

Evaluation of fungicides for control of *Sclerotinia* drop of lettuce, Kinston 2018.

The experiment was conducted at the Cunningham Research Station in Kinston, NC, in a *Sclerotinia sclerotiorum* nursery. Plots were bare ground double row beds on 5-ft. centers, 15-ft long with 5-ft fallow borders at each end. The previous year the field was planted with lettuce. Lettuce was transplanted in the field on 3 May in double rows spaced 12-in. apart with 12-in. plant spacing within the row (30 plants/plot). Irrigation and fertilization (4-0-8, N-P-K) were applied via drip tape on top of the soil surface. Treatments were randomized into four complete blocks. On 17, 22, 25 and 31 May, plots were inoculated by spreading and incorporating 125g of *Sclerotinia sclerotiorum* infested oat grain into the top inch of soil between the rows. Fungicide treatments were applied using a CO₂-pressurized backpack sprayer equipped with hollow cone nozzle (TXVS-26). Applications were made on a 14-day interval: 18 May and 1 Jun. Lettuce drop incidence was evaluated on 25 and 31 May and 8, 14, 21 and 27 Jun. Disease incidence was assessed as the number of plants collapsed or expressing symptoms of *S. sclerotiorum*. Data were analyzed in the software ARM (Gylling Data Management, Brookings, SD) using analysis of variance (AOV) and the Fishers Protected LSD test to separate means.

Lettuce drop was first observed on 17 May in about 1% of the field due to natural inoculum that was present in the field prior to artificial inoculation. These symptomatic plants were removed and replaced with transplants before the first spray application. Two applications of Endura, Miravis Prime (High Rate) and Fontelis resulted in the lowest disease incidence. Plots treated with a single application of Miravis Prime (HR) and two applications of Kenja and Miravis Prime (Low Rate) produced a lower percentage of drop when compared to the non-treated control. No phytotoxicity was observed.

Treatment and rate of product per acre	Application no. ^y	Disease incidence ^z (%)			Total
		31 May	14 Jun	27 Jun	
Endura 70 WG 11.0 oz wt	1,2	1.3 a ^x (4%)	3.3 a (11%)	2.5 c (8%)	7.0 c (23%)
Miravis Prime 400 SC 13.4 fl oz (HR)	1,2	2.5 a (8%)	2.8 a (9%)	2.8 c (9%)	8.0 c (27%)
Fontelis 1.67 SC 24.0 fl oz	1,2	2.8 a (9%)	3.5 a (12%)	2.5 c (8%)	8.8 c (29%)
Miravis Prime 400 SC 13.4 fl oz (HR)	1	1.8 a (6%)	4.3 a (14%)	3.5 bc (12%)	9.5 bc (32%)
Kenja 400 SC 12.3 oz	1,2	3.5 a (12%)	4.0 a (13%)	2.5 c (8%)	10.0 bc (33%)
Miravis Prime 400 SC 10.3 fl oz (LR)	1,2	2.5 a (8%)	5.5 a (18%)	4.3 b (14%)	12.3 b (41%)
Non-treated control	N/A	4.3 a (14%)	5.8 a (19%)	6.3 a (21%)	16.3 a (54%)

^z Disease incidence based on the average number of diseased plants per plot (30 plants/plot).

^y Application dates: 1=18 May, and 2=1 Jun.

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