BEAN, SNAP (*Phaseolus vulgaris* 'Caprice')
Cercospora leaf spot; *Cercospora canescens*

M. L. Adams, H. Collins and L. M. Quesada-Ocampo Dept. Entomology and Plant Pathology, NC State University, Raleigh, NC 27695

Evaluation of fungicides for control of Cercospora leaf spot on snap bean, Clinton 2017.

The experiment was conducted at the Horticultural Crops Research Station in Clinton, NC (N35°01.431'; W078°16.479'). Plots were single raised beds on 5-ft centers covered with white plastic mulch; 14-ft long with 5-ft fallow borders on each end with non-treated guard rows on each side. The previous year the field was planted with cucumber. Snap bean was direct seeded on 20 Jul (2-ft in-row spacing, 2 seed/hill) and thinned to one plant per hill after emergence (7 plants/plot). Irrigation and fertilization (4-0-8, N-P-K) were applied via drip tape on 8 Aug, and 9, 16 and 26 Sep. Treatments were randomized into four complete blocks. Fungicide treatments were applied using a CO_2-pressurized backpack sprayer equipped with a single-nozzle, handheld boom with a hollow cone nozzle (TXVS-26) delivering 40 gal/A at 45 psi. Applications were made on 25 Aug, 1, 8, 15, 21 and 28 Sep and 5, 12 and 19 Oct. Disease severity was assessed on 28 Sep, 5, 12, 19 and 27 Oct as percent leaf area with necrosis per plot. Snap beans were harvested on 28 Sep, 3, 10 and 17 Oct with no significant differences among treatments. Data were analyzed in the software ARM (Gylling Data Management, Brookings, SD) using analysis of variance (AOV) and Fisher's Protected LSD test to separate means.

Cercospora leaf spot was first detected on 21 Sep at approximately 2% disease severity in the field and progressed throughout the course of the trial. Combination treatments with Manzate Pro-Stick, Kocide 3000 and Bravo Weather Stik as well as stand-alone treatments of Bravo Weather Stik and Manzate Pro-Stick controlled *C. canescens* when compared to the non-treated. Kocide 3000, Actigard and Actinovate managed Cercospora well. No phytotoxicity was observed. In the table, treatments are sorted by disease severity on 27 Oct.

Treatment and rate of product per acre	Application no.[y]	Disease severity[z] (%) 28-Sep	12-Oct	27-Oct
Manzate Pro-Stick 75DG 3 lb Kocide 3000 46.1DF 1.25 lb	1, 3, 5, 7, 9 2, 4, 6, 8	7.5 e[x]	23.0 d	35.3 d
Bravo Weather Stik 6SC 48 fl oz	1-9	7.3 e	23.8 d	37.3 d
Manzate Pro-Stick 75DG 3 lb	1-9	7.3 e	23.5 d	37.8 d
Bravo Weather Stik 6SC 48 fl oz Kocide 3000 46.1DF 1.25 lb	1, 3, 5, 7, 9 2, 4, 6, 8	11.5 bcd	26.5 d	38.3 d
Kocide 3000 46.1DF 1.25 lb	1-9	8.8 de	29.0 cd	44.3 c
Actigard 50WG 1oz	1-9	11.0 cd	40.5 a	45.8 c
Actinovate 10SP 12 oz	1-9	12.5 abc	35.8 abc	45.8 c
LifeGard 40WG 4.5 oz Kocide 3000 46.1DF 1.25 lb	1, 3, 5, 7, 9 2, 4, 6, 8	15.0 a	35.8 abc	48.8 bc
LifeGard 40WG 4.5 oz	1-9	14.0 abc	37.8 ab	52.5 b
Non-treated	N/A	14.8 ab	41.5 a	59.5 a

[z] Disease rating scale based on percent necrotic foliage caused by *C. canescens*.
[y] Application dates: 1=25 Aug, 2=1 Sep, 3=8 Sep, 4=15 Sep, 5=21 Sep, 6=28 Sep, 7=5 Oct, 8=12 Oct, 9=19 Oct
[x] Treatments followed by the same letter(s) within a column are not statistically different (P=0.05, Fisher's Protected LSD).