

## Do You Have Laminitis In Your Herd?

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**NEWARK, Del.** — Do you have laminitis in your animals? If you answer "yes" to the following list of possibilities, you can expect the presence of this condition in your herd.

1. Are your cows in a loose-housing or stanchion barn system where they stand a lot on wet, cold concrete and in manure that isn't removed daily?

2. Are your cows lying down on wet, cold and manure-covered concrete alleys instead of in dry free stalls or dry, bedded areas, pens or stalls?

3. Are your cows standing in a muddy barnyard and lying down there instead of on dry, grassy pasture?

4. When going to and from the pasture, do your cows walk again and again over the same worn, muddy lanes that you have tried to stabilize with gravel, crushed stones, or worse — crushed cinder?

5. Do your cows eat silage or hay from a trough that has remained for a long time in the same muddy place in the middle of a field?

6. Do your cows go a long time between hoof-trimmings?

7. Does more than one out of 10 cows show symptoms of lameness?

8. Are you a good dairy farmer as evidenced by the daily milk production level of your cows and your feeding levels of concentrates?

Older dairy farmers who used to work with horses know the term laminitis. It's typically applied to horses as the condition also known as "founder."

However, new research has shown that the condition applies as much — maybe more — to

dairy cattle. Its incidence isn't fully appreciated, because laminitis isn't a contagious disease like mastitis or tuberculosis.

Laminitis occurs as a consequence of management, especially nutritional management, often in the better herds, and to a large extent, it's preventable.

It has been established that laminitis in dairy cows is the result of many factors. Nutrition is the dominant one.

Cows show various signs of difficult and painful walking behavior. Blood spots, hemorrhage, open sores and discoloration of the hoof, sole, claw and between the claws are visible. Also, the sole is softer, wears more and injures more easily against hard pointed objects, stones and pebbles.

Lameness is usually not just simple foot injury, although the condition is aggravated by a sloppy, wet environment. Evidence indicates that the symptoms of laminitis lameness are first and foremost the result of inappropriate changes in the rumen of dairy cows, mostly in high-producing cows.

Thus, laminitis is among the preventable management diseases, better called disorders, such as ketosis, milk fever, enterotoxemia, parakeratosis and low milk-fat syndrome.

These disorders share the common denominator of inappropriate feeding of the rumen of cows. Except for milk fever, all of the above ailments have two things in common — excessive concentrate energy feeding in relation to the necessary balance with sufficient fiber content, and not enough length of fiber in the daily diet.

The energy excess and shortage of fiber produces a shift in rumen pH, resulting in a condition called acidosis. Acidosis is caused by an

out-of-balance proliferation of lactobacillus, streptococcus and other bacterial species, accompanied by the simultaneous reduction in the numbers of beneficial bacteria.

This causes the release of endotoxins and histamine, which affect the delicate blood vessels of the claw and laminar tissues of the hoof. The result is heightened pressure, blood clots, hemorrhage, injury to the tissues, hoof deterioration, painful walking and lameness (laminitis).

For dairy goats and sheep the conditions and causes are very similar to those of dairy cows. In fact, the cure tried for the so-called "overeating" disease familiar to breeders of high-producing dairy goats often is vaccination against enterotoxemia when what is called for is correction of acidosis from faulty feeding regimes.

Faulty feeding of heifers has been linked to laminitis. When heifers are pushed to grow fast and gain more than 1.7 pounds daily in order to reach 24-month first calving, they are likely to have claw sole hemorrhages stemming from acidosis.

Other causes of acidosis include: 1) high amounts of starch and sugar in the ration without enough salivary buffering from fiber rumination; 2) "slug" feeding of concentrates instead of several meals per day; 3) finely chopped silage or haylage; 4) absence of baled hay; 5) and, in the case of exceeding the 50 percent

limit of concentrate-to-roughage ratio when feeding very high-producing dairy animals, the absence of buffer supplements to the ration like sodium bicarbonate, magnesium oxide and calcium carbonate.

In addition to acidosis in the rumen from faulty dairy rations, it is also known that excessive amounts of protein in the ration produce histamine and high levels of rumen ammonia and blood urea, all of which affect and assault the microcirculation of the claw tissues.

On the other hand, in some studies, rations supplemented with zinc have been beneficial. This augmentation has resulted in stronger hoof texture, fewer heel

cracks and improvement to interdigital dermatitis — overall, improved hoof health.

The primary drawbacks, however, are excessive amounts of energy from the now much debated class of "non-structural" or "rapidly" fermentable or soluble carbohydrates, formerly known simply as starch and sugars.

These aren't listed in feed content tables, and you can expect to learn a lot about this in the coming months as a way toward more profitable dairying. You will also be hearing more about the prevention or correction of the costly laminitis cases in your herd, because in terms of economic losses, laminitis ranks right behind mastitis and reproduction.

## Herd Management Software Available On Trial Basis

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ing key for \$299. It's very user friendly and data can be entered for multiple cows without switching screens.

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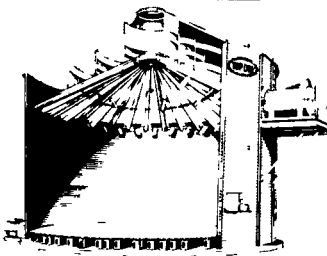
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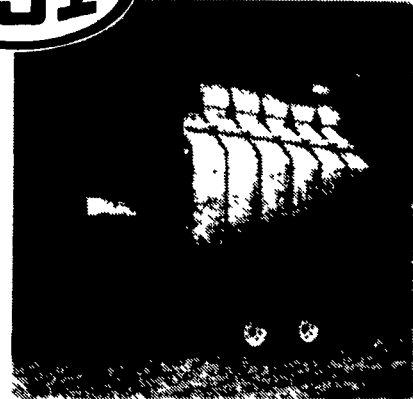
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