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## Crop disease levels ‘concerning’

Alberta farmers urged to use field management tools to prevent spread of ergot, fusarium

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MEDICINE HAT, Alta. — Diseases in the heads of grain crops are creating more frequent headaches for Alberta farmers.

Ergot and fusarium headblight are showing up more frequently and will have to be remedied with a variety of treatments, said Alberta Agriculture plant pathologist Michael Harding.

Speaking at the Dec. 2-3 Farming Smarter conference, Harding said figures show a steady rise of ergot contamination in the province, in contrast to Saskatchewan, where incidence sporadically rises and falls.

“That’s concerning,” said Harding.

Canadian Grain Commission statistics indicate that 20 percent of grain samples from some regions have been downgraded because of ergot in some recent years.

Fusarium statistics are no better.

Incidence of that disease has risen dramatically in the last five years, as has the severity.

“(Over that time), the average sample in Alberta would have been downgraded,” Harding said.

“Now we’re getting evidence from the Canadian Grain Commission that it’s increasing.”

Ergot differs from fusarium in its production of sclerotia, the fungal bodies that can overwinter in soil or in the grain bin.

The disease also has a second spore stage, during which an amber-coloured ooze called honeydew develops on the heads of cereal grain. This honeydew contains spores that can be splash dispersed or spread by insects.

Sclerotia replace kernels, leading to yield loss, downgraded quality and poisonous mycotoxins that are dangerous to humans and livestock.

Ergot is a problem in any monocot, including barley, wheat, oats, triticale, rye and grassy weeds.

Harding said researchers in Swift Current, Sask., and Winnipeg are making inroads in the ergot battle.

“Right now we don’t have any real resistance to ergot in any of our classes of wheat or barley, but on the horizon, that’s going to become a reality,” he said.

“My understanding is that there will be up and coming varieties that will have some level of increased tolerance. I don’t think it’s going to be complete resistance, but varieties that will do better, cultivars that will do better against ergot than the ones that we currently have. Right now it’s not a tool that’s available.”

That leaves management tools such as planting non-host rotation crops and increasing seeding rates to limit tillers.

Managing alternate hosts, such as weeds in ditches and headlands, can also limit infection. Harding recommended that headlands be harvested separately if possible because they are most likely to have ergot.

Delayed swathing might also allow wind to dislodge ergot bodies in the cereal heads, allowing a better grade.

The battle against fusarium will also require fights on different fronts, said Harding.

“Will fusarium graminearum become well established throughout the province? Maybe.”

Recent years of cool, wet growing seasons likely worsened the problem, he added.

“It could be that the weather has driven this situation, and it will back off if we get some warm summers, but we certainly see that it’s capable of being a problem in areas outside of southern Alberta.”

Fusarium is stubble-borne and produces two types of spores, leading to head blight as well as seedling blight.

Management keys include resistant varieties, fungicides to suppress it, healthy seed and crop residue management.