calf in the stomach or small intestine, becomes food for the bacteria in the rest of the gut. Since the multiplication of these harmful bacteria is often the cause of scours, anything we do to promote intake of age-appropriate nutrients (read, will get digested in stomach or small intestine) will suppress scouring. Stop scours? Starve the bugs!
- Although 'nutritional' scours (defined as overfeeding milk or quality milk replacer) is possible, almost all cases of scours are due to underlying disease."

Many thanks from all of us to Jerry for assembling these timely guidelines on calf nutrition.

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