'AU-Cherry' Plum

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Additional index words. fruit breeding, *Prunus salicina*, *Prunus cerasifera*, *Prunus angustifolia*, bacterial canker, *Pseudomonas syringae*, bacterial leaf spot, *Xanthomonas campestris*, plum leaf scald, *Xylella fastidiosa*

'AU-Cherry' plum was developed in the Dept. of Horticulture and the Alabama Agricultural Experiment Station, Auburn Univ., and is adapted to areas receiving 700 h of chilling below 7C. The plum originated from a cross of 'Methley' × 'Starcher No. 1' (natural hybrid of *Prunus angustifolia* Marsh), followed by backcrossing and sibbing of selected seedlings (Fig. 1). The original cross was made in 1965, and the seedling was selected and tested as Methley C-50.

Description

'AU-Cherry' is highly resistant to bacterial canker (*Pseudomonas syringae* pv. *syringae* Van Hall), bacterial fruit and leaf spot [*Xanthomonas campestris* pv. *pruni* (Smith) Dye], plum leaf scald (*Xylella fastidiosa* Wells), and black knot [*Apiosporina morbosa* (Schw) Arx.] (Table 1).

Trees of 'AU-Cherry' are similar to those of 'Methley' in upright spreading growth habit and dark-green foliage, except they are more vigorous, larger, and have greater longevity. 'AU-Cherry' has a chilling requirement of ≈ 700 h below 7C. Chilling requirements were determined by holding cuttings in a greenhouse at 25C after dormant cuttings had been held in storage at 3C.

Mature fruits of 'AU-Cherry' have dark-red (scarlet red, HCC, 44A) skin and dark-red flesh (scarlet red, HCC, 44B) (Royal Horticultural Society, 1966) (Table 1, Fig. 2). Fruit quality is excellent for fresh market and home use, as judged by us and collab-

orators. However, it is too small and soft for commercial production (Table 1). Fruits also were rated acceptable in canned fruit tests (Table 2). Maturity date is the same as for 'Santa Rosa' (Table 1). The plant flowers profusely, is self-fruitful, and sets a heavy crop.

'AU-Cherry' has produced high yields at four locations in Alabama (central and southeastern) and at Byron, Ga. Each Alabama planting contained six replications of one-tree plots. Average yields of marketable fruit per tree in Alabama were 17.7, 22.7, 37.3, and 36.8 kg from 3-, 4-, 5-, and 6-year-old trees, respectively. It has been a consistent bearer and has produced larger crops than 'Methley', 'Ozark Premier', or 'Santa Rosa' (Table 1).

Fruits of 'AU-Cherry' store as well as OC as those of 'AU-Amber', 'AU-Roadside', and

'Methley' and better than 'Ozark Premier' fruit (Table 1).

'AU-Cherry' yield and fruit quality compare favorably with the cultivars currently being grown commercially and in home and roadside market plantings. Furthermore, it is more resistant to bacterial fruit and leaf spot, bacterial canker, black knot, and plum leaf scald than are 'Methley' or 'Santa Rosa'. Resistance ratings were obtained in years when injury from disease was severe on susceptible cultivars. The plants were maintained under a standard commercial pesticide program. Therefore, 'AU-Cherry' should fill a need for a midseason cultivar for home use in central and south-central Alabama and in other areas of similar environment where these diseases are a problem.

Outstanding characteristics

Tree vigor and tolerance to plum leaf scald are the primary improvements of 'AU-Cherry'. Trees of 'AU-Cherry' are vigorous and show no evidence of plum leaf scald, whereas trees of 'Methley' grow much slower and are highly susceptible to plum leaf scald. Tree vigor is a primary selective criterion in the southeastern United States and the relationship of plum leaf scald to phony peach makes resistance important.

Another improvement of 'AU-Cherry' is its tree longevity. In test orchards at two Al-

Fig. 1. Pedigree of the 'AU-Cherry' plum.

Fig. 2. Fruits of 'AU-Cherry' plum.

Received for publication 6 Aug. 1990. Alabama Agricultural Experiment Station Journal no. 11-902618P. We gratefully acknowledge the essential assistance of H.M. Bryce; E.V. Smith, Research Center, Shorter, Ala.; H.W. Ivey, Wiregrass Substation, Headland, Ala.; J.M. Pitts and K.M. Short, Chilton Area Horticulture Substation, Clanton, Ala.; and E.M. Carden and R.N. McDaniel, Gulf Coast Substation, Fairhope, Ala., in evaluation and propagation of the material. We deeply appreciate the assistance of J.M. Thompson, U.S. Dept. of Agriculture Tree Fruit and Nut Laboratory, Byron, Ga., in evaluating the budded trees of the selection and the assistance of growers in conducting commercial grower trials with the material. The cost of publishing this paper was defrayed in part by the payment of page charges. Under postal regulations, this paper therefore must be hereby marked *advertisement* solely to indicate this fact.

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Table 1. Fruit characteristics and disease resistance of 'AU-Cherry' trees compared to standard *Prunus salicina* cultivars.

Fruit characteristic	Cultivar									
	AU-Cherry	AU-Rosa	AU-Amber	AU-Producer	AU-Roadside	Crimson	Homeside	Methley	Ozark Premier	Santa Rosa
Skin color ^z	dR	dR	dR-P	dR-P	dR	cR	Or-IR	dR-P	R-P	dR-P
Flesh color ^z	dR	Cr	Cr	dR	dR	cR	Cr	dR	Cr	R
Fruit diam (cm)	2.9	5.0	3.5	3.5	5.4	4.1	6.0	2.9	5.4	3.5
Firmness ^y	4	5	4	5	4	5	4	3	4	4
Stone adhesion ^x	C	C	C	F	sC	C	C	C	sC	C
Flavor ^y	5	5	5	5	5	5	5	5	5	5
Texture ^y	5	5	5	5	5	5	5	5	5	5
Shape ^y	5	5	5	5	5	5	5	5	5	5
Soluble solids concn (%)	18.0	17.6	18.2	16.5	17.2	16.3	18.8	18.5	15.7	16.7
Harvest date (Auburn, Ala.)	24 June	22 June	30 May	27 June	1 July	24 July	5 July	10 June	10 July	5 July
Yield (Auburn, Headland, Shorter, and Thorsby, Ala.)	5	5	5	5	5	5	5	3	4	3
Marketable fruit after 6 weeks at 0C (%)	70	90	70	90	70	90	70	70	65	80
Disease resistance ^w										
Bacterial canker	0	0	0	0	0	0	1	5	1	5
Bacterial fruit spot	0	0	0	0	0	0	0	3	0	5
Bacterial leaf spot	0	0	0	0	0	0	0	5	1	5
Black knot	0	0	5	1	0	0	1	5	1	0
Brown rot	0	2	2	2	2	1	3	3	3	3
Plum leaf scald	0	0	0	1	1	3	1	4	4	5

^zColor abbreviations: Or = orange, R = red, P = purple, Cr = cream, cR = crimson red, dR = dark red, IR = light red.

^yRating index: 1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = excellent.

^xStone adhesion: C = cling, sC = semicling, F = free.

^wDisease 0 = 0, 1 = 1% to 20%, 2 = 21% to 40%, 3 = 41% to 60%, 4 = 61% to 80%, and 5 = 81% to 100% of the fruit, leaves, and trees infected with bacterial canker, bacterial fruit spot, bacterial leaf spot, black knot, brown rot, and/or plum leaf scald. Ratings were taken in years when injury from disease was severe on susceptible cultivars.

abama locations and at Byron 9 years after planting, trees of 'AU-Cherry' were vigorous and disease-free. Trees of 'Methley' were either dead or in decline.

Availability

Trees of 'AU-Cherry' are currently available from wholesale and retail nurseries for planting. A limited supply of budwood may be obtained from J.D.N.

Literature Cited

Royal Horticultural Society. 1966. RHS colour chart. The Royal Horticultural Society, London.

Table 2. Mean quality ratings of 11 plum cultivars following canning.^z

Cultivar	Color	Texture	Flavor	Overall quality ^y
AU-Cherry	9	8	9	8.7
AU-Rosa	8	8	8	8.0
AU-Amber	8	9	9	8.7
AU-Rubrum	8	8	8	8.0
AU-Producer	8	8	8	8.0
AU-Roadside	8	8	8	8.0
Crimson	8	8	8	8.0
Giant Cherry	5	6	7	6.0
Methley	8	8	8	8.0
Morris	8	8	8	8.0
Ozark Premier	7	7	6	6.7
Red June	6	8	8	7.4
Sapa	10	8	8	8.6
Starking Delicious	8	7	5	6.7

^zNumerical scores as follows: 9 or 10 = highly acceptable, 7 or 8 = acceptable, 5 or 6 = barely acceptable, below 5 = unacceptable. Mean scores of an expert panel (three to four panelists) were obtained on the canned plums after at least 6 weeks of warm storage.

^yOverall ratings are the means of all the panelists' three quality ratings.