



Seeing Red!

by

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Just before the 1998 growing season, gardeners were buzzing about a new polyethylene mulch product that was supposed to promote bumper crops of red ripe tomatoes. The new red mulch works by warming the soil, conserving moisture and reflecting far-red wavelengths of light up into the canopy of tomatoes and promoting flower bud formation. Tests at the US Department of Agriculture showed that this red mulch increased production of high grade early tomatoes by 12 - 20 percent over black mulch (*American Vegetable Grower* Sept. 1998). Even *Consumer's Report* (May 1998) wrote a glowing testimony to the increase in tomato yields when grown through red mulch.

As with all new products, they don't necessarily work the same way in Alaska as they do in the 'lower 48'. We designed an experiment to compare red mulch with the standard IRT-100® (infrared transmitting) mulch to learn if the red mulch would improve yield of 'Subarctic 25' tomatoes in Fairbanks.

The tomatoes were planted as five-week transplants in the GBG Family Food Garden. Plants were grown through IRT-100® or red mulch and watered by trickle irrigation as needed. The soils were Fairbanks silt loam, and they were fertilized with 1500 lb per acre 10-20-20 prior to installing the mulch rows. Ripe tomatoes were harvested every four days through August beginning August 10. Fruit was counted, weighed, and average weights of four replicates were combined for total seasonal yield (Table 1).

Mulch Treatments	'Subarctic 25' Tomato Yield		
	Fruit Number per Plant	Fruit Weight (oz)	Total Plant Yield (oz)
Red mulch	16.3	1.1	17.4
IRT-100 mulch	15.3	1.2	16.9

Table 1. Yield of 'Subarctic 25' tomatoes grown through red and IRT-100 mulch.

The number and yield of tomatoes did not differ between the red mulch and IRT- 100® treatment. Not only did the red mulch not produce a bumper crop of tomatoes, but the plants grown through IRT-100® polyethylene had much lower yields than other years. However, the red mulch did not lower yields either. It doesn't take a rocket scientist to figure out that the summer weather— dreary, drippy and cold July and August – were the biggest factors. Measurable rainfall was recorded at the weather station just west of the Garden on 17 days in July and 22 days in August. With overcast, cool days no mulch is going to be beneficial in heating soils, and not much light would be reflected upward into plant canopies. Despite these dreary results, we are not ready to throw out the red mulch. Valid experiments need to be repeated over several seasons to account for weather patterns. Look for a repeat of the red mulch project in the 1999 family food garden, and pray for sunny skies!

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