

Corn should be checked before feeding livestock

Written by Holyoke Enterprise

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Late harvest has had many of our corn farmers nervous, hoping that they can get the crop out before winter really sets in. It has also left many cattle producers nervous as they have wondered if they will be able to get any value out of corn stalk grazing before the next snow. However, there is another issue at stake that needs to be addressed before producers turn their cows out to stalks.

The wet, cool summer delayed corn from maturing as readily as it would in a normal year. Additionally, the early freeze caught a lot of corn before it was ready and caused the development process to stop. As a result, a lot of corn fields have maintained a high moisture content (many above 20 percent). This has led to the development of molds and fungi in a lot of fields.

The plant pathology diagnostic lab at Colorado State University has identified several molds and fungi on recent field corn samples. *Trichoderma*, *Nigrospora* and *Fusarium* have all been identified thus far, and the diagnostic lab is continuing to culture samples in search of other potential problems. Livestock producers need to be aware that these fungi may be present in the 2009 corn crop; both grain in the bin and ears of corn on the ground among stalks.

A couple of these fungi can be a potential problem for livestock. Purdy et al. reported in 2007 that *Trichoderma* concentrated in fine dust could cause lung lesions in goats when inhaled.

Research conducted by Teague in 1966 and Mitchell et al. as far back as 1947 suggest that *Nigrospora* may be involved in reduced intake and digestibility of corn, as well as decreased energy values of the grain. In some cases, Teague suggested vomiting and estrogen stimulation could also result among both male and female animals.

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A more prevalent threat can be found in the numerous *Fusarium* species. These fungi can produce two different categories of toxin. The lesser of the problems are the zearalenones, also known as F-2 toxin. Zearalenones can cause hyperestrogenism in both male and female livestock.

In females, this can lead to continual estrus and death of the ova, basically contributing to infertility. It can also cause “false pregnancies.”

Young, developing males exposed to zearalenones can develop in a more feminine fashion with pronounced mammary glands and testicular atrophy. Zearalenones can be a serious problem for swine. Cattle and sheep can have problems with this toxin at large dose levels but are not as susceptible as swine. In fact, some estrogen based growth implants for cattle are produced using this toxin.

Trichothecenes make up the more dangerous category of *Fusarium* toxins. There are more than 100 varieties of trichothecenes but the five that are the most concerning are T-2 toxin, HT-2 toxin, diacetoxyscirpenol (DAS), 15-monoacetoxyscirpenol (15-MAS) and deoxynivalenol (vomitoxin or DON). By many in the livestock industry, DON is considered to be one of the greater mycotoxin threats out there.

The trichothecenes can affect most livestock species as well as human beings. There is a long list of possible signs and symptoms but the ones that occur most commonly among most species of livestock are nausea, vomiting, feed refusal, inflammation, epithelial necrosis, diarrhea, abortion, hemorrhaging, hematological changes, nervous disturbances and death in severe cases.

The situation will continue to be monitored, and if updates to this information become necessary, due to new reports from the diagnostic lab or other events, they will be posted to the livestock section of the Golden Plains Area Extension website at <http://goldenplains.colostate.edu/>.