

Field evaluation of fungicide for controlling lettuce *Fusarium* wilt

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Objectives. Lettuce *Fusarium* wilt can cause significant problems in lettuce production from summer to fall in Salinas Valley. This study investigates fungicide treatments for controlling lettuce *Fusarium* wilt in the field.

Methods. One fungicide trial was conducted in a commercial lettuce field near Soledad with natural infestation of *Fusarium oxysporum* f. sp. *lactucae* to test the efficacy of select fungicides for controlling lettuce *Fusarium* wilt in 2024 (Photo 1). Head lettuce ‘Telluride’ was direct seeded on 28 August and drip irrigation was initiated to germinate the seeds on 30 August. Six fungicide treatments and a nontreated control were arranged in a randomized complete block design with four replications. Each plot consisted of five seedlines of lettuce that was 15-ft long on the 80-inch wide bed. Treatments were applied with a CO₂-pressurized backpack sprayer calibrated to deliver 79 gpa at 30 psi using a single TeeJet 8008evs flat fan nozzle in a 4-inch band over each seedline. The first fungicide applications were made on 29 August. Initial symptoms were observed at thinning on 10 September. Lettuce *Fusarium* wilt incidence was evaluated at harvest on 29 October. Disease incidence was expressed as the percentage of the number of plants with *Fusarium* wilt symptoms (dead, chlorotic leaves, or stunted) in the total number of plants within the plot (Photo 2). Data were analyzed using analysis of variance (ANOVA) and the Tukey test to separate means at $P < 0.05$. The average daily soil temperature (°F) at 6-inch depth and total rainfall were recorded at a nearby CIMIS weather station. The average daily soil temperature and total rainfall for the trial were 67.7°F and 0.22 inches, respectively.

Results (Table 1). The disease pressure in this trial area was low to moderate with nontreated control having 18.3% *Fusarium* wilt. None of the treatments applied to the plots and at the rates used significantly reduced the incidence of lettuce *Fusarium* wilt compared to the nontreated control.



Photo 1. The trial was conducted in a commercial lettuce field in Soledad



Photo 2. Symptoms of lettuce Fusarium wilt (arrows)

Table 1. Mean of Fusarium wilt incidence at harvest

Product and rate/A	Active ingredient	FRAC group	Days after the first application on 29 Aug ^z	Fusarium wilt (%/plot)
Nontreated	-	-	-	18.3 a ^x
Cevya 5 oz	Mefentrifluconazole	3	0, 11	17.0 a
Rhyme 7 oz	Flutriafol	3	0, 11, 22	14.5 a
Dyne-Amic 0.2% v/v	NIS	-		
Velum One 6.8 oz	Fluopyram	7	0, 11	13.0 a
Minuet 12 oz	Bacillus subtilis, QST 713 strain	44	0, 11	15.8 a
Velum One 6.8 oz	Fluopyram	7	0, 11	15.5 a
Minuet 12 oz	Bacillus subtilis, QST 713 strain	44		
Miravis Prime	Fludioxonil	12	0, 22	15.8 a
	Pydiflumetofen	7		
<i>P</i> -value ($\alpha=0.05$)				0.93

^zApplications were made on 29 Aug, 9 Sep, and 20 Sep depending on the specific treatment

^xNumbers in a column followed by the same letter are not significantly different based on Tukey's significant difference test ($P<0.05$).