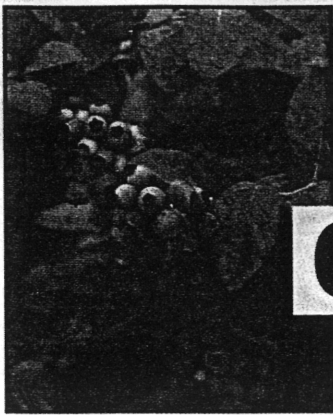


American Fruit Grower



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Cover story

Michigan Berry Grower Is In The Blue

This Jack-of-all-trades has grown a big business out of a small hobby.

▲ Cover photo by Mike Mainland, Professor of Horticulture at North Carolina State University and former blueberry specialist for NCSU Extension.

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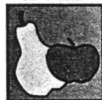
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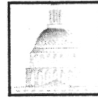
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Cool Climate Strawberries Fare Well On Plasticulture

Eastern strawberry varieties may net more profit on plasticulture than southern varieties in cool climates.

By Joseph A. Fiola, Charlie O'Dell, and Jerry Williams

PLASTICULTURE



FOR the past few years, researchers in New Jersey, Virginia, Maryland, and Western North Carolina have made summer and early fall plantings on raised bed plasticulture comparing disease-resistant winter-hardy Eastern U.S. strawberry varieties versus the California variety Chandler. Results show much better profit potential for Eastern varieties on plasticulture.

Trials in New Jersey compared the southern varieties Sweet Charlie, Seascape, and Chandler with 29 Eastern varieties and breeding lines, all planted 12 inches apart in-row, two rows per plastic-mulched bed, 17,400 plants per acre. These trials confirm the belief that for the colder regions of the East, planting of the locally developed and adapted Eastern varieties will give more consistent profitable production than Chandler and other Southern varieties.

Planting Options

Newly developed planting options for the plasticulture system and the initiation of commercial tip and plug production of the eastern varieties by local nurseries will facilitate the large scale commercial adoption of plasticulture in the region. For 1997, growers have four plant establishment options for plasticulture production with Eastern varieties: 1) purchase dormant plants to plant in early spring to start your own tips and plugs; 2) purchase runner tips in early July to grow your own plugs; 3) purchase plugs for August settings; or 4) purchase dormant bare root plants for early July planting on the plastic mulch.

Change In Nursery Plants Required

The plasticulture strawberry industry, if it is to see more rapid growth by producers in colder areas, needs both actively growing young vegetative strawberry plug plants and dormant-dug bare root plants of Eastern varieties. Nurseries producing certified disease-free dormant bare root plants of Eastern varieties are considering marketing runner tips to greenhouse plug plant producers.

Also, this summer, Canadian producers are planning to test-market runner tips of Eastern varieties to selected commercial plug producers. Call your strawberry plug supplier and your favorite nursery that produces dormant bare root plants now to request Eastern variety plants, plugs, or runner tips. Canadian and Eastern nurseries need an idea of market demand for their 1997 summer runner tip production program.

Some veteran berry growers with greenhouses, mist systems, and plant propagation experience are producing their own plug plants of Eastern varieties for field transplanting during the month of August. Early-to-mid August field planting is recommended for plugs of Eastern varieties in colder areas with shorter growing seasons.

Planting Techniques

Mechanical mulch planters may be used to set double-rowed strawberry plug plants. Also, water wheel planters can be specifically tailored for planting strawberry plugs by carefully sizing the punch spikes to the size/configuration and in-row spacing of the strawberry plugs.

Still another plant establishment option exists for growers desiring to enter production of Eastern varieties

on hill system plasticulture: Plant traditional dormant bare-root plants around July 1. Inflorescences are removed by hand when they develop soon after planting. Make several trips over our field plots to stimulate vegetative growth.

The high labor of hand planting bare roots through plastic mulch plus the earlier summer planting required for dormant plants to provide time for sufficient vegetative growth have been drawbacks to commercial adoption of plasticulture production.

However, a four-seat (two seats per row) water-wheel planter has been developed that has 24-inch or larger diameter punch wheels especially tailored for strawberry bare root plants, including the elliptically shaped 5-inch length wheel punch. Such wheels may also be available from other manufacturers, but wheels less than 24 inches in diameter with the elliptical 5-inch punch will cut the plastic mulch between planting holes as the spikes roll over the mulch film.

Note: An all-purpose vegetable water-wheel punch wheel is not recommended for bare root plants. Remember, set dormant plants of Eastern varieties about July 1. Set plug plants of Eastern varieties mid-to-late August (or early August in regions with cold, short summers).

Paint Mulch White

A latex-based white greenhouse shading paint diluted one part to eight parts of water, 2 gallons of purchased paint/acre, can be used to temporarily whiten the black mulch. This will keep the film surface and crown temperatures as much 10°F cooler at mid-day in bright early July sun. Formulated to break down and wash off the plastic mulch, the

whitened mulch film slowly returns to black color. Almost 100% livability has been achieved after setting bare root plants on temporarily whitened film.

Harvest of berries planted on a permanent white-on-black mulch is delayed about a week to ten days later than black, so that hot weather may shorten the harvest season. This also triggers the plants to return to the runner-producing vegetative state before the desired fruiting yields and desired season have been achieved.

Study the 1996 harvest data from New Jersey research. It compares

berry size and yield of 29 Eastern varieties and advanced breeding selections from strawberry breeding programs in New Jersey, USDA (Maryland), New York, Arkansas, Canada, and Italy side by side to Chandler, Seascape, and Sweet Charlie. We can all hope to enjoy the benefits and profit potential of plasticulture strawberry production using the hardy Eastern varieties that are best adapted to our colder climates!

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The Future in Plasticulture

Researchers are comparing strawberry varieties on plastic-mulched beds. Here's how they stacked up in 1996.

Cultivar/Selection	1st Harvest Date	Primary		Total		Branch Crown Number
		Berry Wt. (g)	Yield (lb/A)	Berry Wt. (g)	Yield (lb/A)	
NJUS9033-11	5/24	16.1	5798	13.5	22,452	5.5
NJUS9302-2	5/21	19.6	2994	18.9	18,808	5.5
Allstar	5/24	21.7	2823	16.7	20,204	4.3
Annapolis	5/21	12.7	2140	13.7	14,765	5.0
B35	5/21	20.1	3044	18.9	16,407	6.9
B440	6/06	25.6	2463	19.6	15,906	8.5
Cardinal	5/21	16.1	2083	15.8	17,546	5.8
Cavendish	5/21	14.1	1391	15.2	19,458	5.1
Chambly	5/24	17.2	3344	14.2	22,448	5.3
Chandler	5/24	11.9	684	17.5	13,111	4.8
Delmarvel	5/21	17.5	2475	15.2	14,335	7.5
Earliglow	5/21	18.2	6139	14.4	19,371	6.2
Honeoye	5/21	16.1	4403	15.2	24,118	7.4
Idea	6/06	32.6	4853	25.0	17,031	6.0
Jerseybelle	5/28	24.3	1498	18.5	19,013	4.7
Jewel	5/24	16.9	1807	15.1	24,556	3.9
Kent	5/21	12.0	1341	15.2	23,987	5.0
Lateglow	5/28	20.0	1138	18.5	17,255	6.0
Latestar	5/28	26.2	1693	19.3	22,370	6.3
Marmolada	5/24	22.3	2941	19.4	29,722	6.5
MEUS-9	5/21	19.1	679	18.7	19,470	6.0
Mohawk	5/21	14.0	2108	14.2	9849	3.2
Noreaster	5/21	22.1	2143	19.6	22,353	7.4
Primetime	5/21	18.4	2221	15.7	19,423	4.8
Raritan	5/24	17.1	2621	13.2	21,870	5.8
Seascape	5/21	19.0	1919	18.9	17,515	6.4
Seneca	5/21	16.8	2577	16.5	23,860	6.3
Sweet Charlie	5/21	12.4	6345	11.5	13,394	3.8
Veestar	5/21	10.8	3368	11.3	13,430	4.5

The data above are from research trials in New Jersey. Note that three varieties each produced over 22,000 pounds of fruit per acre with average season-long berry size of over 19 grams, nearly double his yields of Chandler and Sweet Charlie! Also, the smaller size of the first-harvested Chandlers compared to season-average fruit size of Chandler suggests possible winter loss of primary fruit buds that normally produce the largest fruit of the season. Note the larger size of the primary fruit of top performing Eastern and Italian varieties compared to their season-long average berry size, showing their better relative winterhardness of primary fruit buds even though first harvest dates were similar to Chandler and Sweet Charlie.