

**Evaluation of nematicides for control of root knot nematodes in sweetpotato, 2016.**

This experiment was conducted on a commercial sweetpotato farm near Kenly, NC, known to be infested with both *Meloidogyne incognita* and *Meloidogyne enterolobii* nematodes. Covington sweetpotatoes were transplanted on 5 Jul and spaced at 1 plant per foot in row. The plots were 20 feet long, and the spacing between rows was 46 inches. The sweetpotatoes were grown in rows. Treatments were randomized in a complete block design with four replications per treatment. The Telone II fumigant treatment was applied by the grower to the soil prior to planting on 7 Jun. Velum Prime was applied as an in-furrow spray on 5 Jul prior to transplanting. Movento and Dyne-Amic were applied as a foliar spray after transplanting on 5 Jul, and also applied 14 days after planting on 19 Jul. Spray treatments were applied with a CO<sub>2</sub>-pressurized backpack sprayer at specific rates. Sweetpotatoes were harvested on 25 Oct. Each 20-foot plot was harvested completely. After harvest, roots were washed and sorted by size, weighed, counted, and rated for nematode damage. The sizing grades for sweetpotato are U.S. No. 1 (3-9 inches), jumbo (> 9 inches) and canners (< 3 inches). Sweetpotatoes were rated for galling on the storage root as well as the fibrous roots still attached. Data were analyzed in the software ARM (Gylling Data Management, Brookings, SD) using analysis of variance (AOV) and the Waller-Duncan test to separate means.

Nematode damage in the untreated control, Velum Prime, and Velum Prime + Movento + Dyne-Amic treatments were moderate (48%, 59.9%, and 46.6% respectively), as observed by the percentage of nematode-damaged sweetpotatoes. Telone II + Velum Prime + Movento + Dyne-Amic, Telone II + Velum Prime, and Telone II treatments all provided significant reductions in the percentage of nematode damaged roots, as compared to the treatments without Telone II. No phytotoxicity was observed in any treatment. Yield was not significantly different by total number of roots harvested, but the Telone II + Velum Prime + Movento + Dyne-Amic treatment and the Telone II + Velum Prime treatment did have significantly higher overall and #1 sweetpotato yields by weight as compared to the other treatments.

Treatment and rate of product	Nematode Damage* %	Total Roots No.	Jumbo No.	Canner No.	#1 No.	Total Roots Lb	Jumbo Lb	Canner Lb	#1 Lb
Telone II – 10 gal/a Velum Prime – 6.5 gal/A Movento - 5 fl oz/A Dyne-Amic	0.8 b**	63.1 a	6.3 a	26.0 a	30.8 a	29.75 a	7.55 a	4.7 a	17.5 a
Telone II – 10 gal/A Velum Prime - 6.5 fl oz/A	0.9 b	62.8 a	5.8 ab	26.8 a	30.3 a	31.1 a	7.45 a	5.35 a	18.3 a
Telone II – 10 gal/A Velum Prime – 6.5 fl oz/A Movento – 5 fl oz/A Dyne-Amic - .25% V/V	3.0 b	54.3 a	3.3 abc	27.0 a	24.0 a	26.25 ab	4.3 a	6.55 a	15.4 ab
Untreated	46.6 a	56.5 a	1.8 bc	41.8a	13.0 a	15.1 c	2.15 a	6.55 a	6.4 c
Velum Prime – 6.5 fl oz/A	48.0 a	55.3 a	1.5 c	38.5 a	15.3 a	18.65 bc	1.8 a	8.3 a	8.55 bc
Velum Prime – 6.5 fl oz/A	59.9 a	58.5 a	1.8 bc	36.0 a	20.8 a	19.35 bc	2.45 a	7.0 a	9.9 abc

\* Nematode damage % was calculated for each treatment based on percentage of roots with nematode damage

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