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'Heritage' Red Raspberry

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'Heritage' has become the world's predominant primocane fruiting red raspberry cultivar. No other primocane cultivar has ever been as widely planted and it has become the standard by which all others are judged. It is grown in both the northern and southern hemispheres and in the latter is the most widely planted of any cultivar, whether it be floricane or primocane fruiting. Most of the fresh raspberry fruit seen in northern hemisphere markets during the winter and early spring months is 'Heritage' grown in the southern hemisphere, mainly in Chile. In fact, the cultivar is largely the basis of the industry in that country and has been a major factor in the dramatic increase in raspberry production there in recent years. Elsewhere in the southern hemisphere, the cultivar is well suited to southern and coastal Australia and has allowed raspberry production in areas unsuited to floricane fruiting cultivars because of the lack of sufficient chilling hours. In the northern hemisphere 'Heritage' has been responsible for extending the fresh market season of raspberries through September and into October and early November. In some regions, such as central coastal California, production can occur even later in the fall. In Europe the cultivar is being used successfully, on a small scale, for greenhouse forcing of potted and cool-stored plants for off-season fruit production.

There are interrelated reasons why 'Heritage' has had such an immense impact. Fruit traits which have contributed to this include its medium red color, firm texture, small drupelet, easy removal or release and the ability to remain in good condition even when overripe. The last named trait is equated with a degree of resistance to fruit rot caused by *Botrytis cinerea* Pers. ex. Fr. This and the firm texture means the fruit can be shipped long distances and has an extended shelf life.

Plant traits contributing to the success of 'Heritage' include the production of high numbers of relatively sturdy, upright canes which may require no supports. In regions with higher temperatures during the summer months, for example Maryland compared to New York, canes have more tendency to produce longer laterals and this contributes to increased yields. Higher temperatures also promote earlier ripening and the chances of a greater portion of the crop ripening before unfavorable conditions occur in the fall. Under optimum cultural conditions a substantial crop is often produced on the primocanes in the planting year.

Plants resist or show tolerance to several potentially devastating diseases, including raspberry bushy dwarf virus and the mosaic virus complex. In most production regions, plants are relatively tolerant to *Phytophthora*-incited root rots.

Although 'Heritage' will produce a spring or early summer crop on the overwintered portion of canes which did not fruit the previous season, the fruit quality of this crop is not as good as that of most of the floricane fruiting cultivars. It is thus recommended that

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the canes be mowed to ground level during the winter months. This has the advantage of avoiding selective cane removal and tends to promote an earlier primocane crop. Moreover, it avoids the possibility of winter injury to the canes and lessens the chances of diseases or insects affecting the canes.

'Heritage' was released in 1969 by D. K. Ourecky and G. L. Slate from Cornell University's New York State Agricultural Experiment Station breeding program at Geneva. The cultivar, which was tested as New York 696, originated from a cross between New York 463 ('Milton' x 'Cuthbert') x 'Durham' and was selected in 1960 from a population of 32 seedlings. After its release, it soon replaced older primocane fruiting cultivars such as 'September' and 'Fallred.' In the intervening years 'Heritage' has been used extensively in various breeding programs and is a parent of several recent releases including 'Ruby,' from the New York program and 'Redwing,' from the University of Minnesota program.

There have been attempts to find cultivars which might be superior to 'Heritage.' Of particular concern in many environments is the possibility of earlier ripening to ensure a more complete overlap with late season floricane cultivars and, as already indicated, to ensure a greater portion of the potential crop ripening before unfavorable fall weather conditions. In addition, there is a desire for cultivars with larger fruit with a more intense raspberry flavor and a brighter color. Some of the recently released cultivars, such as 'Malling Autumn Bliss,' from the Horticulture International program in England, and 'Amity' and 'Summit,' both from the Oregon State University-United States Department of Agriculture program, as well as 'Redwing' and 'Ruby' are being planted because of one or more the aforementioned traits. To date none of the newer cultivars has proved to be as widely adapted as 'Heritage.' Therefore, it appears unlikely that any one will completely replace 'Heritage' in a particular production region and the cultivar will remain important into the 21st century.

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'Tohoku 2' Apple

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Abstract

The Japanese apple cultivar 'Tohoku 2' has been recently released in Norway following good performance in variety trials at several locations. The cultivar produces high yields of attractive red fruit having excellent eating quality and good disease resistance. The small fruit size and low acidity following cold storage for a period of 2 months are the only weaknesses of this cultivar.

Introduction

In 1975 and 1976, a collection of cultivars and selections obtained from various countries around the world, including Japan, were planted at the Agricultural University of Norway in Aas, at a latitude of approximately 60°N. The Japanese collection was

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