

Multi-Cropping Plasticulture in the Mid-Atlantic Area

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Introduction

Plasticulture is very expensive for smaller growers to establish. Multi-cropping would spread these costs over more than one crop. Double-cropping is done in the mid-Atlantic area but the favorable climate of Virginia's Eastern Shore should make three crops possible.

Methods & Materials

Chandler strawberries were established in replicated yield plots in early September in 1999 & 2000. They were grown on fumigated, plastic mulched raised beds with drip irrigation using the recommended practices for the annual strawberry production system. After the berry harvest was complete in late May the crowns were killed with Paraquat and Athena cantaloupes were transplanted by June 10. An additional 100 #/A nitrogen and 150 #/A K was applied with drip injection. Standard recommended practices were used to control insects and diseases. Melon harvest was completed in late August. The melon vines were killed with Paraquat and 'Windsor' broccoli was transplanted in double rows on a 15-inch spacing in early September. To minimize the occurrence of hollow stems, no additional fertilizer was added for the broccoli crop. The broccoli harvest was completed in late November. Broccoli was harvested as crown cut heads. This is the most desirable way to sell broccoli in the local market. In all crops irrigation was supplied as needed.

Results

Yields are presented as an average of the two years except for broccoli where there was only one harvest year. Values reflect the charges for similar items in the local market.

Crop	Yield	Price	Value
Strawberries	20,390	.80/lb	16,312
Cantaloupe	6,450	1.00 @	6,450
Broccoli	305	15.00/bu	4,575
Total Value			\$27,337

Discussion

While the actual growing of this sequence of crops posed no unusual problems there were some unusual findings in moving between crops. First, strawberries are not easy to kill with Paraquat. There was re-growth from a tractor-mounted sprayer that had to be killed by a hand application. Secondly, the system works best when the strawberry foliage is removed by mowing before the crowns are killed. Twenty per cent the cantaloupes were unmarketable because of dark stains on the rind caused by lying next to a decaying strawberry crown. Lastly, by late August there is a well established cricket population under the plastic mulch. They can damage the drip tube and/or the broccoli transplants. Removing the plastic drove the crickets elsewhere and did not delay the broccoli crop.

Summary

The system works and in a more lucrative market values would be even higher.

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