

Wheat Disease Update – 10 May 2023  
Meriem Aoun, Small Grains Pathologist  
Department of Entomology & Plant Pathology  
Oklahoma State University - 127 Noble Research Center  
Email: meriem.aoun@okstate.edu  
Phone: 405-744-9753

Root rots were the primary diseases observed this week (May 8-9) in wheat fields and research trials in Cherokee (Alfalfa County), Alva (Woods County), and Lahoma (Garfield County). Infected plants were stunted, white, with discolored roots and stems. Peeling leaf sheaths in the lower stem internodes showed brown and pinkish discolorations on infected plants. Pink discoloration indicates infections by *Fusarium* species (**Figure 1**). Infected plants with root rot died prematurely and produced white heads that were either sterile or filled with shriveled seed.



**Figure 1.** Plants showing symptoms of root rots in a variety trial in Alva, OK (Woods County; Photo on May 9, 2023).

Fusarium root rot was also severe in Dr. Amanda Silva's research trial in Lahoma. In this experiment most varieties planted on October 30, 2022 showed higher root rot incidence and severity compared to plots planted on December 5, 2022. This shows that delayed planting can help reduce the severity of root rots (**Figure 2**).



**Figure 2.** Late planted wheat (on Dec. 5, 2022) showed lower Fusarium root rot incidence and severity compared to wheat planted on October 30, 2022 (Lahoma, Garfield County, OK; Photo on May 9, 2023).

Loose smut was observed in several fields in Alva, Cherokee, Lahoma, Chickasha (Grady County) and Stillwater (Payne County) (**Figure 3**). Freeze damaged wheat heads were also seen in Alva and Cherokee as shown in **Figure 4**.



**Figure 3.** Loose smut on wheat heads in Alva, Woods County, OK (May 9, 2023).



**Figure 4.** White heads caused by freeze damage in Alva, OK (Woods County; photo on May 9, 2023).

Leaf spotting diseases were observed in low to moderate incidence/severity mainly on the lower leaves in Alva, Cherokee, Lahoma, and Stillwater (**Figure 5**). Moisture during the last week of April and early May favored the appearance of these fungal foliar diseases.



**Figure 5.** Leaf spotting mainly on lower leaves in breeder plots in Lahoma, OK (May 9, 2023).

This week (May 3 – 9), spot blotch (caused by *Bipolaris sorokiniana*, which also causes common root rot, **Figure 6**) was observed in low incidence and severity in Stillwater, Lahoma, and Alva. In my previous update, I also reported low incidence/severity of spot blotch in Chickasha, OK on April 28.



**Figure 6.** Spot blotch symptoms in research plots at the OSU Entomology and Plant Pathology Research Farm in Stillwater, Oklahoma (May 3, 2023).

On May 4, a few stripe rust lesions were observed in the OSU Entomology and Plant Pathology farm in Stillwater (**Figure 7**). From my previous update, stripe rust was also reported in Chickasha, OK on April 21. On May 10, Brian Olson (OSU Wheat Pathology Lab Technician) reported a trace level of leaf rust (on a single leaf) in a wheat research plot at the OSU Agronomy farm in Stillwater, OK.



**Figure 7.** Stripe rust lesion observed in a wheat plot at the OSU Entomology and Plant Pathology farm in Stillwater, Oklahoma (Photo credit: Brian Olson; May 4, 2023).