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Holiday strawberry

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Figure 1.—Field fruiting habit of Holiday strawberry.

Strawberry breeding in the United States began in the middle of the nineteenth century. Most of the varieties released at that time were from private breeders. About 1920, the U.S.D.A. and several land-grant colleges initiated the first large scale breeding programs. Since strawberries vary greatly in their regional adaptation, diverse breeding programs were established. Today, we have specific varieties adapted to various regions. What is a good variety in one region may be of no value in New York.

The major emphasis in strawberry breeding programs is on disease resistance and increased fruit firmness. The specific disease problems may vary from region to region, but *Verticillium* wilt and red stele are still two of the most serious diseases.

Most old varieties are soft and tender, thus limiting handling, sorting, reducing shelf life and appearance.

With the interest in mechanical harvesting, the demand will be for very firm, tough fruits with concentrated ripening in the cluster.

Other horticultural characteristics, or prerequisites of a good variety, include good vigor, free running, freedom from serious leaf diseases, and productivity. The fruits must be large to start the season. Most varieties run down in size as the season advances. In addition to being firm and tough, the fruits should be attractive and of good quality. Since most strawberries are frozen rather than canned, good freezing characteristics are desired. Fruit placement is desirable for ease of picking. If the fruit is hidden or tangled, it is difficult to pick, and many fruits are often missed. Tangled fruit trusses cannot be mechanically harvested. A brittle pedicle is also desirable so that a harvester or pickers will not break off the entire truss. A pedicle that snaps easily allows the picker to double his rate of pick.

In the breeding program at Geneva, we have concentrated on firm flesh and a tough skin. Holiday (N. Y. 1144) was produced from a cross between Raritan x New York 844. Tennessee Shipper was the original source of firmness in Holiday and has played an important role in its parentage as shown in Figure 2.

Holiday was selected in 1965 from a population of 103 seedlings. Its most outstanding characteristics are its very firm flesh, tough skin, attractive appearance, large size, and brittle pedicle.

DESCRIPTION OF HOLIDAY

Plant—vigorous with upright, medium green, glossy, smooth foliage, medium thick and long petioles, not a profuse runner producer, but makes a

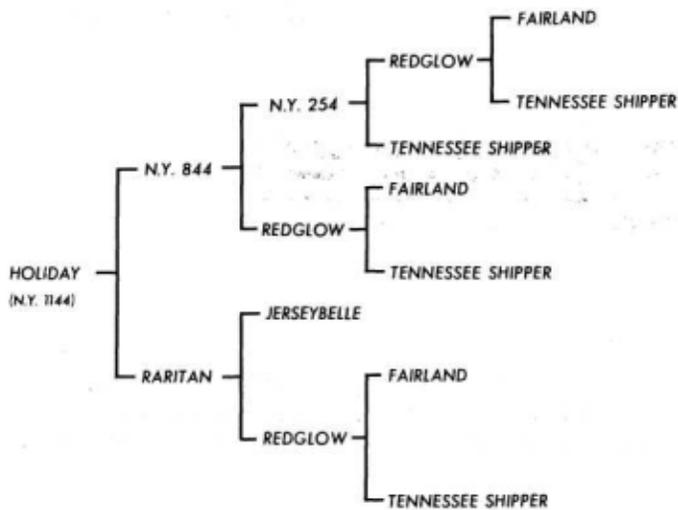


Figure 2.—Pedigree of the Holiday strawberry.

good matted row of well-spaced plants, long medium thick runners, productive.

Flowers—perfect, early midseason, large, 5-6 petals, numerous stamens, fruit stems medium length, medium thick, prostrate, pedicles are medium in length, medium to slender with wide spreading pubescence, calyx variable, medium sized, slightly raised to flat, slightly reflexed, medium green, few adhere to fruit.

Fruit—ripens in early midseason, very large, very firm, uniform shape, oblate to blunt wedge, conic, apex indented, color medium red, glossy, very attractive, evenly colored, tough skin, seeds numerous sunken, not seedy in appearance. Flesh is light red to the center, slightly underripe fruits are light red or slightly white to center, juicy, solid center, mild sub-acid, highly aromatic, of good quality, good for freezing, brittle pedicle or picks easily. During a normal season, the primary berry may remain in good condition until several secondaries or tertiaries ripen

thus exhibiting concentrated ripening. The fruits are less susceptible to rot than other commercial varieties.

Holiday has performed consistently well since selection. It has been tested on a home garden basis and with several commercial growers. It has received much attention and may soon replace many of the present soft commercial varieties grown in the Northeast. Its superior firmness is two-three times that of present varieties, as shown in Table 1.

Table 1.—Measurements of skin and flesh properties in strawberries by an Instron Universal testing machine.¹

Variety	Skin Toughness*	Flesh Firmness*
Marshall	180	322
Catskill	228	383
Midway	257	569
Sunrise	269	456
Earlidawn	272	459
Garnet	173	524
Fletcher	274	414
Surecrop	313	546
Tennessee Shipper	367	686
Holiday	429	1089

*Puncture force in grams (Higher values indicate greater firmness).

¹Ourecky, D. K. and M. C. Bourne. 1968. Measurement of strawberry texture with an Instron machine. Proc. Amer. Soc. Hort. Sci. 93: 317-325.

REFERENCES

- Ourecky, D. K. and M. C. Bourne. 1968. Measurement of strawberry texture with an Instron machine. Proc. Amer. Soc. Hort. Sci. 93: 317-325.