

**Evaluation of fungicides for postharvest control of *Rhizopus* soft rot in sweetpotato, 2017.**

This experiment was conducted at North Carolina State University in Raleigh, NC. Sweetpotato roots used in the study were obtained from a commercial packing facility at the time of each inoculation and were rinsed with water prior to use. Roots were previously cured and were selected based upon similar size, shape, and disease-free appearance. Sweetpotatoes were wounded using a calibrated, rubber-band-propelled wooden dowel. After wounding, roots were inoculated with a spore suspension ( $1.0 \times 10^6$  spores/mL) suspended in a 0.2% agar solution, applied with a micropipette. Following inoculation, roots were allowed to air dry. Roots were placed on a roller bed and fungicides were applied at specific rates using a CO<sub>2</sub>-pressurized backpack sprayer. For the dip application, wounded roots were placed into a perforated metal basket and submerged into the fungicide mixture for 1 minute. After fungicide applications, roots were allowed to air dry, and then placed into clear, plastic containers (40 by 50 by 17.9 cm) and stored at 27°C and 99% relative humidity for 21 days. Four replications per treatment were included with 20 roots per replication. Roots were rated for disease incidence and severity at 7, 14 and 21 days after inoculation. Data were analyzed in the software ARM (Gylling Data Management, Brookings, SD) using analysis of variance (AOV) and Fisher’s Protected LSD test to separate means.

*Rhizopus* was first observed 7 days after inoculation. Disease incidence in the nontreated control was high (91.3, 95, and 96.3 %), as estimated by number of infected wounds. Stadium, Chairman, and Orius all consistently provided significant reductions in disease incidence. No phytotoxicity was observed in any treatment. In the table, treatments are sorted by disease incidence on 6 Dec.

Treatment and Product Rate	Disease Incidence %*		
	22 Nov	29 Nov	6 Dec
Stadium			
1 fl oz/gal	0.0 d**	0.0 c	8.8 c
Chairman			
0.64 fl oz/gal	13.8 d	18.8 b	37.5 b
Orius			
0.6 fl oz/gal	13.8 d	22.5 b	47.5 b
Scholar			
0.16 fl oz/gal	56.3 bc	87.5 a	83.8 a
Mertect 340F (Dip)			
0.42 fl oz/gal	67.5 b	81.3 a	87.5 a
Mertect 340F			
0.42 fl oz/gal	67.5 b	90.0 a	95.0 a
Nontreated			
	91.3 a	95.0 a	96.3 a
Mentor			
0.5 fl oz/gal	51.3 c	82.5 a	97.5 a

\* The disease incidence was calculated for each treatment based on percentage of roots infected

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