

Evaluation of fungicides for control of powdery mildew of pumpkin, Kinston 2020.

The experiment was conducted at the Cunningham Research Station in Kinston, NC. Plots were single raised beds on 5-ft centers covered with white plastic mulch; 14-ft long with 5-ft fallow borders on each end and non-treated guard rows on each side. The previous year the field was planted with sweetpotato. Pumpkin was direct seeded on 14 Aug (2-ft in-row spacing, 2 seed/hill) and thinned to one plant per hill after emergence (7 plants/plot). Irrigation and fertilization (4-0-8, N-P-K) were applied via drip tape. Treatments were randomized into four complete blocks. Fungicide treatments were applied using a CO₂-pressurized backpack sprayer equipped with a handheld boom with hollow cone nozzle (TXVS-26) delivering 40 gal/A at 45 psi. Applications were made on: 4, 11, 21 and 28 Sep and 5 and 13 Oct. Disease severity was assessed on 28 Sep and 5, 13 and 20 Oct as percentage of total area colonized by *P. xanthii*. Data were analyzed in the software ARM (Gylling Data Management, Brookings, SD) using analysis of variance (AOV) and Fisher’s Protected LSD test to separate means.

Powdery mildew was first detected on 11 Sep at approximately 1% disease severity in the field. Disease progressed throughout the course of the experiment. Quintec high and low rate, Vivando and the combination treatment containing Quintec, Torino and Mettle provided control of powdery mildew. No phytotoxicity was observed. In the table, treatments are sorted by the final disease severity rating on 13 Oct.

Treatment and rate of product per acre	Application no. ^y	Disease severity ^z (%)		
		28 Sep	5 Oct	13 Oct
Quintec 2.08SC 6 fl oz	1-6	10.0c ^x	23.0c	42.8c
Vivando 2.5SC 15.4 fl oz	1-6	9.8c	22.0c	43.0c
Quintec 2.08SC 4 fl oz	1-6	9.8c	21.8c	43.3c
Quintec 2.08SC 6 fl oz	1, 4			
Torino 10SC 3.4 fl oz	2, 5			
Mettle 125ME 5 fl oz	3, 6	13.0b	26.8b	46.3c
Torino 10SC 3.4 fl oz	1-6	11.0c	28.5b	56.0b
Non-treated	N/A	19.8a	43.5a	74.8a

^z Disease rating scale based on percent of total leaf area colonized by *P. xanthii*.

^y Application dates: 1=4 Sep, 2=11 Sep, 3=21 Sep, 4=28 Sep, 5=5 Oct, 6=13 Oct.

^x Treatments followed by the same letter(s) within a column are not statistically different ($P=0.05$, Fisher’s Protected LSD).