

Plant pathologists: Varieties, fungicides help protect against rust in oats

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BROOKINGS, S.D. - Resistant varieties and fungicides can help producers deal with crown rust and stem rust in oats, plant pathologists at South Dakota State University and the University of Minnesota said.

SDSU small grains pathologist Jeff Stein and Charla Hollingsworth, an Extension plant pathologist for the University of Minnesota, discussed the issue, including treatment options, in an article available online at this link:

<http://www.extension.umn.edu/cropenews/2009/09MNCN06.html>.

Crown rust and stem rust are common on oats in the north central states, the two plant pathologists said. If environmental conditions favor rust development on susceptible hosts prior to grain fill, producers could see significant crop losses.

“While both diseases are responsible for repeated losses in oat, crown rust has a history of being the most damaging in this region because epidemics occur earlier in the growing season and with more regularity,” Stein added.

Several oat varieties are available with moderate to high levels of resistance to crown rust. These include ‘Stallion’ from South Dakota and ‘HiFi’, ‘Morton’ and ‘Souris’ from North Dakota. For more information, see South Dakota State University’s small grains and field peas varietal recommendations at this link:

<http://agbiopubs.sdstate.edu/articles/EC774-09.pdf>. A fungicide application might be required to preserve yield potential if a rust epidemic developed.

Fungicide options for oat are somewhat limited in comparison to wheat and barley; however, there are several products available that are effective at controlling both rusts. The two primary classes of fungicides labeled for use on oat in the region are the triazoles and strobilurins, Stein said.

Management of rusts is most effective when fungicides are applied on plant tissues before pathogens cause much disease, Stein and Hollingsworth said. As with the other cereal crops, keeping the flag leaf and peduncle (stem between flag leaf and panicle) tissues healthy is critically important when protecting yields and test weights.

“Managing rusts with fungicide is most likely to result in an economic benefit when the flag leaf or panicle is mostly emerged, when there are moderate levels of rust established in the lower canopy, and when weather conditions such as nightly dews promote infection and disease development,” Stein said.

An application of fungicide may not be economic if the flag leaf and/or panicle are already heavily rusted - that is, if pustules cover more than 20 percent of surface areas. Stein said that is because significant plant tissue damage has already occurred by scores of erupting pustules.

“Fungicides are effective tools at preventing disease establishment, but are much less useful for reversing their damaging effects,” Hollingsworth said.

Hollingsworth and Stein said disease management decisions must also include consideration of product and application costs, disease development and severity, stage of crop, and potential return on investment.

Direct Link to Article: http://www.farmandranchguide.com/articles/2009/06/11/ag_news/production_news/prod11.txt

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