Within-row Spacing Affects Yield in Grafted Seedless Watermelon

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Abstract: Vigorous rootstocks could impart a growth advantage to grafted watermelon, requiring fewer transplants to be planted. Planting grafted transplants at a greater spacing would also offset the higher cost of grafted seedlings. However, the effect of increased spacings on plant growth and yield has not yet been determined. In April 2013, Tri-X 313 scion was grafted onto interspecific hybrid squash (cv. Carnivor) rootstock using the one-cotyledon grafting method. Grafted seedless watermelon transplants were planted at 2-, 3-, 4-, and 5-foot within-row spacings to determine the effect of spacing on yield. Data was collected over three harvests in July of the same year. Total fruit weight and total fruit number per plot were recorded, and average fruit weight and number per plant and per acre were calculated. At the 2 ft. spacing, fruit number increased but individual fruit size decreased. At the 4 ft. spacing, yields were equivalent to the standard 3 ft. spacing, indicating fewer plants needed to achieve standard yields per acre.