2005-2006 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 for the plasticulture growing system.

METHODS:

Tips were planted in 50 cell trays containing Metro Mix 360 soilless media and placed on weed mat under mini wobblers and misters during the month of August. Tips were grown for four weeks outside under ambient conditions. 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. Strawberry plants were planted in double rows with 12 inches between rows and plants on September 14, 2005. Field preparation included application of 60 units of nitrogen, phosphorus, and potassium pre-planting, plowing, disking and formation of a raised planting bed covered with black plastic and trickle irrigation under the mulch that was formed with a Redick Fumigation bed shaper. The floating row cover and straw treatments was put in place on November 17th. The plant growth was monitored throughout the winter. To control weed growth, annual rye grass was seeded between the rows of plastic prior to planting of berries to the field. The rye grass was then killed off in the spring with an application of Poast EC at 2.5 pints / ac plus 2 pint of a crop oil concentrate. To control disease, a standard commercial fungicide program was followed. Calcium nitrate was then injected through the trickle tape in the spring as necessary and continued through harvest in an attempt to maintain optimum plant growth and berry production. 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:

Varietal differences for pound/plant, pound/acre, fruit/acre, and average weight were highly significant.

Table1. 2005-2006 Strawberry Plasticulture Varietal Characteristics. Means with the same letter are not significantly different.

Variety	Pounds/plant	Pounds/acre	Fruit/acre	Average Wt oz.
Chandler	D C 1.20	C B 20877	A 922500	B 0.60
Bish	C B 1.25	B A 22213	A 1097143	C 0.50
Sweet Charlie	E 0.25	D 4603	C 242857	C 0.46
Camerosa	A 1.50	A 26519	A 1157500	B 0.60
Cameo Real	D 1.00	C 17460	B 557143	A 0.78
Ventana	C B A 1.42	B A 24412	A 1009643	B 0.62
Darselect	B A 1.45	A 25517	A 1017500	B 0.65
Least Significant Difference*	0.25	4509	237106	0.06

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