Cool, wet conditions are delaying harvest and now ear rot diseases and grain molds may be plaguing corn, a University of Nebraska plant pathologist says.

Some Nebraska farmers and crop consultants are observing rotted ears, which can be related to several ear rot diseases, said Tamra Jackson, UNL Extension plant pathologist in the university's Institute of Agriculture and Natural Resources.

"We are in a potentially serious situation right now because we are seeing increasing numbers of ear rot diseases which could lead to grain mold issues later," Jackson said.

Nebraska farmers should continue to scout their fields for these diseases, Jackson said. Ear rots and grain molds can reduce the quality of grain and lead to major deductions at the elevator.

"We recommend scouting to see how serious these conditions are so that farmers can take action," she said.

If there is a real problem, Jackson recommends avoiding storing the grain.

"It will only get worse in the bin," she said.

If it is stored, the corn needs to be dried down to below 15% moisture within 48 hours of harvest. Another option could be to sell it to a feedlot for livestock feed.

However, there may be the potential for mycotoxins, Jackson said.

The good news is that there have been no reports of toxic aflatoxin, which actually requires hot and dry conditions to produce. Alflatoxin is carcinogenic to humans and livestock with action levels established by the FDA. It is produced by the fungus that causes Aspergillus ear rot.

The most common problem seen so far this year has been Diplodia ear rot, also called stenocarpella, Jackson said.

Diplodia is a common disease in the Corn Belt.

The fungus that causes this disease does not produce a mycotoxin but can significantly reduce grain quality.

Extensive fungal growth usually begins at the base of the ear and can overtake the entire ear creating a lightweight mummified ear.

In addition to these symptoms, this disease can be recognized by the production of small raised, black fungal reproductive structures on infected kernels and stalks, giving it a rough feeling when touched.

“If you feel those back dots that feel like sandpaper, you may have Diplodia,” Jackson said.

Another disease that has been common this year is Fusarium ear rot.

Fusarium may infect any part of the ear and takes advantage of wounds created by insects or hail.

“The species that cause this disease also can secrete mycotoxins called fumonisins into the grain,” Jackson said.

Fumonisins are deadly to horses and in swine can cause porcine respiratory syndrome, said Michael Carlson, diagnostic toxicologist in UNL's Veterinary Diagnostic Center. This mycotoxin is carcinogenic, but is not as toxic at concentrations as low as that of aflatoxins.

Since so little of the 2009 corn has been harvested, it is unknown what fumonisin contamination is present, he said.

Other common ear rots and grain molds are Gibberella and Penicillium.

Gibberella is recognized by the red or pink discoloration of the kernels and the red or pink mycelium growing around the kernels. Mycotoxins called vomitoxin and zearalenone are produced by this fungus. Both of these are not regulated.

Vomitoxin and zearlalenone are not deadly to animals, but both can affect performance, Carlson said.

Vomitoxin is associated with feed refusal or decreased feed consumption. Thresholds for decreased feed intake are 1 part per million to swine and 10 to 20 parts per million in ruminant animals, such as cattle. Zearalenone typically is not at high enough levels to harm animals but can cause problems in swine reproduction.

Carlson said the bottom line for producers is to get a laboratory test if there is a concern.

Penicillium is another grain mold that can cause a discoloration of the embryo known as "blue eye" and may be accompanied by the production of penicillic acid, which is not usually a toxin concern. This disease is more of a storage problem and is favored by high moisture levels in grain bins. It has recently been reported in Nebraska.

For more information about ear rots and grain molds, including additional photographs of the diseases, consult the Oct. 23 issue of Crop Watch, UNL Extension's crop production newsletter, at

http://cropwatch.unl.edu and the Oct. 30 episode of "Market Journal" at http://marketjournal.unl.edu.

Crop Watch also has information updated weekly about drying grain in the bin and crop conditions around the state. "Market Journal" also will have an updated program on this subject Nov. 5.

Identification of the ear rots and grain molds can be made by the UNL Plant and Pest Diagnostic Clinic and sample submission forms and more information can be found on the Plant Disease Central Web site at http://pdc.unl.edu.

More information also can be found in UNL Extension NebGuides G1513, Understanding Fungal (Mold) Toxins (Mycotoxins); G1514, Use of Feed Contaminated with Fungal (Mold) Toxins (Mycotoxins); and G1515, Sampling and Analyzing Feed for Fungal (Mold) Toxins (Mycotoxins). These are available from a local UNL Extension office or online.