

WATERMELON (*Citrullus lanatus* ‘Distinction’ and ‘Sentinel’)
 Anthracnose; *Colletotrichum orbiculare*
 Gummy Stem Blight; *Didymella bryoniae*

M. L. Adams¹, A. C. Thornton² and L. M. Quesada-Ocampo¹, ¹Dept. Plant Pathology NC State University, Raleigh, NC 27696-7616, ²Dept. Horticultural Science, Clinton, NC 28328

Evaluation of fungicides for control of anthracnose and gummy stem blight of watermelon, Sampson County 2013.

The experiment was conducted in a commercial watermelon field near Clinton, NC (N34°55.765'; W078°15.585'). Plants were transplanted on 23 May with ‘Distinction’ seedless and ‘Sentinel’ seeded melons at a 3:1 ratio (14 plants/plot). No irrigation was used. Treatments were randomized into four complete blocks. Plots were bare ground double rows on 14-ft centers, 25-ft long with 10-ft fallow borders at each end. The previous year the field was planted with tobacco. Fungicide treatments were applied using a CO₂-pressurized backpack sprayer equipped with a 3-nozzle (19-in. spacing) handheld boom with hollow cone nozzles (TXVS-26) delivering 40 gal/A at 45 psi. The first three applications were made with one pass per plot and the remaining two with two passes per plot. Applications were made on a 7-day interval: 20 and 27 Jun and 5, 11 and 16 Jul. Disease severity was assessed on 25 and 29 Jul as percent leaf area with necrosis caused by each pathogen. 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.

Anthracnose and gummy stem blight were first detected on 5 Jul as a few lesions in a couple of plots. Treatments containing Fontelis, Bravo Weather Stik and Cabrio worked well in controlling anthracnose. All treatments with the exception of Manzate Pro-Stick and Cabrio suppressed gummy stem blight when compared to the non-treated control. Fontelis + Bravo Weather Stik provided the best combined control of both anthracnose and gummy stem blight. In the table, treatments are sorted by anthracnose disease severity on 29 Jul.

Treatment and rate of product per acre, applied at 7-day intervals	Disease Severity* [%]	
	Anthracnose 29 Jul	Gummy Stem Blight 29 Jul
Fontelis 1.67SC 16 fl oz + Bravo Weather Stik 6SC 2 pt.....	3.8 c**	10.0 b
Cabrio 20WG 10 oz	4.5 bc	22.0 ab
Bravo Weather Stik 6SC 2 pt.....	10.0 bc	16.0 b
Manzate Pro-Stick 75DG 2 lb.....	13.8 abc	37.5 a
Luna Sensation 500SC 7 oz	23.3 abc	9.3 b
Switch 62.5WG 13 oz	24.8 abc	10.0 b
Catamaran 5.3SC 5 pt alt w/ Catamaran 5.3SC 5.5 pt	26.0 abc	9.8 b
Viathon 5.1SC 4 pt.....	31.3 abc	6.3 b
Inspire Super 2.09SC 18 fl oz	36.3 ab	6.3 b
Luna Experience 400SC 10 fl oz	42.5 a	7.5 b
Folicur 3.6F 6 fl oz.....	44.5 a	16.8 b
Non-Treated	35.0 abc	36.3 a

* Disease rating scale based on percent necrotic foliage caused by *C. orbiculare* and *D. bryoniae*.

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