

Mycotoxins Are In The Forecast

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John, the dairy farmer, looked over at me and said “another one?” We had just finished up his herd health and only found one pregnant cow among six pregnancy checks. To make it more concerning, John wasn’t seeing any cows in heat. After asking a few questions it became clear that his cows stopped showing heats after switching to a new corn silage. The herds’ conception rate had decreased and production had gone down as well since the change. After we had a long discussion and ruled out several other causes, I suggested we test the feed for mycotoxins. “But my feed doesn’t have any mold” John countered. Although this was true, many times we can find mycotoxins without the presence of mold. Also, if the feed is moldy it doesn’t mean there will always be mycotoxins present.

With the hot dry summer we have had in Ontario and the wet fall during harvest season, I fear we are going to be seeing a lot of mycotoxins in dairy herds across the province. Mycotoxins are naturally occurring toxins that are produced by fungi that can grow on a variety of crops. They can develop both on the plant in the field and also after the feed has been harvested and is being stored. Early testing in Ontario this fall has found levels of field mycotoxins Zearalenone, Deoxynivalenol (DON) and T-2 higher than previous years.

The impact mycotoxins can have on your dairy herd include:

- Reduced milk production
- Poor fertility
- Silent or irregular heats
- Increased incidence of ketosis and displaced abomasums
- Immune system suppression
- Poor nutrient absorption
- Reduced feed intake

If you are seeing these signs in your herd and other potential contributing factors have been ruled out it is worthwhile to consider testing for mycotoxins.

Farms feeding a total mixed ration (TMR) should test the TMR as a starting point. Since the level of mycotoxins can vary throughout a grain bin or silo, taking multiple samples from 3-5 feedings then mixing them together to make a composite sample is recommended. When getting the sample tested it is important to use a testing method that will provide a quantified level of the mycotoxins in the sample and test for multiple toxins. If mycotoxins are detected in the TMR sample it is recommended to sample the individual ingredients to determine where the toxins are coming from.

Once mycotoxins have been found in your feed it is important to take measures to reduce the effect of these toxins on your cattle. If it is possible, consider selling the contaminated

feed or feeding it to a lower risk group other than your lactating dairy cows. Another alternative is to dilute the feed with good quality, mycotoxin free feed whether from another feed bunk or purchased from an off farm source. In many cases, with guidance from your veterinarian and nutritionist, a mycotoxin binder will be added to the ration. There are both organic and inorganic binders and they can have varying effects on the different types of mycotoxins. After adding a toxin binder and/or making ration changes to address a mycotoxin issue, an improvement should be seen in a few weeks. If no improvement is noticed further consultation with your veterinarian and nutritionist is required.

Preventative measures can go a long way to reducing the impact of mycotoxins on your farm. Pre-harvest it is important to consider crop rotation, chemical and biological control of infestation, tillage, irrigation to prevent drought stress, insect and weed control and crop hybrid/variety selection to help reduce mycotoxin contamination. Ensuring proper moisture content and forage length at harvest can make it easier to get your feed packed well for storage in the silo. Silage inoculants reduce the pH level in your silage to help limit mycotoxin formation. Managing your silo to reduce the risk of air exposure while trying to limit spoilage and heating during defacing and feeding will help prevent post-harvest mycotoxin growth.

Returning to John's herd we did test the ration for mycotoxins and the test was positive for two types. Once we added in a mycotoxin binder we were back to seeing heats and getting cows pregnant.

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