

To: Western Oregon Wheat Growers and Industry Reps

Subject: Sharp Eyespot in the Willamette Valley

Over the past several weeks, many of you have observed white heads developing in winter wheat fields across regions of the Willamette Valley. This problem was initially thought to be take-all root rot, however OSU has recently evaluated numerous samples in commercial fields and determined that the cause of the widespread white head symptoms is sharp eyespot.



White heads result from sharp eyespot infections



OSU's Chris Mundt evaluating infected fields

Sharp eyespot of wheat is caused by the soil-borne fungus *Rhizoctonia cerealis*. This pathogen typically produces no spores, but lives on crop residues and in the soil. Oval shaped lesions with dark outside margins near the base of the stem are characteristic of this disease. While some lesions can be found in the field, it is more common to see dark brown discoloration on the lower leaf sheath between the crown and the third node. It is also common to find bending of the stem at one of the lower nodes. As plants mature, infected stems ripen prematurely, producing white heads with shriveled kernels. Diseased tillers can be prone to lodging, although severe lodging has not yet been seen in the Willamette Valley.



Sharp eyespot lesions at base of a wheat plant.



Darkening and bending at a lower node and discoloration on the leaf sheath.

This pathogen is known to exist in the Willamette Valley but symptoms have never been extensive. It is thought that abnormal dry conditions have likely caused the disease to present itself and it is unlikely we will see this problem again in the near future. There are no known differences in varieties, and we have confirmed sharp eyespot on Kaseberg, Goetze, Legion and SY Ovation. Chemical control options, including fungicides and seed treatments, have not shown to be effective. Sharp eyespot generally does not result in the severe yield losses that occur from take-all root rot or strawbreaker foot rot infections. Many of the premature heads seem to be filled well at this point, though we expect to see lower test weight as plants dry down.

Feel free to contact us with any questions.

Nicole Anderson
OSU Field Crops Agent
(503) 553-9922

Chris Mundt
OSU Cereal Pathologist
(541) 737-5256

Mike Flowers
OSU Cereals Specialist
(541) 737-9940