

## 2001 Home Demonstration Gardens

Cynthia Haynes, assistant professor  
Horticulture

### Introduction

Home gardeners are always interested in new cultural practices and different varieties of annuals and vegetables. To satisfy this growing need, eight research farms across the state each established a home demonstration garden and accompanying field day. In these gardens, different annuals and vegetables were grown for display and research purposes. More than 50 plant varieties representing several themes were grown for the 2001 demonstration gardens. Themes included tomatoes grown in various colors of plastic mulch; compact or space-saving vines; ornamental foliage plants; and plants having “chicken,” “egg,” or “feather” in their name. In this report, data from the colored mulch trial and surveys of attendees will be presented.

### Materials and Methods

Tomato seedlings were grown in the ISU horticulture greenhouses in Ames and transplanted by the end of May 2001 to each research farm. Plastic mulch in various colors was laid by color prior to planting. Mulch colors were red, black, olive, clear, and infrared. Two rows (approximately 18 feet) of each color and a control with no mulch were used. For each row, five tomato plants (two indeterminate varieties and one semi-indeterminate variety) were planted through small holes in the plastic. Plants were watered at planting and then as needed throughout the growing season. Limited fertilizer and pesticides were used. Weight and number of fruit were recorded for each variety, in each treatment.

Survey data was collected from attendees to six of the eight field days across the state.

Attendees were asked several closed- and open-ended questions at the completion of each field

day. Two hundred ninety-four people participated in the survey (43% response rate). A combined attendance of approximately 700 people resulted from all eight field days.

### Results and Discussion

*Plastic mulch trial.* Certain colors of plastic mulch have been shown to increase soil temperatures and hasten crop development for commercial growers. Generally, clear plastic mulch causes the greatest soil temperature enhancement, followed by olive, red, and black. For the two varieties of tomatoes grown at two research farms, red mulch and black mulch produced larger fruit by the end of the season (Table 1).

However, as with any product, the benefits must outweigh the costs. Plastic mulch is more expensive than many types of organic mulch. In addition, it is not biodegradable and must be removed to till the soil. Certain colors like red and olive are difficult to find and purchase. Finally, the benefits are often dependent on weather conditions.

*Attendee survey.* Almost twice as many females than males answered the survey (data not presented). Most respondents were 55–70 years of age (39%). Twenty-four percent of the respondents were 41–54, and 21% were over 70. The remainder were 40 or under (13%) or did not answer the question (3%).

An overwhelming majority of the respondents said that they would grow any of these varieties in their garden next year (70%). Relatively few people said they would not try one of the plant varieties (4%) or were unsure (22%).

Attendees also were asked how much money they spent on flowers, vegetables, and lawns during the past year. Most attendees spent \$11–50 on flowers, vegetables, or lawn

(Table 2). It is interesting to note that a higher percentage of attendees spent more than \$50 on flowers, rather than on vegetables or lawns. This is probably because flowers typically cost more than vegetables, and many homeowners have established lawns.

### Acknowledgments

The contributions of time and labor of each of the participating research farms was greatly appreciated throughout the duration of this project.

**Table 1. Effect of plastic mulch on fruit production in two tomato cultivars at two research farms.**

<b>Treatment</b>	<b>Big Beef</b>	<b>Celebrity</b>
	Avg. weight (lbs)	Avg. weight (lbs)
Control (no mulch)	.50	.43
Clear	.57	.46
Infrared (Clear)	.51	.45
Olive	.54	.45
Red	.59	.49
Black	.58	.47

**Table 2. Percentage of responses to annual spending on plants in their garden.**

<b>Dollars (\$)</b>	<b>Flowers</b>	<b>Vegetables</b>	<b>Lawn</b>
<10	7	24	24
11-50	33	43	25
51-100	29	18	22
101-300	21	4	9
>300	4	1	5
No response	6	10	15