New Varieties From the Virginia Fruit Breeding Program

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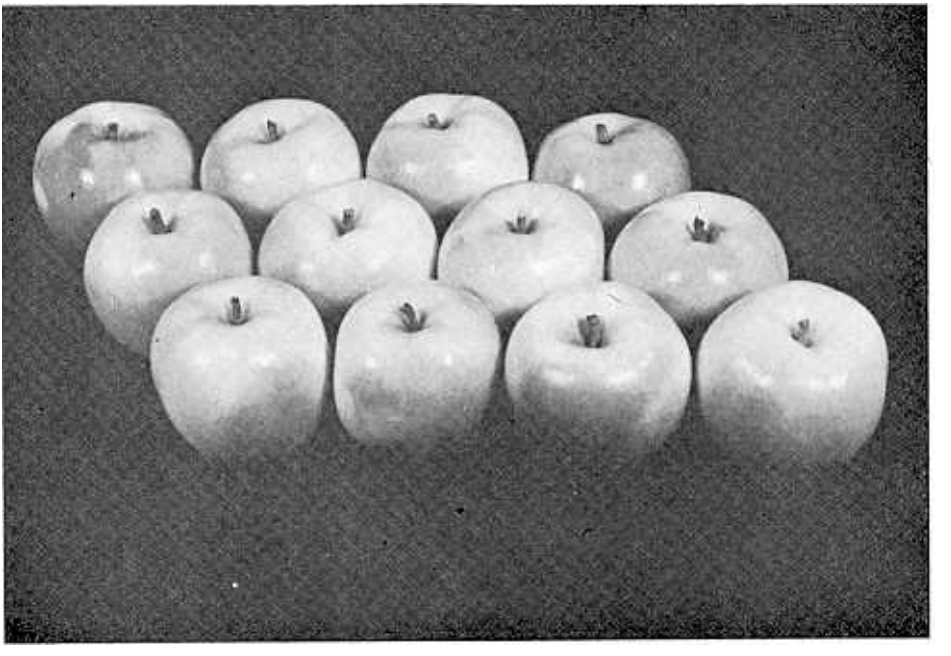
New varieties of apple, peach, grape and red raspberry have been released recently by the Virginia Agricultural Experiment Station.

APPLES

The new apple varieties are 'Winchester' and 'Virginiagold'. Both were selected from crosses made by Professor Emeritus R. C. Moore nearly 30 years ago.

'Winchester' was developed by crossing 'York Imperial' with 'Lowry'. The tree resembles 'York Imperial' in habit of growth and vigor. It blossoms a day or 2 after 'York Imperial' and has good pollen. The fruits resemble 'York' but have better color and finish and are less inclined to be "lopsided". They ripen about October 12 at Blacksburg or about with 'York'. They are very firm and the deep yellow flesh is crisp and juicy, with sprightly flavor.

'Winchester' was selected as a processing type but its flavor and quality are good enough to make it a potential late season variety for fresh use. It has long storage life. Processing tests indicate that it has superior qualities for canned slices, pureed babyfood, and sauce. The shape, long storage life, flesh color that is slow in turning brown, and flavor should make it an outstanding processing variety.



'Virginiagold'

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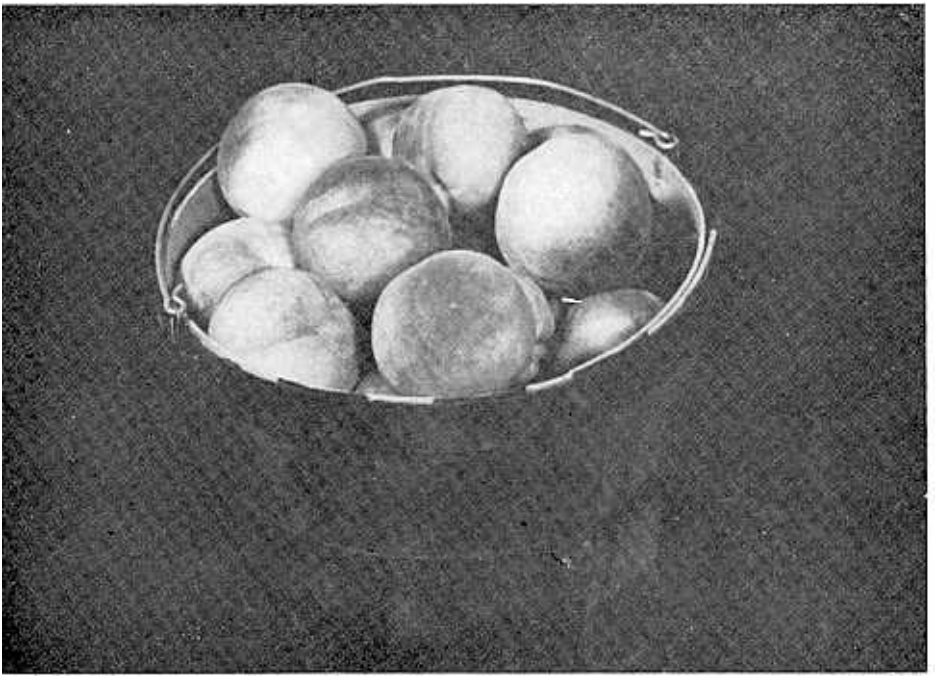


'Harrison'

'Virginiagold' was developed by crossing 'Albemarle Pippin' with 'Golden Delicious'. Its blossoms open in early midseason or about with 'Delicious' and its sports. It has good pollen. The fruits have very firm flesh and exceptionally long storage life. The bright golden yellow, waxy skin, with attractive pink blush and fine finish make this one of the most attractive yellow apples yet developed. It has shown no tendency to skin russeting so commonly shown by its 'Golden Delicious' parent when grown under eastern conditions. The crisp, juicy flesh is mildly subacid and, when properly mellowed, its quality has been rated comparable to that of its 'Albemarle Pippin' parent, which at one time was Virginia's most highly regarded export variety. It ripens about October 10, or with 'Rome Beauty' at Blacksburg, but the fruits do not mellow to maximum flavor and quality under cold storage conditions until late January. Processing trials have shown it to have exceptional qualities for sauce, canned slices, and for pies. On young trees that show vigorous growth it may be necessary to follow fire-blight control practices.

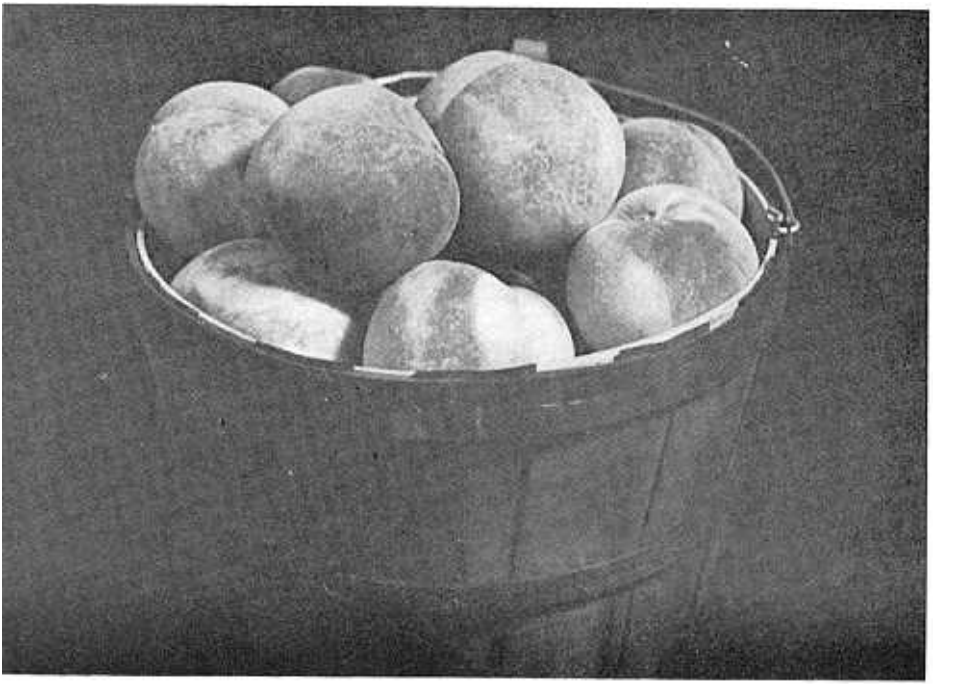
PEACHES

The new peach varieties are 'Harrison' and 'Zachary Taylor' named after Virginians who became President of the United States.

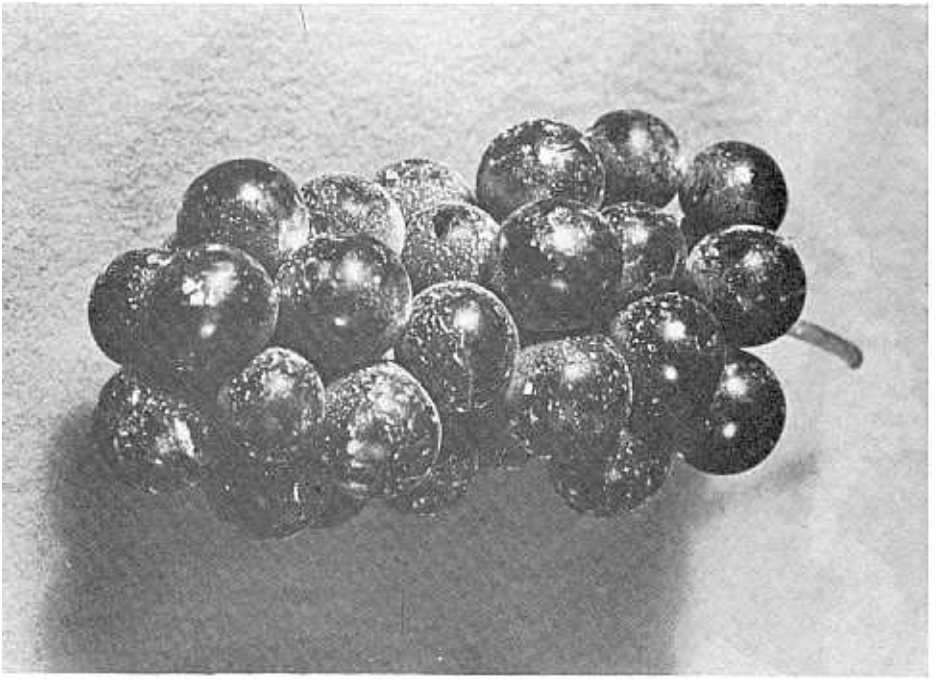
'Harrison' (VPI 66) was named and released in 1972. Its parents are 'Veteran' crossed with 'Jerseyland'. It is a yellow flesh, freestone variety ripening a few days after 'Redhaven' and a few days before 'Washington'. The fruits are of average size for their season and attractively colored. The

flesh has smooth texture and is above average in firmness as are the flavor and quality. Canning tests conducted in the VPI Department of Food Science and Technology indicate that 'Harrison' produces a canned product far superior to that of any other variety ripening in its season or earlier. The tree is of average vigor with heavy production of fruit buds which are of above average tolerance to blossoming season frosts and winter cold, and are self fruitful.

'Zachary Taylor' (VPI 51), a sister seedling of 'Washington', was released in 1973. Its parents are 'VPI 15', an open pollinated seedling of 'Harrison Free' an old Australian variety and 'Sunhigh'. It has deep yellow-orange flesh which is outstandingly firm, of above average texture, and is freestone. The flavor is noticeably less sharp than that of 'Washington' and the flavor and quality are comparable to its 'Sunhigh' parent. It ripens a week after 'Washington'. The fruits are of above average size and attractively colored. The tree is of near average vigor and a heavy producer of fruit buds. The flowers are self fruitful and as tolerant to blossoming season frosts as those of 'Washington'. The buds appear to be more tolerant to winter cold than those of 'Washington'.



'Zachary Taylor'



'Price Grape'

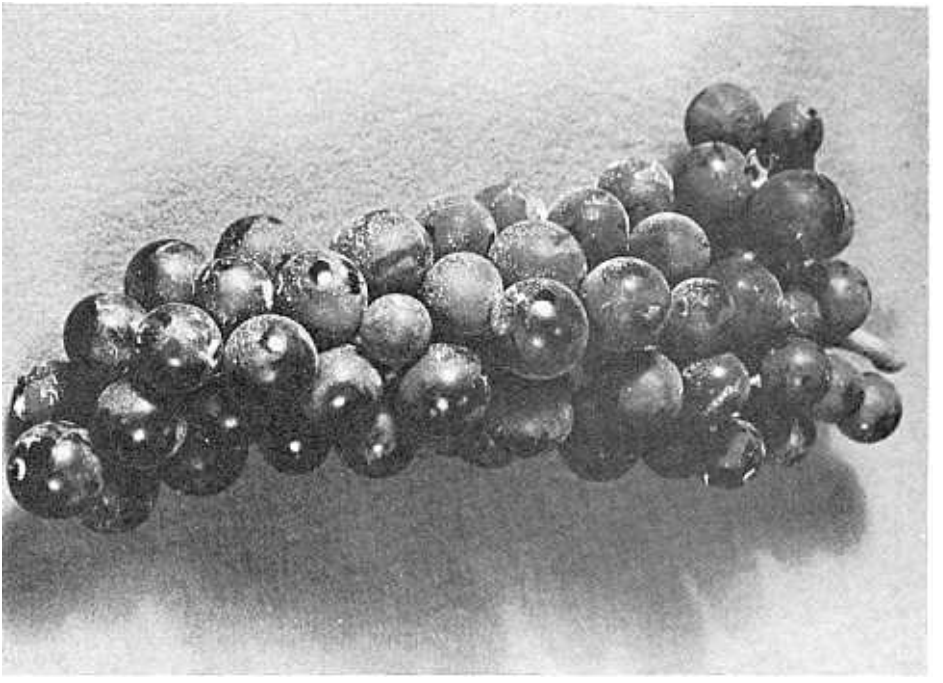
GRAPES

The new grape varieties are 'Price', 'Monticello' and 'Century I'. These were selected from populations of seedlings grown from crosses made by Professor Emeritus R. C. Moore before his retirement in 1964.

'Price' (VPI 30), a 1972 introduction, is an early season variety ripening 10 days before 'Fredonia' or 2 weeks before 'Alwood'. Its parents are two VPI numbered selections. One resulted from crossing 'Hector' with 'Seibel 13053', a French/American hybrid; the other from crossing 'Fredonia' with 'Athens'. The medium-size clusters of blue-black berries have heavy bloom, are of the slipskin type, and have not shown tendency to cracking or splitting. The flavor is sweet and only moderately foxy. The quality is rated comparable to well-ripened 'Worden' or 'Concord'. The vine is of average vigor and productivity. Disease control has not been a problem with 'Price', but it does seem quite susceptible to red spider mites.

Uneven ripening of the berries of 'Price' has not been observed at Blacksburg nor elsewhere in the cooler areas of Virginia. This new variety has not been tested adequately in the warmer areas of the state but so far no reports have been received of the occurrence of this problem.

'Monticello' (VPI 31) is an attractive blue-black grape ripening a few days after 'Alwood' or about 10 days before 'Concord'. It resulted from crossing two numbered selections. One, 'USDA 4606-5', was developed

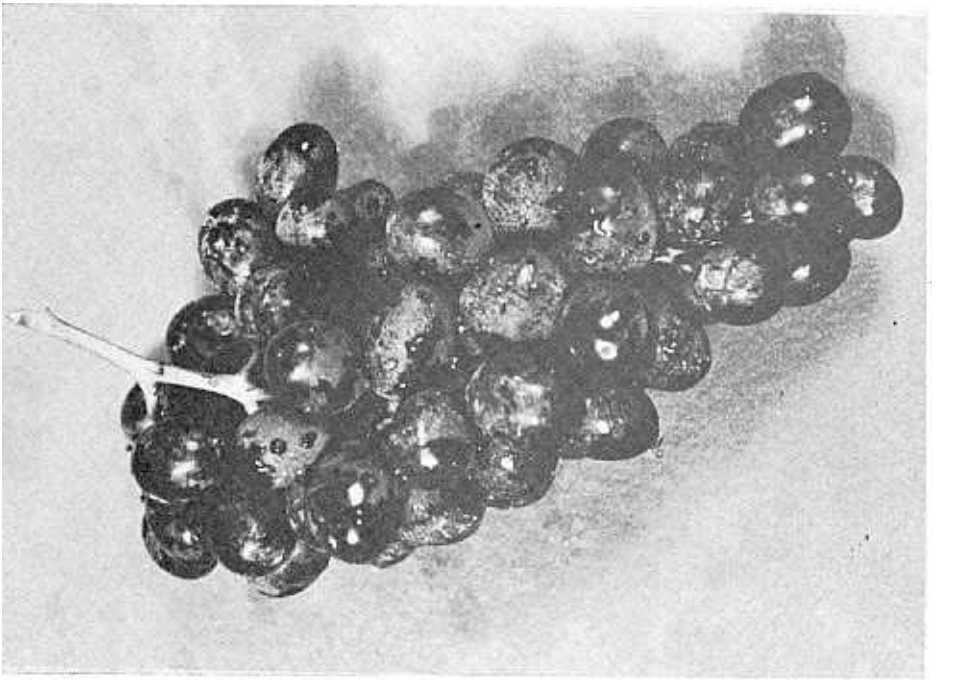


'Monticello'

at Beltsville, Maryland by crossing 'Fredonia' with 'Niagara'. The other came from crossing 'Fredonia' with 'Athens' at VPI. The clusters are above average in size, long, cylindrical to tapering, often shouldered, and compact. The berries are medium size, slipskin, carry a heavy bloom, and are not subject to cracking. The flavor is sweet, more fruity than foxy, and the quality is rated near that of 'Steuben'. The vine is of avergae vigor, and much above average in production. It should have short-cane pruning and cluster thinning soon after bloom. Disease control has presented no problems on 'Monticello'. There has been no indication of uneven ripening of the clusters at Blacksburg, but 'Monticello' has not been tested adequately in the warmer areas of Virginia.

'Century I' (VPI 32) is a variety introduced for the grape fancier who appreciates top flavor, texture, and quality in grapes, and is willing to give the vines the additional care and attention necessary to grow such fruit. The parents are 'Seyve Villard 20-347', a French/American hybrid of complex ancestry, and 'Dunstan No. 3'. The latter was developed by private breeder R. T. Dunstan of North Carolina, by crossing 'Chasselas Violet', a French vinifera table grape, with 'Golden Muscat' of Geneva, N.Y. origin.

'Century I' has large, well-filled clusters of large, ovate, reddish-black berries. It ripens about with 'Concord', depending upon the load of fruit the vines carry. The skin is adherent to the crisp, meaty flesh. The



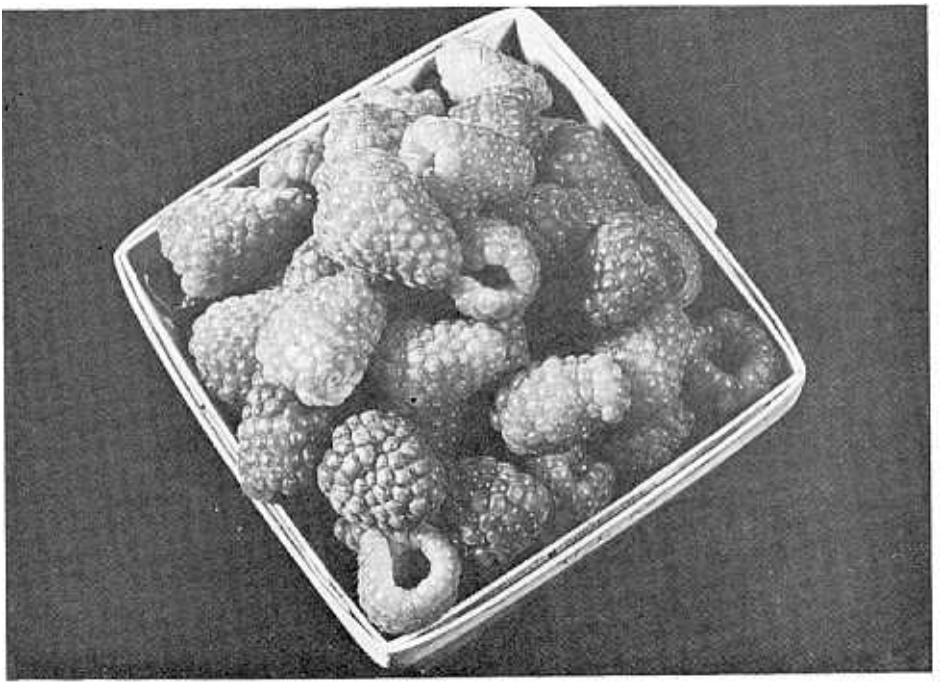
'Century I'

flavor is distinctly of vinifera type, sweet and fruity. Its quality is rated as at least equal to that of any California-grown grapes found in Virginia markets. The vines are above average in vigor and overly productive. They must have close pruning and cluster thinning to prevent overbearing and resulting winter injury to the wood.

The fruit and foliage of 'Century I' are subject to black rot and powdery mildew, but sprays recommended for grapes in Virginia will control these diseases if applied on schedule. The vine is medium hardy to winter cold; however, if not permitted to overbear and the foliage is protected against diseases and Japanese beetles, sufficient buds will survive for heavy production of fruit.

RASPBERRIES

The new red raspberry varieties are 'Pocahontas' and 'Cherokee'. The climate and general environment of much of Virginia are not suitable for successful culture of most varieties of red raspberry that originated in commercial red raspberry growing areas of North America or Europe. The greater humidity and warmer temperatures in most of Virginia are conducive to greater prevalence and severity of fungus, bacterial, and probably of virus diseases of this fruit than in more northern areas. Fluctuating winter temperatures and infrequent snow of sufficient depth to cover and protect the canes against fluctuating winter temperatures often result in severe winter killing of canes



'Pocahontas'

on varieties from more northern areas which are amply winter hardy in the areas where they originated. Only in areas of higher elevation in western and northern Virginia are found environmental conditions sufficiently satisfactory for growing this fruit with some degree of success. Even there 'September' is about the only variety that performs well enough to merit recommendation for planting.

The raspberry breeding program at VPI & SU was directed toward the objectives of types adapted to climatic and other environmental conditions of Virginia accompanied by desirable berry characteristics of sufficient size and firmness, attractive color and texture, and flavor and quality comparable to those of the best varieties grown in commercial red raspberry growing areas.

Several generations of hybridizing and rigid selection from the resulting seedlings gave several that merited propagation for more extensive testing. The best of these selections came from crossing 'Hilton', a very large berried variety developed at the New York State Agricultural Experiment Station, with 'VPI 5'. This selection resulted from crossing 'Taylor', another variety developed at the New York State Agricultural Experiment Station, with 'St. Regis', an old variety developed in New Jersey about 75 years ago.

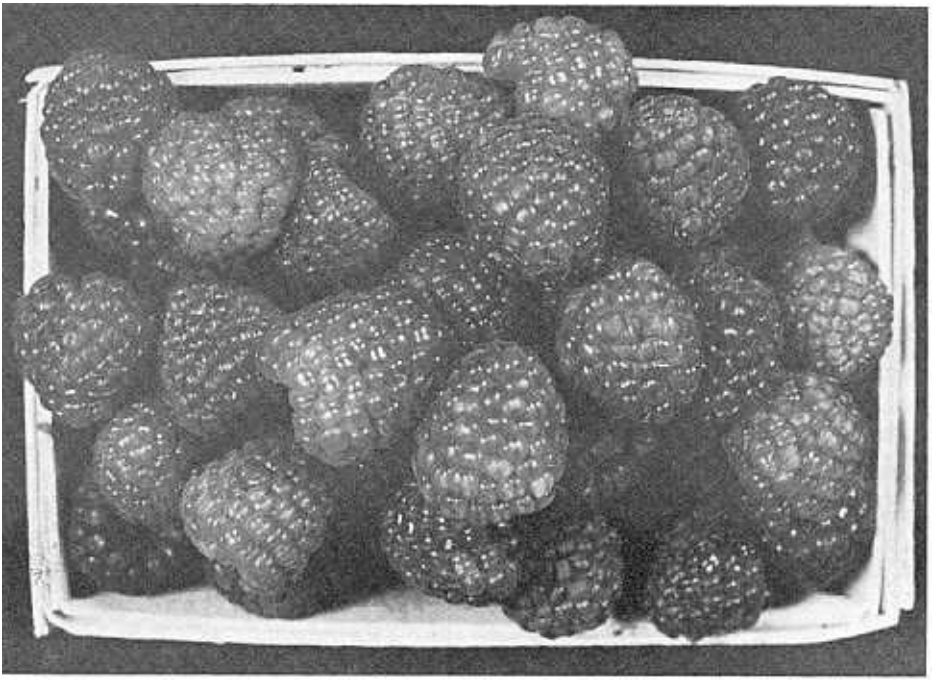
The cross that gave 'Pocahontas' and 'Cherokee' was made in 1958. The original seedlings were held for further study in 1960 and were propagated for further testing in 1962 at which time selection numbers were assigned.

The berries of 'Cherokee (VPI 13) begin to ripen in early mid-season, about five days after 'September' or about June 27 at Blacksburg. The ripening season extends from two to nearly three weeks depending on availability of soil moisture and moderate temperatures. The berries are described as being conic to round conic in shape with medium texture drupelets, good coherence, medium to bright red color and above average firmness. The flavor is described as sprightly with strong red raspberry flavor. The quality has been rated as very good, which ranks it slightly superior to that of 'September', the only variety of red raspberry previously recommended for general planting in Virginia.

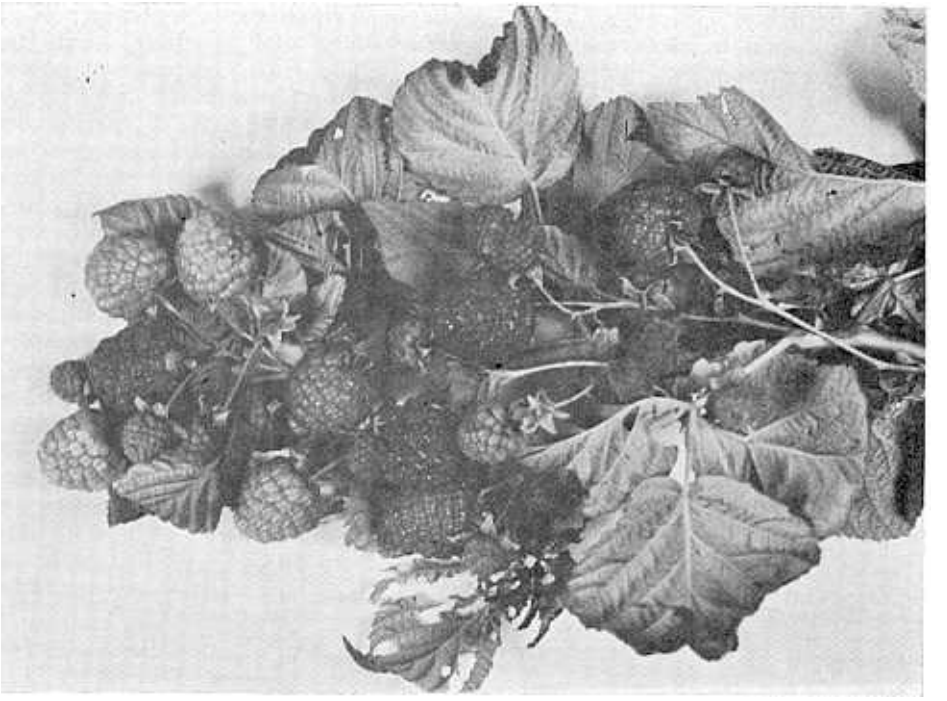
In addition to the crop which ripens in June and July, 'Cherokee' bears a crop of berries on the tips of the canes produced in the current season. These begin to ripen about September 24 at Blacksburg and continue until the first killing frost. In most years not much of the potential fall crops ripens at Blacksburg because of early frosts but in areas having a longer growing season heavy fall crop production may be expected. The fall crop berries are similar to the summer crop berries but may average slightly larger in size because of more favorable soil moisture and temperature ranges at that season.

The canes of 'Cherokee' appear to repsond slowly to periods of mild weather during mid-winter and therefore usually are less likely to be damaged by the sudden drops in temperature that often follow periods of mild weather during mid-winter in the Blacksburg area.

The canes are sturdy and capable of supporting themselves, but for heavy commercial production they will re-



'Cherokee'



Autumn Fruiting Shoot of 'Cherokee'

spond to support from a wire trellis. 'Cherokee' has the faculty of producing most of its berries on the outer sides of the row which makes for greater ease of picking.

The berries of 'Pocahontas' (VPI 14) ripen in midseason, beginning about ten days after 'September' or about July 2 at Blacksburg and continuing for about two and one-half weeks. The berries are above average to near large in size. They are conic in shape with small to medium size drupelets and very good texture and berry coherence. They are much above average in firmness. The color is a medium red with a dusky aspect of fine pubescence which accentuates their appearance. The flavor is less sprightly than that of 'Cherokee' and has a strong aromatic quality that definitely enhances the flavor. Its quality compares favorably with the best varieties tested at Blacksburg. It is excellent for fresh use, for quick freezing and for jams and jellies.

Like 'Cherokee', the canes of 'Pocahontas' respond rather slowly to periods of mild weather during mid-winter, and therefore seem less likely to be damaged by the sudden drops in temperature which often follow periods of mild weather that occur in mid-winter in the mountain areas of Virginia.

The canes are less sturdy than those of 'Cherokee' but are capable of supporting themselves if they are pruned to a reasonable height. They will benefit from trellis support, however, which permits pruning to a greater height with subsequent heavier production of berries. The plants sucker more profusely than those of 'Cherokee' and may require more thinning of the smaller canes each spring when the plants are pruned.