

SWEETPOTATO (*Ipomoea batatas* ‘Averre’)
 Southern Root Knot Nematode; *Meloidogyne incognita*
 Guava Root Knot Nematode; *Meloidogyne enterolobii*

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Evaluation of nematicides for control of Southern and Guava Root Knot Nematode in sweetpotato, 2018

This experiment was conducted on a commercial sweetpotato farm near Middlesex, NC. The trial site is known to be infested with both *Meloidogyne incognita* and *Meloidogyne enterolobii* nematodes. Averre sweetpotatoes are moderately resistant to *M. incognita*, but show no resistance to *M. enterolobii*. Sweetpotatoes were transplanted on 8 Jun and spaced at 1 plant per foot in-row. The plots were three rows wide on 44 in. centers, 30-feet long. Telone II was applied on 25 May with a chisel plow at 6 gal/A. Velum Prime in-furrow sprays at planting were applied with a CO₂-powered backpack sprayer at 6.5 fl oz/A in 100 gal/A of water immediately prior to transplanting. A soil probe was used to collect multiple 8-10 in. deep samples that were mixed together and submitted to the NCDA&CS Agronomic Division for counting. The middle row of the three-row sweetpotato plots were harvested on 27 Sep. After harvest, roots were sorted by size, weighed, washed, counted, and rated for nematode damage. Only U.S. No. 1 (2-3.5 in. diameter) sized sweetpotatoes were rated for nematode damage. Gall ratings were used to determine whether sweetpotatoes were marketable or unmarketable. Data were analyzed in the software ARM, using analysis of variance (AOV) and Fisher’s Protected LSD test to separate means.

Nematode damage in the nontreated control was moderately high (64.78% roots galled). Telone II + Velum Prime, Telone II, and Velum Prime all reduced nematode damage significantly. Only Telone II + Velum Prime had a significantly higher yield of U.S. No. 1 than the nontreated control. There were no significant differences in the yield of either canners or jumbos. There were no significant differences in nematode counts preplant and at harvest, although Velum Prime did have a significantly higher root knot count at midseason. No phytotoxicity was observed in any treatment.

Treatment Name and Rate	U.S. No. 1 % Damage ^z	Total U.S. No. 1 ^y lb	Total Canner ^x lb	Total Jumbo ^w lb	Nematode Count Preplant	Nematode Count Midseason	Nematode Count Harvest
Telone II – 6 gal/A							
Velum Prime – 6.5 fl oz/A	6.8 b ^v	26.8 a	6.3 a	10.3 a	90 a	28 b	2662 a
Telone II – 6 gal/A	13.0 b	12.5 b	2.6 a	7.4 a	168 a	195 b	2040 a
Velum Prime – 6.5 fl oz/A	19.0 b	18.9 ab	3.9 a	14.8 a	120 a	1105 a	5145 a
Nontreated	64.8 a	10.2 b	5.1 a	3.7 a	245 a	108 b	3320 a

^z The percent damaged was calculated for each treatment based on percentage of roots with galling

^y U.S. No 1 are between 2 and 3.5 in. diameter

^x Canners are less than 2 in. diameter

^w Jumbos are greater than 3.5 in, diameter

^v Treatments followed by the same letter(s) within a column are not statistically different (P=0.05, Fisher’s Protected LSD).