

Evaluation of fungicides for control of *Sclerotinia* drop of lettuce, Waynesville 2013.

The experiment was conducted at the Mountain Research Station in Waynesville, NC (N35°29.335'; W082°58.122'). Plots were bare ground double row beds on 42-in. centers, 20-ft long with 5-ft fallow borders at each end and non-treated guard rows on each side. The previous year the field was planted with lettuce followed by sunflowers with wheat as a cover crop. Lettuce was seeded in the greenhouse on 13 Feb and transplanted in the field on 10 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 below the soil surface. Treatments were randomized into four complete blocks. On 24 Apr, plots were infested by spreading and incorporating 100cc 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: 25 Apr and 8 May. Lettuce drop incidence was evaluated on 1, 8, 15, 22 and 30 May and 6 and 13 Jun. Disease incidence was assessed as the number of plants collapsed or diseased due to *S. sclerotiorum*. Data was 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 detected on 24 Apr in about 4% of the field due to natural inoculum that was present in the field prior to artificial inoculation. These diseased plants were removed and replaced with transplants before the first spray application. The Cannonball treatment produced the least number of diseased plants with drop. Rovral, Endura (high rate) and S-2200 (high rate) were similar in controlling drop. No phytotoxicity was observed. In the table, treatments are sorted by total disease incidence (%).

| Treatment and rate of product per acre, applied at 14-day intervals | Disease Incidence* [%] | | | |
|---------------------------------------------------------------------|------------------------|-------------------|------------------|--------------------|
| | 8 May | 22 May | 6 Jun | Total |
| Cannonball 50WG 7 oz..... | 8.3 a** (21%) | 2.3 c (6%) | 1.3 a (3%) | 11.8 d (29%) |
| Rovral 4F 2 pt..... | 8.3 a (21%) | 6.3 ab (16%) | 1.8 a (4%) | 16.3 cd (41%) |
| Endura 70WG 11 oz..... | 9.8 a (24%) | 4.5 bc (11%) | 2.0 a (5%) | 16.3 cd (41%) |
| S-2200 50WG 12 oz..... | 9.3 a (23%) | 5.5 ab (14%) | 3.0 a (8%) | 17.8 bcd (44%) |
| S-2200 50WG 6 oz + Quash 50WG 6 oz..... | 11.5 a (29%) | 6.3 ab (16%) | 2.5 a (6%) | 20.3 abc (51%) |
| Endura 70WG 8 oz..... | 14.0 a (35%) | 4.3 bc (11%) | 2.3 a (6%) | 20.5 abc (51%) |
| S-2200 50WG 6 oz..... | 11.5 a (29%) | 5.5 ab (14%) | 4.0 a (10%) | 21.0 abc (53%) |
| Fontelis 200SC 16 fl oz..... | 12.5 a (31%) | 7.8 a (19%) | 2.8 a (7%) | 23.0 ab (58%) |
| Non-Treated..... | 12.0 a (30%) | 7.3 ab (18%) | 5.3 a (13%) | 24.5 a (61%) |
| Total (%) | 97.2 (27%) | 49.8 (14%) | 25.0 (7%) | 171.5 (48%) |

* 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 $k=100$).