

Fungicide and variety selection for black shank management in flue-cured tobacco in North Carolina, 2019.

A fungicide program and variety selection trial were evaluated at the Upper Coastal Plain Research Station in Rocky Mount, NC. Tobacco plants were transplanted in the black shank nursery, a field with historically high black shank pressure in a Norfolk loamy sand soil. Treatments were planted in 50-ft long 4-row plots separated by 10-ft alleys and 46-in row spacing. Plots were arranged in a randomized complete block design with 4 replicates and a complete 2-way factorial to evaluate 3 different fungicide program treatments and 3 different tobacco varieties (K326, NC196, and NC1226). Tobacco plants were transplanted on 1 May, and the first cultivation and second cultivation (layby) were on 17 May and 27 June, respectively. Fungicide treatments were applied using a CO₂ pressurized backpack sprayer equipped with an XR110025 nozzle at 20 gal/A at 20 psi, then later mechanically incorporated during cultivation. Stand counts and black shank incidence were evaluated every 2 weeks, starting four weeks post-transplant. Data were summarized as percent disease incidence and the area under disease progress curve (AUDPC) and were analyzed using a weighted least square and beta regression with Tukey test (RStudio, 2019).

Black shank was first detected during week 7 after transplant (1 July). No significant difference was observed between the treatments for the AUDPC, but a significant difference was observed between the treatments with the resistant variety 1226 with the susceptible variety K326 for the disease percent incidence. Weather conditions for this year were favorable for the disease development. The site received 15.29 inches of rain for the month of May thru August, with high temperatures and humidity.

	Treatments		Rate	Application Timing
1	K326	Orondis Gold	10 fl oz/A	TPW ^y
2	K326	Orondis Gold	10 fl oz/A	TPW
		Presidio	4 fl oz/A	1 st cult
3	K326	Orondis Gold	10 fl oz/A	TPW
		Presidio	4 fl oz/A	Layby
4	NC196	Orondis Gold	10 fl oz/A	TPW ^y
5	NC196	Orondis Gold	10 fl oz/A	TPW
		Presidio	4 fl oz/A	1 st cult
6	NC196	Orondis Gold	10 fl oz/A	TPW
		Presidio	4 fl oz/A	Layby
7	NC1226	Orondis Gold	10 fl oz/A	TPW ^y
8	NC1226	Orondis Gold	10 fl oz/A	TPW
		Presidio	4 fl oz/A	1 st cult
9	NC1226	Orondis Gold	10 fl oz/A	TPW
		Presidio	4 fl oz/A	Layby
10	K326	--	--	--
11	NC196	--	--	--
12	NC1226	--	--	--

