

## **2004-2005 Strawberry Plasticulture Cultivar Evaluation**

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Plasticulture strawberry production is a relatively new innovation for Ohio growers. One of the main advantages of the system is a potentially earlier harvest providing a competitive edge in the market place relative to conventional matted row production systems. Another potential advantage is reduced environmental impact arising from a simpler pest management system. In certain settings there is the potential for higher yields relative to traditional matted row production systems. Challenges include: higher per acre cost, acclimation of suitable varieties to Ohio, and general lack of experience with the system among producers, researchers and Extension personnel.

This trial compared seven strawberry cultivars, ('Chandler', 'Camerosa', 'Eros', 'E9-A5-13', 'Ventana', 'Bish' and 'Darselect') for the plasticulture growing system.

### **METHODS:**

All strawberry tips except 'Darselect', 'Eros', and 'E9-A5-13', were obtained from Strawberry Hill Inc., Bunn NC. All strawberry tips were planted in 50 cell trays containing Metro Mix 360 soilless media. Trays were placed outside and the planting media was kept continually moist with a mist system to promote root development. The resulting plugs were transplanted to the field using a three-point hitch water wheel planter and watered in with Peters 20-20-20 starter fertilizer. Field preparation included pre-plant application of 60 units each of nitrogen, phosphorus, and potassium, plowing, disking. A raised bed was formed with a Redick Fumigation bed shaper and covered with black plastic mulch. Trickle irrigation tape was installed under the mulch. Strawberry plants were planted in double rows with 12 inches between plants and rows. A 1.5 oz. floating row cover was put in place on November 5<sup>th</sup> over all cultivars. The plant growth was monitored throughout the winter. To control weed growth between rows, annual rye grass was seeded prior to berry planting. The rye grass was then killed off in the spring with an application of Poast EC (sethoxydim) at 2.5 pints/ac + 2 pint of a crop oil concentrate. A standard commercial fungicide program was followed to control disease.

Petiole nitrate levels were monitored and calcium nitrate injected through the trickle tape in the spring as necessary and through harvest to maintain optimum plant growth and berry production.

### **RESULTS:**

'Darselect' was consistently the leader in terms of marketable pounds of fruit per acre, marketable pounds per plant and average fruit weight. In terms of fruit number, 'E9-A5-13' had the highest number of marketable fruit per acre. 'Ventana' was the lowest yielding of the cultivars tested this year in our trials. This year the eastern type cultivar stood out in our test plots.

<b><u>Cultivar</u></b>	<b><u>Marketable lbs. per plant</u></b>	<b><u>Marketable lbs. per acre</u></b>	<b><u>Marketable Fruit per acre</u></b>	<b><u>Average Fruit Wt. (oz.)</u></b>
Darselect	0.43	7516	236191	0.62
E9-A5-13	0.36	6266	265238	0.46
Eros	0.33	5803	148571	0.57
Bish	0.30	5286	182857	0.42
Chandler	0.23	4017	218571	0.43
Camerosa	0.20	3573	176667	0.49
Ventana	0.21	3550	140476	0.52

#### DISCUSSION:

Based solely on the results of this test we would recommend ‘Chandler’ and ‘Camerosa’ as the most proven cultivars for use in a plasticulture strawberry production system under Ohio conditions. This does not take into account consumer preference. ‘Sweet Charlie’ is preferred for fresh consumption by many evaluators over ‘Chandler’ or ‘Camerosa’. We are continuing this project to evaluate eastern and western cultivars for their performance in a plasticulture strawberry production system under more typical Ohio Winter weather conditions.

The authors wish to thank the Ohio Vegetable and Small Fruit Research and Development Program and the Ohio Fruit Growers Society for providing funding.