

**Paul C. And Edna H. Warner Endowment Fund for Sustainable Agriculture
Report Form**

Strawberry Tip & Plug Nursery Research Report 11/2/09

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Summary:

From one year of preliminary on-farm research (Jon Branstrator's farm) funded by the Paul C. and Edna H. Warner Endowment Fund for Sustainable Agriculture Interdisciplinary Grant Program, it was shown that Ohio growers may be able to produce their own runner tips from stock plants planted and grown on their own farms, utilizing more ecologically sound and environmental friendly production techniques. One technique is to use compost instead of soil fumigation. It is estimated that this could save growers approximately \$2000 per acre in runner tip costs. Production of tips in Ohio also reduces the reliance on and costs of soil fumigation, reduces shipping costs and fuel surcharges, prevents the importation of yield-robbing diseases such as Anthracnose and Phytophthora, and reduces grower losses spent on the purchase of tips that are of poor quality. Production of tips in Ohio will also increase the timeliness and availability of locally produced runner tips, and utilizes exiting farmland, labor, and equipment.

If, after 2 more years of research, this tip production technique can be proven to be successful, this will allow for the adoption of this socially responsible production technique by other Ohio growers, helping to keep our communities strong and our agricultural money local.

Objectives:

- 1) To determine whether Ohio strawberry producers can economically grow their own strawberry runner tips utilizing an "on-farm" nursery for use in their farm plug plant production.
- 2) To track input costs data to evaluate the economic feasibility of Ohio producers growing their own strawberry tips.
- 3) To compare the production between on farm produced runner tips and imported Canadian tips for plant quality, crop yield and other plant growth characteristics.

What was done?

An on farm tip production nursery was established on Jon Branstrator's farm in Clarksville, Ohio using bare root stock plants purchased from a Midwest strawberry nursery. A dairy cattle manure compost treatment was compared to traditional chemical fertilizer application. Yield and fruit quality attribute data were collected and compared between locally grown tips with the yields from imported Canadian tips within the same variety (Chandler)

What were the results?

The early data from the first year of the trial shows that the locally grown tips produced the same yield of berries as the Canadian tips. The imported tips also tested positive to angular leaf spot and anthracnose which produced less vigorous plug plants. No disease was observed in the locally produced tips. There was no significant difference among the Canadian grown or the home grown Branstrator plants when the plugs were fruited and harvested.

2008/2009 Field Research data: Yields from Branstrator Farm.

Treatment	Marketable lbs / Acre	Marketable lbs / Plant	Marketable Fruit / Plant	Marketable Fruit / Acre	Fruit Wt. (oz.)
Canadian	3902	.22	6.1	126667	.58
Branstrator	3762	.21	5.9	150952	.58

How have the results contributed or will they contribute sustainable agriculture?

Observations and research data will be collected to help growers develop a strawberry runner tip plant management program including disease prevention production techniques, i.e. use of composts, mulches, trickle irrigation and nutrient management to produce healthy runner tips. Management inputs and production costs for establishment and production of a strawberry tip nursery will be timed and gathered including certified stock plant costs, plastic mulch costs, drip tape costs, preplant compost application costs, pre harvest labor costs, tip harvest and grading labor costs. Other data and information to be collected includes fungicide usage and costs, insecticide usage, plant nutrient analysis and costs, soil nutrient analysis and costs, timing of planting and days to harvest. The average number of marketable runner tips produced per plant and overall yield will be collected.

This trial will also allow us to observe the feasibility of fruiting and harvesting the nursery planting to gather additional on farm research data on crop strawberry yields and fruit quality produced the following year after runner tip harvests are made. Fruiting of this production nursery the following spring could further offset nursery production costs.