

**Evaluation of fungicides and Actigard for the control of Fusarium wilt of watermelon in a commercial watermelon field in Georgia, 2013.**

The trial was conducted on Farm in Berrien County Georgia in a field that had a history of Fusarium wilt. Watermelons were transplanted onto bare ground beds on 11 Apr. Beds were on 6ft centers with 3ft plant spacing within rows. Plots were 21ft long with 7 watermelon plants per plot and there was a 10ft untreated border between plot ends. The test design was a randomized complete block with 8 replications. Drench fungicide treatments were applied after transplanting by pouring 150 ml of fungicide solution at the base of each plant. Sprayed treatments were applied in an 18-in band with a single nozzle CO<sub>2</sub> backpack sprayer with an 8005E tip calibrated to deliver 60 GPA at 50-60 psi. The crop was grown according to University of Georgia Extension production guidelines, and the field was irrigated with an irrigation gun as needed. Weather conditions during the trial were cool and wet with a combined average minimum temperature for Apr, May and Jun of 59.8 °F (4.2°F below the 91 year average) and total rainfall for that period of 16.11-in (4.5-in above the 91 year average).

Fusarium wilt symptoms were first noticed on 22 Apr and the disease developed slowly until late May when temperatures became too warm for the disease to progress. On 3 May, there was no difference in plant vigor between treated plots and the untreated check. On 24 May, only the plots treated with Proline drench followed by Proline banded spray or Actigard banded spray followed by Actigard banded spray had significantly less Fusarium wilt incidence than the untreated control; however there was no difference in stand loss between treatments and the untreated plots. Watermelons were harvested twice, and there was no difference in yield between any of the treated plots and the untreated control. No phytotoxicity observed.

Treatment, application rate, (method and timing) <sup>z</sup>	Plant Vigor <sup>y</sup> 3 May	Fusarium Wilt <sup>x</sup>	% Stand	Yield <sup>v</sup>
		% incidence 8 Apr	loss <sup>w</sup> 24 May	
Proline 4 SC, 3 fl oz/ 100gal (drench, 1) <sup>z</sup>	7.8 a <sup>u</sup>	27.1 d	14.3 a	20.3 a
Proline 4 SC, 5.7 fl oz/ A (banded spray, 2).....				
Actigard 50 WG, 0.5 oz/A (banded spray, 1)	7.6 a	42.9 cd	17.1 a	15.0 a
Actigard 50 WG, 0.75 oz/A l(banded spray, 2).....				
Actigard 50 WG, 0.5 oz/A (banded spray, 1).....	8.0 a	51.4 bc	27.1 a	18.6 a
Proline 4 SC, 3 fl oz/ 100gal (drench, 1).....	7.8 a	54.3 a-c	20.0 a	24.3 a
Quadris 2.08 SC, 15.4 fl oz/100gal (drench, 1).....	8.0 a	61.4 a-c	35.7 a	21.8 a
Quadris 2.08 SC, 15.4 fl oz/100gal (drench, 1)	7.8 a	72.8 a	34.2 a	17.4 a
Quadris 2.08 SC, 15.4 fl oz/A (banded spray, 2).....				
Untreated check.....	8.0 a	65.7 ab	31.4 a	14.6 a

<sup>z</sup> Application timings were: 1= 11 Apr, 2= 25 Apr.

<sup>y</sup>Plant Vigor was rated on 1-10 scale where 1= a dead or dying plant, 5 = moderately stunted plant and 10 = a healthy non-stunted plant

<sup>x</sup>Fusarium Wilt %incidence was rated by counting the number of plants in each plot that showed signs of wilting and dividing that number by the total number of plants in each plot x100.

<sup>w</sup>Stand loss % was rated by counting the number of plants that were dead in each plot, and dividing that number by the total number of plants in each plot x100.

<sup>v</sup>Yield= pounds of watermelons per plot from two harvest on Jun 21 and Jun 28.

<sup>u</sup>Means followed by the same letter(s) are not significantly different according to Fisher's protected LSD test at P≤ 0.05.