

Evaluation of fungicides for control of *Sclerotinia* drop of lettuce, Kinston 2015.

The experiment was conducted at the Cunningham Research Station in Kinston, NC (N35°18.358'; W077°34.920'). Plots were bare ground double row beds on 42-in. centers, 20-ft long with 5-ft fallow borders at each end. The previous year the field was planted with lettuce followed with wheat as a cover crop. Lettuce was transplanted in the field on 15 Apr in double rows spaced 12-in. apart with 12-in. plant spacing within the row (40 plants/plot). Irrigation and fertilization were applied via drip tape on top of the soil surface. Treatments were randomized into four complete blocks. On 28 Apr, 1, 6 and 13 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 a 2-nozzle (19-in. spacing) handheld boom with hollow cone nozzles (TXVS-26) delivering 40 gal/A at 45 psi. Applications were made on a 14-day interval: 29 Apr and 14 May. Lettuce drop incidence was evaluated on 6, 13, 20 and 28 May and 3, 9, 17 and 23 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 Waller-Duncan test to separate means.

Lettuce drop was first observed on 28 Apr in about 2% 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 resulted in the lowest disease incidence. Plots treated with Contans produced a lower percentage of drop when compared to the non-treated. No phytotoxicity was observed. In the table, treatments are sorted by total disease incidence (%).

Treatment and rate of product per acre	Application No.	Disease Incidence* (%)				Total
		13 May	28 May	9 Jun	23 Jun	
Endura 70WG 11 oz	1,2	1.8 a** (4%)	7.5 a (19%)	3 b (8%)	3.8 a (9%)	16.3 b (41%)
Contans 5.3WG 2 lb	1,2	2.0 a (5%)	9.3 a (23%)	5 ab (11%)	3.3 a (8%)	19.0 ab (47%)
Experimental 1 13.7 fl oz	1,2	1.8 a (4%)	9.3 a (23%)	6 ab (14%)	4.0 a (10%)	20.5 ab (51%)
Fontelis 1.67SC 24 fl oz	1,2	3.5 a (9%)	8.5 a (21%)	6 ab (14%)	3.3 a (8%)	20.8 ab (52%)
Experimental 2 13.7 fl oz	1,2	3.3 a (8%)	10.3 a (26%)	5 ab (13%)	2.3 a (6%)	21.0 ab (53%)
Botran 75WP 1 lb	1,2	3.0 a (8%)	9.3 a (23%)	7 ab (16%)	3.3 a (8%)	22.0 ab (55%)
Non-treated	N/A	2.8 a (7%)	8.8 a (22%)	7 ab (18%)	3.5 a (9%)	22.0 ab (55%)
Experimental 1 10.3 fl oz	1,2	2.0 a (5%)	10.3 a (26%)	7 a (18%)	4.0 a (10%)	23.5 a (59%)
Total (%)		20.2 (6%)	73.3 (23%)	46 (14%)	27.5 (9%)	165.1 (52%)

* Disease incidence based on the average number of diseased plants per plot (40 plants/plot).

** Treatments followed by the same letter(s) within a column are not statistically different ($P=0.05$, Waller-Duncan $k=100$).