

## Texas Tech University, Plant and Soil Science Spring Seminar 2024

**Title:** Fusarium Wilt of Cotton in the Southern High Plains: Its History, Current Situation, and Future

**Speaker:** Terry Wheeler, Ph.D. Texas A&M AgriLife Research, Lubbock

**Location:** MCOM (153)

**Date/Time:** Thursday, March 28<sup>th</sup> / 12:00 – 1:00 PM

**Abstract:** Fusarium wilt, which is caused by a complex of the fungus *Fusarium oxysporum* f. sp. *vasinfectum* (FOV) and the southern root-knot nematode has a long history in the Southern High Plains. This disease appeared in west Texas in the 1960's, and generally caused low to sporadically moderate losses with the stripper type varieties that were grown. Then in 2003, catastrophic losses occurred in fields that had planted the new FiberMax conventional varieties for 2-3 years. The next round of catastrophic losses occurred starting around 2015 to 2019, this time in fields that had been planted to new root-knot nematode resistant varieties. In 2017, FOV race 4 was confirmed in El Paso and Hudspeth Counties. This race is more aggressive than the historic races of FOV present in Texas and does not require root-knot nematode to cause catastrophic losses. Growing cotton profitably in the presence of Fusarium wilt has always been tied to using varieties that were less susceptible to FOV, or the fungal/nematode complex. It is critical to continue the search for and use of these resistant, or at least less susceptible varieties. Fortunately, sources of resistance have been identified for FOV race 4, but catastrophic losses are always possible with FOV, regardless of race, when high fungal densities are present and highly susceptible varieties are grown.

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