Copper-Treated Containers for Vegetable Transplant Production – 2005

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Objective: To investigate the use of copper-treated plug trays to promotea more uniform root system and improved field establishment and increased yields for cucurbit vegetable transplants.

Materials and Methods: 'Spin-Out', a copper paint treatment, was applied to the inside of 50-cell plug trays with a sponge brush on April 12. Muskmelon ('Nitro') and butternut squash ('Waltham') were seeded into the flats on May 9 along with untreated controls and grown in the greenhouse at the OARDC North Central Agricultural Research Station (NCARS) in Fremont, OH. There were no differences in seed germination in the treated and untreated trays for both crops. Plants were transplanted to the field on June 1. Plants were spaced 3 feet apart with rows spaced 7.5 feet apart on bare ground. Melons were harvested on August 9 and squash was harvested on September 12.

Results and Discussion: Copper-treated trays showed a trend for increased yields compared to the untreated control in both the melon and squash. Average fruit size was the same for both treated and untreated plots for both crops. Marketable yields for muskmelon with the copper treatment were 15.3 T/A compared to 13.6 T/A for the untreated control. Squash marketable yields with the copper treatment were 33.9 T/A compared to 28.8 T/A for the untreated controls (Table 1).

'Spin Out' has been used in the past for tree seedling establishment and looks promising in the 2005 preliminary results on both muskmelons and squash. Other cucurbit species should be tested to determine if similar results are seen with the use of copper paint.

Acknowledgements:

Special thanks to:

- *Ohio Vegetable and Small Fruit Research and Development Program*
- *OARDC Competitive Grants Program*

for their financial support of this project

Table 1. Copper treated plug containers for vegetable transplant production – 2005.

Muskmelon 'Nitro'			
Treatment	**T/A**	**Fruit number/A**	**Average fruit size (lbs)**
Untreated control	13.6	3949	6.7
Copper treatment	15.3	4472	6.7
LSD(0.05)	NS	NS	NS
CV	36.1	35.3	6.0
Butternut Squash 'Waltham'			
Treatment	**T/A**	**Fruit number/A**	**Average fruit size (lbs)**
Untreated control	28.8	16378	3.5
Copper treatment	33.9	19805	3.5
LSD (0.05)	NS	NS	NS
CV	29.9	30.8	6.1