

# TECHNICAL BULLETIN

## DAIRY



## HEMORRHAGIC BOWEL SYNDROME RELATED TO FEEDING PRACTICES?

Hemorrhagic Bowel Syndrome (HBS), also known as jejunal hemorrhagic syndrome or “dead gut,” is an emerging disease of dairy cattle in North America. While it affects all breeds of dairy cattle, it only afflicts a small percentage of cows in any given herd. However, the fatality rate of affected animals is 85% or higher. Cows with HBS are virtually untreatable and often suffer sudden death before even being detected as ill.

Researchers have not pinpointed a definite causative organism(s) or management factor(s), but it is a true syndrome - meaning it takes a combination of at least two factors working together to cause clinical illness. Thus, development of HBS could be a result of combination of *Clostridium perfringens type A* and *Aspergillus fumigatus* in combination with one or more of the feeding practices discussed below. Clinical signs of HBS include: scant, dark red, hemorrhagic feces or an absence of feces due to intestinal blockage.

### ***Feeding practices that may be related to the HBS syndrome:***

- 1) Feeding rations that are sorted** - Feed bunk management allowing or encouraging TMR sorting resulting in high carbohydrate intake and inadequate fiber intake has been indicated in HBS. Affected cows seem to be those that are the most aggressive eaters in early lactation.
- 2) Feeding excessively high-starch rations or rations with too finely ground corn or inadequate fiber or effective fiber content** - All contribute to sub-acute ruminal acidosis (SARA) or acute rumen acidosis, both of which tend to exacerbate lameness and laminitis. SARA may be associated with bypass of starch to the lower gut. Ruminal acidosis can severely damage gut mucosa, predisposing animals to colonization by invasive molds and other pathogens.
- 3) Feeding poorly or incompletely fermented feeds** - Outbreaks of HBS have been noted following the introduction of new crop corn silage and feeding *Clostridium perfringens type A* positive alfalfa silage.
- 4) Feeding moldy feed** - Rations containing high levels of mold, particularly those containing *A.fumigatus* have been implicated in HBS outbreak.
- 5) Abrupt ration changes** - Anything disrupting feed intake could trigger an outbreak. The most susceptible cows are working on the edge - anytime a cows' intake changes appreciably, the risk of up HBS increases.

### **Practical management steps to aid reduction of HBS incidence resulting from feeding practices:**

- Manage the bunk to minimize sorting, keeping feed pushed up and removing old feed from the bunk. If cows are sorting, evaluate the TMR's particle size distribution and ingredient analyses with specific emphasis on NE<sub>1</sub>, NFC, fat and fiber fractions, as well as effective fiber.
- Make any ration changes gradually.

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- Follow best management practices for ensiling and feed out of forages and high moisture grain.
- Do not feed moldy feeds to pregnant or lactating animals.
- Discard the spoiled layer at the top of the silo. Extremely high concentrations of *A. fumigatus* spores (>1.25 million/gram) have been isolated from the spoiled layer of corn silage bunkers. Feeding OmniGen-AF™ has been shown to reduce susceptibility of cows to *A.fumigatus*.
- Use the appropriate QLF Liquid Supplement program to:
  - Reduce ration sorting.
  - Enhance palatability to encourage uniform intake of all TMR ingredients.
  - Provide supplemental sugar to enhance rumen function and replace part of the starch carbohydrate
  - Help maintain consistent consumption when ration ingredients change or when a ration ingredient is variable.
  - Provide a source of supplemental fat to replace part of the energy from starch.
  - Serve as a palatable, convenient and safe carrier for MYCO CURB® or Ultra CURB® to reduce mold and yeast growth that might trigger HBS.