

### Evaluation of fungicides for control of Southern Blight on pepper, Kinston 2018.

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; 15-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 lettuce. Pepper was transplanted on 1-ft in-row spacing with 15 plants/plot on 22 May. 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 CO<sub>2</sub>-pressurized backpack sprayer equipped with hollow cone nozzle (TXVS-26). Applications were made on 22 May, 20 Jun and 5 and 18 Jul. Disease incidence was assessed on 27 Jun and 5, 12, 18 and 24 Jul. Fruit were harvested on 27 Jun, 3, 10, 18 and 24 Jul. 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.

Southern blight was first detected on 20 Jun at approximately 5% disease severity in the field and progressed rapidly throughout the course of the trial. Excalia applied as a Drench at the High Rate followed by foliar sprays had the lowest level of disease and produced the greatest weight of total marketable fruit. No other treatments provided commercially acceptable levels of disease control. No phytotoxicity was observed.

Treatment and rate of product per acre	Application no. <sup>y</sup>	Disease incidence <sup>z</sup> (%)			Marktable yield (lb/plot)
		27 Jun	12 Jul	24 Jul	
Excalia (Drench) 2.84 SC 4 fl oz (HR)	1				
Excalia 2.84 SC 2 fl oz	3, 4	1.5 d <sup>x</sup> (10%)	4.0 d (27%)	4.3 d (28%)	20.45 a
Excalia (Drench) 2.84 SC 2 fl oz (LR)	1				
Excalia 2.84 SC 2 fl oz	3, 4	3.3 d (22%)	8.0 c (54%)	8.0 c (53%)	16.13 ab
Excalia (Drench) 2.84 SC 4 fl oz (HR)	1				
Excalia 2.84 SC 2 fl oz	2, 3, 4	3.8 d (25%)	7.8 c (52%)	8.3 c (55%)	14.95 ab
Excalia (Drench) 2.84 SC 2 fl oz (LR)	1				
Excalia 2.84 SC 2 fl oz	2, 3, 4	4.8 cd (32%)	10.0 bc (67%)	10.3 bc (68%)	9.58 bc
Excalia (Drench) 2.84 SC 2 fl oz (LR)	1				
Excalia 2.84 SC 2 fl oz	2, 3, 4	7.5 bc (50%)	12.0 ab (80%)	12.3 ab (82%)	6.80 cd
Priaxor 4.17 SC 8 fl oz	2, 3, 4	11.0 ab (73%)	13.8 a (92%)	13.8 ab (92%)	4.25 cd
Non-treated	N/A	13.8 a (92%)	14.8 a (98%)	14.8 a (98%)	1.18 d

<sup>z</sup> Disease incidence based on the average number of diseased plants per plot (15 plants/plot).

<sup>y</sup> Application dates: 1=22 May, 2=20 Jun, 5 Jul and 4=18 Jul.

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