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'ROYALTY' - A PURPLE-RED RASPBERRY

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'Royalty' is a backcross between a hybrid purple raspberry and a red raspberry. It combines many of the desirable features of both parents, having the large fruit size and plant vigor of a purple hybrid, and the high fruit quality of a red raspberry. 'Royalty' is hardy, has wide adaptation, and has good yield potential. This new cultivar has triple insect resistance; having immunity to the raspberry aphid, *Amphorophora agathonica* Hottes; resistance to the raspberry aphid, *Aphis rubicola*, Oestland; and resistance to the raspberry fruitworm, *Byturus rubi* Barber. 'Royalty's' aphid resistance helps it to escape the aphid-transmitted mosaic and leaf curl viruses, which should extend the productive life of the planting.

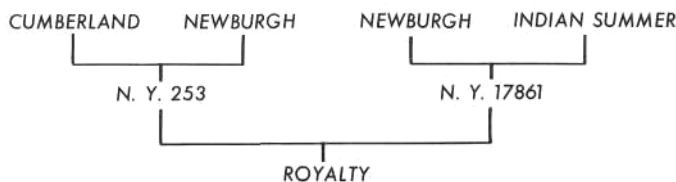


Figure 1.—Pedigree of 'Royalty' raspberry.

ORIGIN

'Royalty' was tested as N.Y.632. It was selected from the progeny of a cross between N.Y. 253 (Cumberland x Newburgh) and N.Y. 17861 (Newburgh x Indian Summer) (Fig. 1). This cross was made in 1954, and the selection was made in 1957. 'Royalty' was tested for many years by cooperative testers in the midwest and northeastern parts of the United States and was tested for processing quality and insect resistance prior to its release on September 16, 1982.

OUTSTANDING CHARACTERISTICS

The most outstanding features of 'Royalty' are its large fruit size, good fruit quality, insect resistance, yield potential, and its wide adaptation.

'Royalty' is among the largest fruited raspberries we have tested. It tends to be larger than 'Brandywine', which

is among the largest fruited cultivars currently grown commercially in New York. Berries tend to weigh over 6 grams. Large fruit size greatly enhances the efficiency and speed of hand-picking, in addition to its visual appeal for the consumer.

Ripe fruit of 'Royalty' are as sweet as most red raspberry fruit and are sweeter than the fruit of 'Brandywine'. When fruit are picked at the full red stage, 'Royalty' has a "light" flavor characteristic of red raspberries. As the berries become darker they develop a fuller "purple" flavor characteristic of purple raspberries. This flavor is not accompanied by the sour, highly acid, or "soapy" flavors which are sometimes encountered in purple raspberries. 'Royalty' produces outstanding jelly or jam which is comparable with that of 'Brandywine'.

'Royalty' is unusual in having triple insect resistance. It is immune to the large-bodied raspberry aphid, *A. agathonica*, which helps it to escape infection by the mosaic viruses, since these viruses are only transmitted by this aphid. 'Royalty' is also highly resistant to the small-bodied raspberry aphid, *A. rubicola*, (being most resistant



Figure 2.—fruit of 'Royalty'.

of 21 raspberry clones tested) which should help it to escape raspberry leaf curl virus. These two aphid resistances, will help 'Royalty' to escape the principle lethal raspberry viruses in the eastern United States.

The adult of the raspberry fruitworm, *G. rubi*, causes its most severe damage to young buds. Later the larvae can damage developing fruit and can contaminate mature fruit. 'Royalty' has been shown to be highly resistant to adult fruitworm bud damage, having the highest level of resistance among 23 clones tested. 'Royalty' was also found to be among the most resistant raspberries tested, when evaluated for larval damage occurring later in fruit development. Since the fruitworm can result in high levels of bud damage and substantial fruit damage, resistance to this pest should be of considerable value.

'Royalty' has considerable hardiness, good yield potential and wide adaptation. Favorable reports from field evaluations have come from Washington, Kansas, Iowa; Ohio, and Ontario (Canada), as well as from New York State.

'Royalty' is soft and juicy when fully ripe. As such, it has been popular with pick-your-own customers, but would be poorly suited for shipping or wholesale marketing. However, when 'Royalty' is picked at the full-red stage of fruit development, it has already reached an acceptable level of quality, relative to sugar content, flavor, and appearance (Fig. 2). At this stage the fruit are firm and solid, and have an extended shelf life. Therefore, 'Royalty' seems to simultaneously offer the pick-your-own customer a large, sweet, and succulent purple berry; while offering the wholesale or retail market a firm red berry with acceptable quality and relatively long shelf life.

'Royalty' suckers sparingly, which has delayed its multiplication and release as a cultivar. This reduced suckering warrants closer spacing at planting, for faster establishment. 'Royalty' is presently being multiplied through tissue culture, which is certain to play an important role in its commercial propagation in the future.

AVAILABILITY

Plants of 'Royalty' will be available from the New York State Fruit Testing Cooperative Association (Hedrick Hall, Geneva, NY 14456), as well as from various commercial nurseries in New York State.

ACKNOWLEDGEMENTS

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