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The 'Earliglow' Strawberry

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The remarkable 'Earliglow' strawberry, introduced in 1975, was the 10th in a series of red stele root rot resistant strawberries originated by the cooperative breeding program of the United States Department of Agriculture and the Maryland Agricultural Experiment Station (2). 'Earliglow' was selected in 1966 by Donald H. Scott and Arlen D. Draper at the Wye Institute farm near Queenstown, MD from the cross of selections MDUS 2359 x MDUS 2713 made at Beltsville, MD by Scott in 1964 (7). It thus represents a particularly useful and valuable recombination from its four grandparent varieties: 'Fairland,' 'Midland,' 'Redglow,' and 'Surecrop.' 'Earliglow' quickly replaced the popular 'Earlidawn' strawberry in the northeastern and midwestern United States. By the early 1980's it was *the* early commercial strawberry of choice from Massachusetts south to northern Virginia and west to Wisconsin. It is still the most popular early maturing commercial and home garden strawberry of the Northeast and lower Midwest regions (1, 3), and it can be marketed on the farm or shipped, and used either fresh or processed.

The characteristics that led to the rapid success of 'Earliglow' were its vigorous and manageable plant growth, combined with early fruit of exceptional flavor, color, attractiveness, and fine handling qualities. 'Earliglow' plants are medium large in size with a well-developed and thick root system. The mature leaves characteristically curve upward at the margins. 'Earliglow' plants runner readily and rapidly after planting to establish a moderately dense matted row or bed. 'Earliglow' also responds favorably to high density mother plant culture (ribbon row or hill culture). Plants of 'Earliglow' are resistant to 9 of the 10 U.S. races of the red stele root rotting fungus, *Phytophthora fragarieae*, and tolerant to many strains of Verticillium wilt (5, 6). Further 'Earliglow' plants are resistant to leaf scorch and leaf blight, tolerant to leaf spot, but susceptible to powdery mildew, anthracnose and angular leaf spot diseases (4).

'Earliglow' plants usually produce 1 or 2 well-developed flower clusters per crown (as compared to 4 or 5 for more recent, higher yielding cultivars). The flowering period of 'Earliglow' plants is early and dense, with the flowers producing good amounts of pollen. 'Earliglow' flowers set well, and develop into uniform, short conic fruits with a broad shoulder and a short neck. The neck is exposed at maturity by the reflexed (upcurved) cap. 'Earliglow' fruit is a bright, deep glossy red at maturity, and its flesh is also a dark red throughout. The fruit "skin" is tough (scuff resistant) and has ample yellow "seeds," slightly raised above to flush with the fruit skin surface. 'Earliglow' fruit flesh is firm but juicy and highly aromatic. The texture of the flesh is uniformly firm in response to slicing or biting. Flowers and developing fruits of 'Earliglow' are highly resistant to the gray mold fungus *(Botrytis cinerea)* (4), but are susceptible to leather rot *(Phytophthora cactorum)*.

The celebrated flavor of 'Earliglow' fruit results from a unique combination of high soluble solids, high acidity, and high aroma. No unique volatile substances have been discovered yet

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in 'Earliglow' fruits. The usual consumer response, when eaten fresh, is that the berry is sweet, with a strong, sharp, pleasant and balanced flavor, that is distinctly strawberry-like. Moreover, 'Earliglow' can develop this flavor under a wide variety of soil and climatic conditions. 'Earliglow' fruit is frequently sought by name by consumers.

The weaker features of 'Earliglow' which are often noted are its modest fruit size and yield. Primary 'Earliglow' berries may weigh 18-20 grams, but later fruits can be as light as 5-6 grams, and average fruit weight is 8 to 8.5 grams. This average size is comparable to that of the fine 'Raritan,' 'Surecrop' and 'Redchief' varieties, but smaller than 'Honeoye,' 'Kent,' 'Allstar,' 'Guardian' and the recent California varieties. Similarly, 'Earliglow' may produce up to 25,000 pounds of fruit per acre, but newer varieties can produce 25,000 to 35,000 pounds per acre in the East, and 40,000 to 50,000 pounds per acre in the longer ripening season of California. However, the unique combination of broad disease resistance with early, high quality fruit should ensure continued culture of the 'Earliglow' strawberry for another generation

Additionally, 'Earliglow' has proven to be an exceptional parent because it readily transmits its disease resistance, fruit sweetness and flavor, firmness, color, reflexed calyx, and early maturity. 'Earliglow' contributed to the parentage of the newer Canadian clones 'Annapolis,' 'Cornwallis,' and 'Cavendish,' and is a parent of many of the most promising USDA (Beltsville), NJUS, NYUS and MNUS Junebearing selections. 'Tribute' and 'Tristar' dayneutral strawberries also have parentage which is common in part to that of 'Earliglow.'

In recognition of their origination of this exceptional berry variety, Donald Scott and Arlen Draper were presented the first Outstanding Fruit Cultivar Award by the American Society for Horticultural Sciences' Fruit Breeding Working Group in 1988.

Literature Cited

1. Galletta, G. J. 1989. Northeastern United States strawberry cultivars. Fruit Var. J. 43: 40-42.
2. Galletta, G. J., A. D. Draper and D. H. Scott. 1981. The U. S. Department of Agriculture strawberry Breeding Program. HortScience 16:743-746.
3. Luby, J. J. 1989. Midwest and Plains States strawberry cultivars. Fruit Var. J. 22-31.
4. Maas, J. L. (Ed). 1984. Compendium of Strawberry Diseases. Amer. Phytopath. Soc., St. Paul. 138 pp.
5. Maas, J. L. and G. J. Galletta. 1987. Reaction of strawberry cultivars to several races of *Phytophthora fragariae*. Proc. 1987 Winter Conf. N. Amer. Strawberry Growers Assn. pp. 108-112.
6. Maas, J. L. and G. J. Galletta. 1987. Strawberry Cultivar reactions to several isolates of *Verticillium*. ibid. pp. 120-130.
7. Scott, D. H. and A. D. Draper. 1975. 'Earliglow,' a new early ripening strawberry. Fruit Var. J. 9:67-69.

Peach Quality and Shade During Final Swell

A report from Virginia on the influence of artificial shade applied to 'Biscoe' peach 44 days before harvest had the greatest negative effect on fruit weight and quality. Shading 40 to 20 days before harvest did not affect fruit weight or quality. Fruit on girdled branches generally responded to shade more than fruit on non girdled branches. Girdling results indicated that fruit weight and soluble solids content partially depended on photosynthesis from non shaded portions of the canopy, whereas fruit redness, days from bloom to harvest and ground color depended on light level in the vicinity of the fruit. (From R. P. Marini et al. 1991. J. Amer. Soc. Hort. Sci. 116:383-389)