References Cited

1. Blanpied, G. D. 1974. A study of indices for earliest acceptable harvest of Delicious apples. *Proc. Amer. Soc. Hort. Sci.* 99(6):537-539.
2. Blanpied, G. D. 1973. Harvesting fresh market apples in New York. Cornell Information Bulletin 49, Cornell University, Ithaca, New York.
3. Blanpied, G. D. and V. A. Blak. 1977. A comparison of pressure tests, acid levels, and sensory evaluation of overripeness in apples. *HortScience* 12(1): 73-74.
4. Haller, M. H. 1944. Picking maturity of apples. *U.S.D.A. Cir.* #711:1-23.
5. Hammett, L. K. 1977. Association between soluble solids, acid content, and days from full bloom of three strains of Delicious and Law Rome apple fruits. *J. Amer. Soc. Hort. Sci.* 102(6):733-738.
6. Hertz, L. B. 1979. Use of Ethrel to stimulate coloring and ripening of Minnesota apple cultivars. *Fruit Varieties Journal* 33(4):114-117.
7. Lidster, P. D. and S. W. Porritt. 1978. Influence of maturity and delay of storage on fruit firmness and disorders in Spartan apple. *HortScience* 13(3): 253-254.
8. Looney, N. E. 1975. Control of ripening in McIntosh apples. I. Some growth regulator effects on preharvest drop and fruit quality at four harvest dates. *J. Amer. Soc. Hort. Sci.* 100(4):330-332.
9. Liu, F. W. 1978. Modification of apple quality by high temperature. *J. Amer. Soc. Hort. Sci.* 103(6):730-732.
10. Mattus, G. E. 1966. Maturity standards for Red Delicious. *American Fruit Grower* Vol. 86(8):16.
11. Smock, R. M. 1977. Nomenclature for internal storage disorders of apples. *HortScience* 12(4):306-308.

Explorer — A New Full-Season Japanese-Type Plum for the Southeastern United States

J. M. Thompson and V. E. Prince[1]

The Science and Education Administration, USDA, has recently released a new Japanese-type plum named Explorer that is adapted to all areas of the southeastern United States where these plums are grown. The name, Explorer, refers obliquely to the fact that this plum is the first release from the plum breeding project at the USDA Southeastern Fruit and Tree Nut Research Laboratory.

The pedigree of Explorer appears in Fig. 1. The seed, selected by Dr. John Weinberger, originated in 1963 in a California commercial orchard on a Queen Ann tree with Santa Rosa obligated as the pollenizer. The seedling was grown at the Southeastern Fruit and Tree Nut Research Laboratory at Byron, Georgia. After being selected by Mr. Victor Prince in 1967, it was tested as BY4-401 at Byron and five other Southeastern locations. The several species in the genetic background of Explorer all contribute to its salient features. The bright purplish black skin was probably derived from *Prunus simonii* Carr., the amber flesh from *P. americana* Marsh, and most of the high quality attributes of its fruit from the Japanese plum, *P. salicina* Lindl. (Fig. 1 and Table 1).

The trees of Explorer are moderately vigorous. In the early years they are upright with a slight tendency for the branch ends to turn outward to give a slight vase-shape. As the trees come into production, the branches bend down, and in older trees no new upright growth of any significance de-

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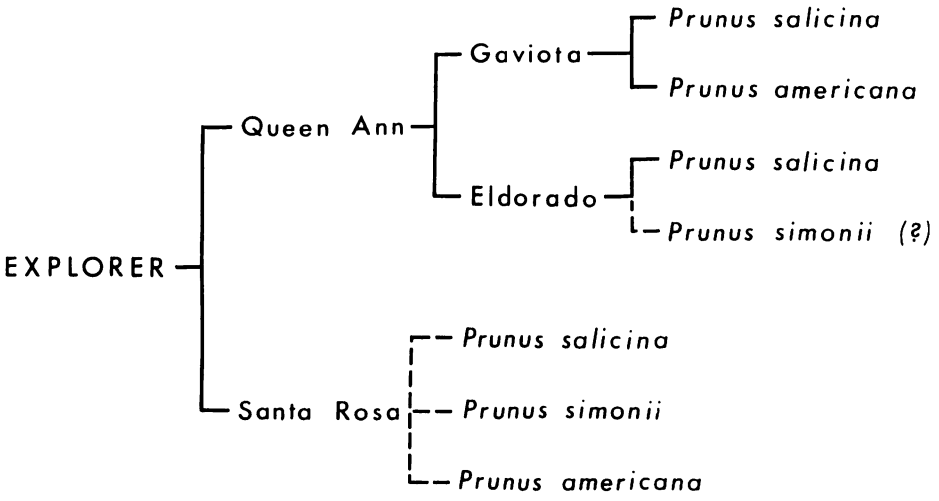

Fig. 1. The pedigree of Explorer plum.

velops. Thus, many mature trees do not have a central leader and do not seem to suffer from its absence.

Flowers of Explorer are male fertile, but self-incompatible. The usual mix of varieties found in southeastern plum orchards is apparently satisfactory in both timing and cross-compatibility to cause satisfactory fruit sets.

Fruits of Explorer can be made to attain diameters of 53 mm (2.1 in.) or more (Table 1) with proper thinning and culture. They have a deep amber flesh and a purplish black skin overlain by a heavy, waxy bloom. They are capable of being polished to a high shine which accentuates the great depth of the color. Responses from informal taste testing by impartial third parties has been highly favorable in most cases. Explorer fruits ripen approximately 115 days after bloom (Table 1). Specific dates are not given because of the variability of the onset of spring in the southeastern United States, but they are usually

Table 1. Comparison of characteristics of Explorer and several standard plum cultivars of the Southeastern United States.

Cultivar	Bloom date relative to Methley	Days from bloom to maturity	Skin color	Flesh color	Normal fruit size (mm)	(in)
Methley	0	90	dark red	V. dark red	41	1.6
Santa Rosa	+2	99	red	red/yellow	48	1.9
Ozark Premier	+2	107	red/yellow	yellow	57	2.2
EXPLORER	+1	115	purplish black	amber	53	2.1
Crimson	+3	117	bright red	red	46	1.8

ripe during the first 10 days of July at Byron.

Trees of Explorer have, so far, shown good to very good resistance to the three bacterial diseases which beset plum production in the southeastern United States. Resistance to bacterial leafspot, *Xanthomonas pruni* (E. F. Sm.) Dows., including the branch cankering phase, is very good. Resistance to bacterial canker, *Pseudomonas syringae* Van Hall, is thought to be good although there were no critically old trees to be challenged and observed during the last severe outbreak of bacterial canker. Resistance to the plum leaf scald that is apparently associated with the presence of a Rickettsia-like bacterium and drought conditions has been good to this time.

Budwood from recently indexed trees is currently available in limited quantities from the USDA-SEA-AR, Southeastern Fruit and Tree Nut Research Laboratory, P.O. Box 87, Byron, GA 31008, USA.

New Plum Variety: Blackamber

D. W. Ramming and O. L. Tanner[1]

A new Japanese-type plum cultivar Blackamber has been introduced to extend the season of Friar type plums.

ORIGIN

Blackamber was selected in 1973 by John H. Weinberger from a progeny of Friar X Queen Rosa crossed in 1970. It was tested as K68-43 in the San Joaquin Valley of California.

CHARACTERISTICS

In most years, Blackamber ripens about the last week of June at Fresno, California. Thus, it is 1 week earlier than El Dorado and 3 weeks earlier than Friar. Like Friar's, the fruit surface is black at maturity, showing no bruises. The oblate fruit is large, averaging 6.2 cm in diameter and 5.3 cm in length. The flesh is light yellow with slight bleeding of red into the flesh at full maturity. The flesh is firm and of good quality. The pit is almost free and very small, accounting for about 1% of the fruit weight.

Fig. 1. Blackamber plum.