

**Evaluation of fungicides for control of downy mildew on cucumber, Saratoga, NC 2020.**

The experiment was conducted at a commercial grower farm in Saratoga, NC. Plots were bareground, single raised beds on 5-ft centers; 14-ft long with 5-ft fallow borders on each end. In 2019, the field was planted with soybean. Cucumber was direct seeded on 19 Aug (9-10 plants/plot). Irrigation and fertilization 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 a handheld boom with a hollow cone nozzle (TXVS-26) delivering 40 gal/A at 45 psi. Applications were made on 4, 11, 22 and 28 Sep and 7 and 15 Oct. Disease severity was assessed on 11, 22 and 28 Sep and 7 and 15 Oct as percent leaf area with necrosis per plot. Data were analyzed in the software ARM (Gylling Data Management, Brookings, SD) using analysis of variance (AOV) and Fisher’s protected least significant difference (LSD) test to separate the means.

Downy mildew was first detected on 4 Sep at approximately 1% disease severity in the field and progressed throughout the course of the trial. Combination treatments containing weekly rotations of Previcur Flex, Orondis Opti, Ranman and Bravo Weather Stik all provided control of downy mildew when compared to the stand-alone Bravo Weather Stik treatment. No phytotoxicity was observed.

Treatment and rate of product per acre	Application no. <sup>y</sup>	Disease severity <sup>z</sup> (%)		
		11 Sep	28 Sep	15 Oct
Previcur Flex 6 F 19.2 fl oz	1, 4			
Bravo Weather Stik 6 SC 32 fl oz	1, 3, 4, 5			
Orondis Opti 0.83 OD 32 fl oz	2, 5			
Ranman 3.33 SC 2.75 fl oz	3, 6	8.8c <sup>x</sup>	26.0b	33.8b
Ranman 3.33 SC 2.75 fl oz	1, 4			
Bravo Weather Stik 6 SC 32 fl oz	1, 2, 4, 5			
Previcur Flex 6 F 19.2 fl oz	2, 5			
Orondis Opti 0.83 OD 32 fl oz	3, 6	12.3b	23.3c	36.8b
Orondis Opti 0.83 OD 32 fl oz	1, 4			
Ranman 3.33 SC 2.75 fl oz	2, 5			
Bravo Weather Stik 6 SC 32 fl oz	2, 3, 5, 6			
Previcur Flex 6 F 19.2 fl oz	3, 6	9.8c	25.8bc	38.5b
Bravo Weather Stik 6 SC 32 fl oz	1-6	16.3a	36.3a	52.5a

<sup>z</sup> Disease rating scale based on percent necrotic foliage caused by *P. cubensis*.

<sup>y</sup> Application dates; 1=4 Sep, 2=11 Sep, 3=22 Sep, 4=28 Sep, 5=7 Oct and 6=15 Oct.

<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).