

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

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### Evaluation of fungicides for control of anthracnose and gummy stem blight of watermelon, Sampson County 2014.

The experiment was conducted in a commercial watermelon field near Clinton, NC (N34°54.654'; W078°16.119'). Plants were transplanted on 15 May with ‘Distinction’ seedless and ‘Sentinel’ seeded melons at a 3:1 ratio. 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 (17 plants/plot). The previous year the field was planted with tobacco. Fungicide treatments were applied using a CO<sub>2</sub>-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 two applications were made with one pass per plot and the remaining four with two passes per plot. Applications were made on 26 Jun and 3, 9, 18, 23 and 29 Jul. Disease severity was assessed on 29 Jul and 8 Aug 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 from natural sources were first detected on 18 Jul as a few lesions in a couple of plots, <1% disease severity. After the initial disease rating, anthracnose became the predominant pathogen in the plots. Among treatments in which control of anthracnose was good (Treatments 1, 2, 3 and 4), only Treatments 3 and 4 also provided good control of gummy stem blight. Low severity of gummy stem blight in all other treatments was due to lack of available tissue for colonization, due to the presence of anthracnose. No phytotoxicity was observed. In the table, treatments are sorted by anthracnose disease severity on 8 Aug.

Treatment number and product and rate per acre	Application No.	Disease Severity* (%)	
		Anthracnose 8 Aug	Gummy Stem Blight 8 Aug
1 Manzate Pro Stik 75DG 2.0 lb	1 – 6	6.8 f	23.7 b
2 Cabrio 20EG 10.0 oz	1 – 6	6.8 f	48.1 a
3 Bravo Weather Stik 6SC 2 pt	1, 2, 3		
Experimental 13.5 fl oz	4, 5, 6	8.1 f	5.0 c
4 Bravo Weather Stik 6SC 2 pt	1, 2, 3		
Experimental 10.5 fl oz	4, 5, 6	10.0 f	5.0 c
5 Bravo Weather Stik 6SC 2 pt	1, 2, 3		
Inspire Super 2.82SC 20.0 fl oz	4, 5, 6	18.7 ef	3.7 c
6 Luna Sensation 4.2SC 7.0 fl oz	1 – 6	30.6 de	4.3 c
7 Inspire Super 2.82SC 18.0 fl oz	1 – 6	40.6 cd	5.0 c
8 Folicur 3.6F 6.0 fl oz	1 – 6	41.2 cd	5.0 c
9 Luna Experience 3.34SC 10.0 fl oz	1 – 6	47.5 bc	2.5 c
10 Proline 480 4SC 5.7 fl oz	1, 2		
Luna Experience 3.34SC 10.0 fl oz	3 - 6	48.1 bc	2.5 c
11 Fontelis 1.67SC 16.0 fl oz	1 – 6	59.3 b	6.2 c
12 Non-treated	1 – 6	72.5 a	7.5 c

\* 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  $k=100$ ).