

Wheat Disease Update – 17 April 2023
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During the last week of March and in early April, common root rot (caused by *Bipolaris sorokiniana*) was found in wheat samples from western Oklahoma. These samples were collected from fields in Washita, Kingfisher, Grant, and Ellis counties. A wheat sample collected by Josh Bushong (NW OSU Area Extension Agronomy specialist) in Grant County was impacted by Fusarium crown/root rot. These samples showed poor plant growth, yellow leaves, and discolored roots as shown in **Figure 1**.



Figure 1. Symptoms of common root rot in a sample collected from a wheat field in Sentinel, Washita County, OK on 23 March 2023.

On 10 April, barley yellow dwarf (BYD) symptoms were observed in the OSU Entomology & Plant Pathology Farm in Stillwater. The symptoms appeared as yellow discolorations on the leaves as shown in **Figure 2**. BYD virus is transmitted from plant to plant by cereal aphids. Enzyme linked immunosorbent assay (ELISA) on a symptomatic sample was positive for BYDV-PAV. BYDV-PAV is the most prevalent and damaging strain of BYDV and is transmitted primarily by bird-cherry oat aphids (**Figure 3**).



Figure 2. Barley yellow dwarf symptoms on the wheat variety 'Pete' (Stillwater, OK, 10 April 2023).



Figure 3. Bird-cherry oat aphids (Stillwater, OK; 10 April 2023).

On 31 March, the Plant Disease and Insect Diagnostic Laboratory at OSU received a wheat sample from Woods County showing symptoms of streaking on the leaves. Leaf streaks were greenish yellow and parallel as shown in **Figure 4**. ELISA confirmed that this sample was infected with wheat streak mosaic virus (WSMV). In my previous report on 27 March 2023, WSMV was detected in a sample from Stillwater.



Figure 4. Symptoms of wheat streak mosaic.

On 23 March, a wheat and soil samples from Blaine County were received at the OSU Plant Disease and Insect Diagnostic Lab. The plants were showing poor plant growth. There were multiple plant parasitic nematode species recovered from the soil sample including root-lesion, sting, and stubby-root nematodes (**Figure 5**). In another sample from Ellis County, a high population of stunt nematodes (*Tylenchorhynchus* sp.) was found. There were not many reports of nematode problems in wheat in Oklahoma in previous years, so further investigation is needed.

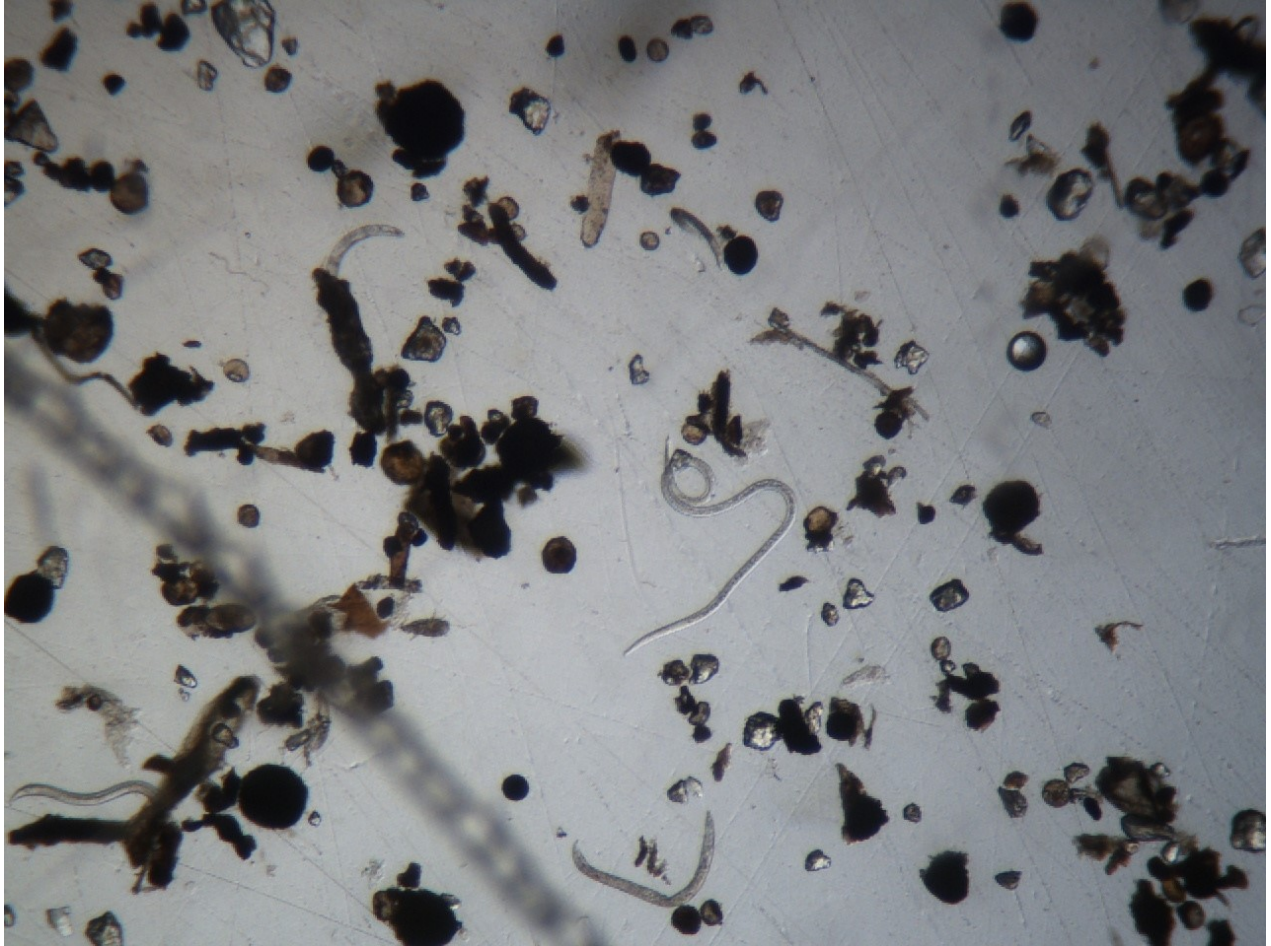


Figure 5. Nematodes in a soil sample from a wheat field in Blaine County, OK (23 March 2023).