

## Copper-Treated Containers for Vegetable Transplant Production – 2006

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**Introduction:** Preliminary data from 2005 showed that transplants grown in copper treated plug trays showed a trend for increased yields in melon ('Nitro') and winter squash ('Waltham Butternut'). Copper-treated containers have been used to promote a more uniformly developed root ball mass in tree seedling production versus untreated containers, which can lead to circling of roots. Research on copper treated containers may aid greenhouse and field vegetable growers in producing a more uniformly developed transplant root system with optimal seedling establishment and crop growth.

**Materials and Methods:** 50 cell plug trays were painted with 'Spin-Out' copper paint 2 weeks before seeding muskmelon 'Nitro' and winter squash 'Waltham Butternut'. An untreated check was compared to the copper treatment for transplant survival, crop development and final yield. Plants were seeded on May 15 and transplanted to the field on black plastic mulch on June 5. Rows were spaced 7 feet apart with plant spacing of 3 feet. Percent plant survival was recorded 3 and 4 weeks after transplant. Vine length was also measured from the main stem to the end of the vine 4 weeks after transplant. Reduction in plant survival in muskmelon was due to bacterial wilt (Table 1). Melons were harvested on August 14 and 23. Squash was harvested on September 12.

**Results:** There were no differences in squash plant survival 3 and 4 weeks after transplant but there was a difference in vine length (Table 1). There were no differences due to treatment in survival or vine length recorded in muskmelon. Final marketable yield showed no differences in either crop (Table 1). Due to heavy rains during the growing season and substantial (25-35%) plant loss in muskmelon due to bacterial wilt, further investigation in the use of copper-treated plug trays for vegetable production is needed.

**Table 1. Copper-Treated Containers for Vegetable Transplant Production - 2006**

**Winter Squash 'Waltham Butternut'**

Treatment	--3 WAT*-- % survival	-----4 WAT----- % survival	vine length (cm)	Marketable number/A	Marketable T/A	Cull T/A
Untreated	98	98	21.0	11201	15.7	1.4
Copper treated	100	100	15.8	11512	15.7	1.6
LSD	NS	NS	4.20	NS	NS	NS
CV	3.3	3.6	17.9	11.8	11.9	51.4

**Muskmelon 'Nitro'**

<b>Treatment</b>	<b>--3 WAT*-- % survival</b>	<b>-----4 WAT*----- % survival</b>	<b>vine length (cm)</b>	<b>Marketable number/A</b>	<b>Marketable T/A</b>	<b>Cull T/A</b>
Untreated	98	77	12.8	1815	4.7	1.2
Copper treated	100	67	14.0	1504	4.7	1.7
LSD	NS	NS	NS	NS	NS	NS
CV	3.6	17.7	7.6	47.2	39.3	47.2

\* WAT = weeks after transplant

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