

Evaluation of fungicides for control of downy mildew on pickling cucumber, 2009.

The experiment was conducted on a commercial farm in Bay County, MI, previously planted to dry beans, on sandy loam soil. On 8 Jul, pickling cucumber 'Lafayette' seeds were direct seeded in rows spaced 30 in. apart with 3 in. between plants within the row. Fertility and insects were managed according to standard commercial practices. The trial was arranged in a randomized complete block design with four replications. Treatment plots were 1 row wide and 20 ft long. Fungicide treatments were applied with a CO₂ backpack sprayer and a 2-nozzle boom with 50 mesh screens and 8003XR nozzles spaced 19 in. apart, calibrated to deliver 50 GPA. Treatments were applied on 29 Jul, 5 Aug, 12 Aug, 17 Aug, and 21 Aug. Foliar disease ratings for downy mildew were visually assessed on 17 Aug and 24-Aug, by estimating the % leaves infected and % infection per plot. The disease severity per plot was calculated by dividing the % leaves infected by 100 and multiplying by the % infection per plot. Marketable fruit were harvested on 24-Aug. Data were analyzed using SAS PROC MIXED and statistical differences were compared using the Fisher's Least Significant Differences test ($P=0.05$).

Disease occurred in the plot on 12-Aug and rapidly progressed throughout the season. All treatments had lower infected leaves (%), infection (%), and severity (%) than the untreated plot on 17-Aug. On 24-Aug, all treatments had lower leaves infected (%) than the untreated plot except 11,12,13. Treatments 2,3,4,5,6,7, and 9 had lower infection and severity on leaves (%) than 8,11,12, and 13. All treatments had statistically higher yields than the untreated control except one (13). Treatments 2 and 3 produced significantly higher yields than 10,11,12,13 and the untreated control.

Treatment and rate/A	Disease rating/plot						Marketable yield (lb/20 ft row)
	17-Aug			24-Aug			
	leaves infected (%)	infection on leaves (%)*	severity on leaves (%)	leaves infected (%)	infection on leaves (%)	severity on leaves (%)	
1 Untreated	47.5e	25.0 d	13.8 c	90.0d	70.0e	63.4f	10.1f
2 Previcur Flex 6EC 1.2 pt + Bravo Weather Stik 6SC 2.0 pt (A,C,E) Presidio 4SC 4 fl. oz. + Ranman 3.33SC 3 fl. oz. (B,D,F)	1.0a	1.0 a	0.1 a	6.3a	6.3a	0.4a	24.0a
3 Previcur Flex 6EC 1.2 pt + Bravo Weather Stik 6SC 2.0 pt (A,C,E) Tanos 50WP 8 oz + Manzate 75DF 3 lbs (B,D,F)	4.3a	3.5 a	0.2 a	28.8b	10.0a	2.9ab	21.6ab
4 Ranman 3.33SC 3 fl. oz. + Bravo Weather Stik 6SC 2.0 pt + Silwett 8.33EC 2 fl. oz. (A,C,E) Presidio 4SC 4 fl. oz. + Bravo Weather Stik 6SC 2.0 pt (B,D,F)	3.5a	2.0 a	0.1 a	16.3ab	6.3a	1.1a	20.7abc
5 Previcur Flex 6EC 1.2 pt + Bravo Weather Stik 6SC 2.0 pt (A,C,E) Reason 4.26SC 5.4 fl. oz. + Ranman 3.33SC 3 fl. oz. (B,D,F)	6.0ab	2.8 a	0.2 a	25.0b	8.8a	2.3ab	20.7abc
6 Previcur Flex 6EC 1.2 pt + Bravo Weather Stik 6SC 2.0 pt (A,C,E) USF2016A 3.41SC 3.2 fl. oz. + Ranman 3.33SC 3 fl. oz. (B,D,F)	3.5a	2.0 a	0.1 a	27.5b	8.8a	2.6ab	20.5abc
7 Previcur Flex 6EC 1.2 pt + Bravo Weather Stik 6SC 2.0 pt (A,C,E) Presidio 4SC 4 fl. oz. + Bravo Weather Stik 6SC 2.0 pt (B,D,F)	4.0a	2.8 a	0.2 a	15.0ab	5.0a	0.8a	19.6a-d
8 Previcur Flex 6EC 1.2 pt + Bravo Weather Stik 6SC 2.0 pt (A) Gavel 75DF 2 lbs (B,C,D,E,F)	10.0ab	6.3 ab	0.6 ab	55.0c	30.0c	18.1c	19.4a-d
9 Previcur Flex 6EC 1.2 pt + Bravo Weather Stik 6SC 2.0 pt (A,C,E) USF2017A 3.41SC 4.8 fl. oz. + Ranman 3.33SC 3 fl. oz. (B,D,F)	6.8ab	2.8 a	0.2 a	28.8b	15.0ab	5.8ab	17.8b-e
10 Catamaran 5.27SC + Previcur Flex 6EC 1.2 pt (A,B) Catamaran 5.27SC (C,D,E,F)	11.8ab	4.3 ab	0.5 ab	47.5c	26.3bc	12.6bc	16.3cde
11 Previcur Flex 6EC 1.2 pt + Bravo Weather Stik 6SC 2.0 pt (A) GWN-4700 80WP 3.2 oz + Bravo Weather Stik 6SC 2.0 pt + R56 2.7SL 4.5 fl. oz. (B,C,D,E,F)	17.5bc	4.3 ab	0.8 ab	80.0d	42.5d	34.3d	16.1cde
12 P-016B 23.4SC 1.56 pt (A,B,C,D,E,F)	28.8cd	11.3 bc	3.8 ab	88.8d	52.5d	46.5e	15.4de
13 P-016B 23.4SC 1.8 pt (A,B,C,D,E,F)	35.0d	13.8 c	5.3 b	90.0d	47.5d	42.8de	14.3ef

*Only those leaves with downy mildew were used to estimate the infection on leaves (%)