

WATERMELON (*Citrullus lanatus* ‘Crunchy Red’)
 Gummy stem blight; *Didymella bryoniae*
 Anthracnose; *Colletotrichum orbiculare*

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Evaluation of fungicides for management of foliar diseases on watermelon, 2016.

The experiment was conducted at the University of Maryland’s Lower Eastern Shore Research and Education Center, Salisbury, as a randomized complete block design with ten fungicide treatments and four replications. Plots consisted of one raised bed, 40-ft long, on 7-ft centers. The beds were shaped and covered with 1.25-mil plastic over a single line of 8-in. emitter spaced drip tape in a one-pass operation on 20 May. Three-week-old seedlings were moved outside to begin hardening off on 20 May. They were transplanted into the field 36 in. apart with a 20-20-20 (N-P-K) (2.5 lb/150 gal water) starter solution on 30 May. One week later, pollinizers ‘SP-6’ were planted between every third and fourth plant in the row. Soil moisture was maintained by drip and overhead sprinkler irrigation as needed. Cucumber beetles were managed on 25 May with Admire (2.2 ml per gal) applied to the transplant trays. Fungicide applications began 1 Jul and were applied weekly until 11 Aug. Fungicides were applied with a tractor-mounted sprayer that delivered 45 gal/A at 43 psi through six D4-45 hollow-cone nozzles mounted in a directed pattern. The percent severities of gummy stem blight and anthracnose were evaluated as the percent of leaves, petioles and vines in each plot showing symptoms on 31 Jul and 17 Aug. All mature and marketable fruit from each plot were harvested, counted, and weighed on 9, 17, 29 Aug and 7 Sep.

Gummy stem blight and anthracnose occurred in all plots during the season. On 31 Jul, all fungicide programs significantly reduced gummy stem blight compared to non-treated plots, but there were no significant differences among fungicide treatments. On 17 Aug, all treatment programs again reduced gummy stem blight compared to non-treated plots, and there were significant differences among treatments. When A20259 was applied at the higher rate of 13.7 fl oz in an alternation program that also included Quadris Opti and Folicur, gummy stem blight was significantly lower than when A20259 was applied at 11 fl oz. The treatment of ManKocide followed by Bravo Weather Stik alone and then in combination with Switch and Luna Experience resulted in some of the lowest levels of both gummy stem blight and anthracnose on 17 Aug overall. There were no significant differences in yield. No phytotoxicity was observed in any plots.

Treatment and rate/A	Application dates ^z	Gummy stem blight (%)		Anthracnose (%)	Yield (lb/plot)
		31 Jul	17 Aug	17 Aug	
Fontelis 1.67SC 1 pt	1-7				
Bravo Weather Stik 6SC 2 pt	1-7	1.3 b ^y	4.3 b	1.1 e	300.3
Bravo Weather Stik 6SC 1.5 pt	1,3,5				
Fontelis 1.67SC 1 pt	2,4				
Bravo Weather Stik 6SC 1.0 pt	2,4				
Folicur 3.6F 8 fl oz	6,7	0.8 b	4.3 b	1.9 de	329.9
ManKocide 3 lb	1				
Bravo Weather Stik 6SC 2 pt	2-7				
Switch 6.25WG 14 oz	5,7				
Luna Experience 3.34SC 17 fl oz	3,6	1.2 b	1.6 d	0.9 e	336.5
Quadris Opti 5.53C 3.2 pt	1,2,3				
Inspire Super 2.8F 16 fl oz	4,5,7				
Folicur 3.6F 8 fl oz	6	0.9 b	1.9 d	1.5 de	375.2
Quadris Opti 5.5SC 3.2 pt	1,2,3				
Aprovia Top 8.5 fl oz	4,5,7				
Folicur 3.6F 8 fl oz	6	1.0 b	4.2 bc	4.5 bcd	376.5
Bravo Weather Stik 6SC 2 pt	1,2,4				
Inspire Super 2.8F 16 fl oz	3,5				
Pristine 38WG 18.5 fl oz	6,7	-	4.2 bc	2.4 de	341.2
Quadris Opti 5.5SC 3.2 pt	1,2,3				
Aprovia Top 1.62EC 10.5 fl oz	4,5,7				
Folicur 3.6F 8 fl oz	6	0.6 b	3.1 bcd	3.9 cd	333.0
Quadris Opti 5.5SC 3.2 pt	1,2,3				
A20259 11 fl oz	4,6,7				
Folicur 3.6F 8 fl oz	5	0.5 b	5.7 b	7.4 bc	375.9
Quadris Opti 5.5SC 3.2 pt	1,2,3				
A20259 13.7 fl oz	4,6,7				
Folicur 3.6F 8 fl oz	5	0.9 b	2.1 cd	11.5 ab	297.0
Non-treated		11.0 a	34.4 a	24.2 a	237.3
<i>P</i> value ^x		0.0001	0.0001	0.0001	0.0505

^z Application dates were 1=1 Jul, 2=7 Jul, 3=13 Jul, 4=20 Jul, 5=28 Jul, 6=4 Aug, 7=11 Aug.

^y Mean values in each column followed by the same letter do not significantly differ according to Fisher’s protected LSD ($P = 0.05$).

^x P values ≤ 0.05 indicate significant differences are likely to exist among treatments.