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TECHNICAL INFORMATION FOR TODAY'S FEED PROFESSIONAL

Molds and Mycotoxins in Calf Starters

The cool and wet weather experienced throughout much of the country this fall has led to much concern over the presence of mold and mycotoxins in common feedstuffs such as corn grain. One of several possible uses of corn would be for on-farm mixing of calf starter (i.e., corn + protein pellet). The focus of this article is on what can be done to insure that the corn for on-farm mixing of calf starter does not contain unacceptable levels of mycotoxins.

Why are Mycotoxins a Concern for Calves?

While mycotoxins are a concern for virtually all classes of livestock, it is commonly stated that calves, both pre-weaned and recently weaned, are particularly susceptible to the negative effects of certain mycotoxins. The lack of a fully developed rumen is one reason why calves are more susceptible; mycotoxins can be partially degraded in the rumen resulting in a certain degree of detoxification. Some common symptoms of mycotoxicosis are:

- Loss of appetite, abnormal fecal color/consistency, inflammation of the gastrointestinal tract, immunosuppression, and decreased gain and feed efficiency.

These symptoms can be caused by several other calfhood diseases, but considering the harvest conditions and the increased risk for molds and mycotoxins it is important to be aware that contaminated corn may cause these symptoms as well.

Considerations for Sourcing Corn for Calf Starter

If considering using corn with possible mold/mycotoxin contamination for calves, consider the following:

- Not all molds produce mycotoxins of concern
- Lack of visible mold does not mean that mycotoxins are not present
- Presence of visible mold does not mean that mycotoxins are definitely present
- Determination of the type and concentration of mycotoxins can only be confirmed by laboratory analysis
- Always test the feed if mycotoxins are suspected
- Grain moisture content and storage conditions can either stop or exacerbate mold growth
    - Further mycotoxin production may occur if the corn is stored too wet
- Do not use corn with a high level of fines as they can contain very high mycotoxin concentrations

What about Purchased Complete Calf Starters?

Reputable feed suppliers should be monitoring mycotoxin concentrations in incoming ingredients as part of their quality control/quality assurance practices.

Resources:

There is a considerable amount of information available from various sources that address the nature of problems caused by mycotoxins, how to sample feedstuffs and where to submit the samples for analysis, and what questions to ask when sourcing feedstuffs. We encourage you to review the following sites to gain a greater understanding of the mold/mycotoxin challenge:

Iowa State, Ohio State, Kentucky, Penn State, and Purdue Extension:
http://www.oardc.ohio-state.edu/ohiofieldcropdisease/Mycotoxins/mycopagedefault.htm
University of Minnesota: http://www.extension.umn.edu/lateharvest/
North Carolina State: http://www.cals.ncsu.edu/an_sci/extension/dairy/mycoto~1.pdf
North Dakota State University: http://www.ag.ndsu.edu/cornmold
Pioneer Hi-Bred: http://www.pioneer.com/CMRoot/Pioneer/usa/agronomy/corn/corn_ear_mold.pdf
University of Wisconsin: http://fyi.uwex.edu/grain/

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