

# High-forage cow diets start with calf rumen



## Milk it!

By Vicky Carson

OVER the last couple of months, I've piqued quite a bit of interest in high-forage diets. If you're truly interested in feeding high-forage diets to lactating cows, it starts with developing good rumens in your calves. It's essential, and here's why.

Each calf is born with a small, "sterile" rumen about the size of your fist. Over her first year of life, that rumen must grow to more than 2% of her body weight, develop specialized tissues and blood vessels, and become populated with microorganisms. And, her metabolism must shift from obtaining all nutrients from milk to utilizing fermentation end products.

Big changes must occur for her to be able to use a high-forage diet; most will occur in her first four months. The transition is nothing short of amazing!

### How to help it along

Using a good-quality, fresh starter is the first step in switching calves to solid feed. Offer them starter as soon as possible. I start offering starter from day one in the hutches.

"Fresh" is vital. Clean, dry, fresh starter should be offered everyday. I remove leftover starter every afternoon and replace it with fresh.

Use just a handful to begin, until they're eating it. Then, I bump up the amount everyday until there's at least a pound left over.

I feed the refusals to calves that are transitioning from hutches to group housing. They can use the extra nutrients during this stressful transition.

Starter is necessary for rumen development; it's fermented to butyrate, which promotes rumen papillae and vascular (blood vessel) development. The more you foster that development, the better the rumen will absorb volatile fatty acids from fermentation.

Forget dry hay at this stage; it doesn't promote papillae growth. As the rumen grows



### Key Points

- Calves start life with a fist-sized, "sterile" rumen.
- Hold off dry hay while starting up calves' rumen processing.
- Topdress starter for first two to three weeks of group housing.

and develops, calves struggle to get enough nutrients to maintain themselves and grow.

Dry hay takes up rumen space — space that would otherwise be used for more nutrient-dense starter. Since intake is limited, your starter also needs to provide energy, protein, vitamins and minerals post-ruminally for digestion and absorption. So carefully scrutinize what you use. Price isn't the only factor.

### Ease weaning stress

Most calves don't begin to eat starter much before 2 weeks of age. Once they begin, it takes two to three weeks for intake to come close to meeting nutritional needs. I recommend weaning once starter intake is 4 to 6 pounds for five consecutive days. Here are some weaning tips:

■ Two strategies work well. One is to reduce the amount of milk offered by half at each feeding. The other is to reduce milk replacer powder by half, but keep the total volume of liquid feed the same. Both stimulate solid-feed intake.

■ Clean, fresh water should be offered from day one. It's essential for dry-feed intake and to develop the rumen. It increases the physical distention of the rumen wall and provides

the aqueous environment for microorganisms.

■ Once calves have been on solid feed for two or three days, offer good-quality, clean, dry hay in limited quantities.

■ If possible, keep calves in individual housing for two to three weeks postweaning. That ensures adequate intake and minimizes weaning stress. When moving weaned calves to group housing, move them in small, even numbered groups; groups of four to six work well.

Many calves lose weight during this transition due to changing environments and to having new roommates and competing for feed.

That's why I recommend offering them the same diet (calf starter and dry hay) for two to three weeks after shifting them to group housing. Once acclimated to their new living situation, they can begin to receive fermented forages or total mixed ration.

Continue topdressing a starter or a heifer grower on grain and offer dry hay. Giving the calf two to three weeks to adjust to each change in diet or housing allows the rumen and microbes time to adapt.

Easing calves through these changes makes it easier to minimize rumen shock. If you allow the rumen to grow and fully develop during their first 12 to 15 months, breeding-age heifers can be fed a diet of mostly forage, plus a vitamin and mineral supplement.

Carson and her husband, Steve, partner in Harkdale Farms of Neubury, Vt. She's also a consulting dairy nutritionist.

## Livestock News Update

### Gender-selected semen offered

I N December's issue, you learned about the new Decisive sexed semen deal between Monsanto and Genex. Not to be forgotten, Select Sires recently announced that dairy producer interest has picked up in that company's gender-selected sires program. Bull numbers in the program are rapidly growing.

Currently, sexed semen is available on 17 Holstein bulls, two Jersey bulls and one Brown Swiss bull at stud. The patented sex-sorting technology has 90% purity, says Mel DeJarnette, Select Sires senior reproduction specialist. This technology "can definitely improve profitability by minimizing unwanted bull calf births."



**SEXED SIRE:** O.F. Barber Rocket, a Jersey bull, is a highly popular gender-selected sire for Select Sires.

### Japan still 'beefs' about latest mistake by USDA inspectors

T HE celebration of Japan's reopening the door to U.S. beef imports was still under way when the door slammed again. A costly gaff in mid-January by USDA inspectors and a Brooklyn, N.Y., meat processor resulted in banned veal bones being exported in one of the first shipments to that country. And Japan's inspectors caught it.

"Under U.S. regulations, the backbone, or vertebral column, that was exported to Japan is not a specified-risk material because it was in beef under 30 months," explains U.S. Ag Secretary Mike Johanns. "However, our agreement with Japan is to export beef with no vertebral column. We failed to meet the terms of that agreement."

USDA promptly dropped Atlantic Veal and Lamb from its approved exporter list. Johanns quickly moved to double inspections required for export and instituted "refresher courses" for inspectors.

Atlantic Veal and Lamb issued a statement: "We regret there was a misinterpretation of the export requirements and that an honest mistake involving a very small amount of product has led to this degree of concern."

As we went to press, Japan still had not reopened the door to U.S. beef. But other Asian countries resumed beef imports. While the initial U.S. market impact was negative, longer-term impact seems unlikely, report U.S. beef industry analysts. With the original ban on U.S. beef exports, the Southern Hemisphere's beef industry picked up major market share.

### Novartis launches marketing of *Lepto hardjo-bovis* combo

T HIS winter, Novartis began marketing its first inactivated viral vaccine combination of *L. hardjo-bovis* plus antigens to three bovine viral diarrhea strains and other respiratory diseases. It's called Vira Shield 6+L5<sup>HB</sup>. It combats infertility and reduced profitability caused by hardjo-bovis, the most common U.S. bovine leptospirosis strain.

John Landon, marketing manager for Novartis Animal Health, says it protects dairy and beef cattle against all five leptospiras plus up to seven other disease organisms. A Somnus version of it protects against *Haemophilus somnus*.

The inactivated components of Vira Shield 6+L5<sup>HB</sup> are safe for use in pregnant animals. Dairy producers can vaccinate at dry-off with no worry of lost milk production associated with vaccination. The new vaccines are labeled for use in calves, heifers, cows and bulls.

### Vista vaccines get label change

I NTERVET reports that its Vista 5 L5 SQ, L5 SQ and VL5 SQ vaccines are labeled as an aid in preventing urinary shedding of *Leptospira hardjo* organisms. Veterinary Services Manager Scott Nordstrom says Vista 5 L5 SQ vaccine is the only single-dose *Lepto hardjo-bovis* protection in combination in a five-way leptovaccine.

"Because *Lepto hardjo* primarily is transmitted via the urine of an infected animal, a vaccine that aids in the prevention of urinary shedding is paramount to protection," he adds. It's even important in herds protected through sound vaccination programs.

## Rumen fermentation enhancers will pay off

RUMEN fermentation enhancers, such as Fermenten, help calves and heifers transition from liquid feed to solid feed. They provide amino acids, peptides

and non-protein nitrogen to stimulate rumen microbe growth and efficiency.

They help microbes convert feed dry matter to usable organic matter. That's especially

crucial to develop a growing calf's rumen.

Calves spend less time adapting to dietary changes. That pays off in better feed efficiency and faster growth rates.