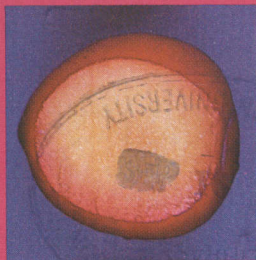


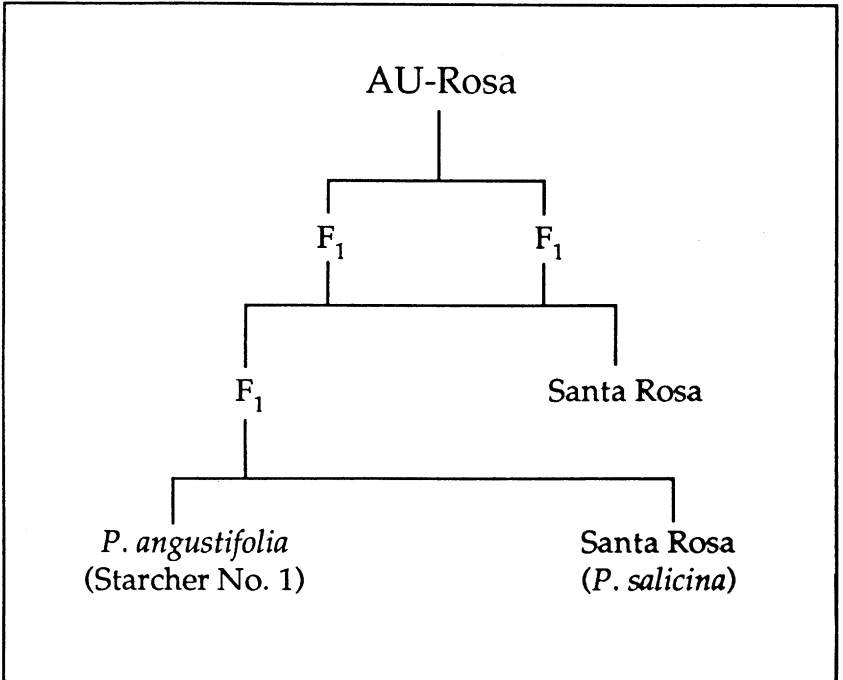
AU-Rosa



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Mid-Season,
High Yielding,
and Disease
Resistant Cultivar
Produces
Excellent Fruit**



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Pedigree for AU-Rosa

Information contained herein is available to all without regard to race, color, sex, or national origin.

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AU-Rosa Plum Developed: Mid-Season, High Yielding, and Disease Resistant Cultivar Produces Excellent Fruit

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INTRODUCTION

AU-Rosa is a new plum cultivar developed by the Alabama Agricultural Experiment Station, Auburn University, for growing in areas receiving at least 700 hours of chilling temperature below 45°F. The new cultivar was selected from a cross of Santa Rosa and Starcher No. 1 (*Prunus angustifolia*) followed by backcrossing and sibbing of selected seedlings, as shown by the pedigree on page 2. It was developed to meet the need for disease-resistant cultivars in the Southeast where prevalence of certain diseases and susceptibility of commercial varieties had discouraged plum production.

CULTIVAR DESCRIPTION

Trees of AU-Rosa are upright with dark green leaves. In test orchards in Alabama, the trees were vigorous, disease resistant, and long lived. The plant is self-fruitful, flowers profusely, and sets a heavy crop. The cultivar has proven its ability to produce high yields of excellent quality fruit where certain fruit and tree disease problems occur. It is an early maturing cultivar that produces fruit of excellent size and quality.

¹Respectively, Professor, Research Associate, former Associate Professor, and Technician of Horticulture.

DISEASE RESISTANCE

AU-Rosa is highly resistant to bacterial canker (*Pseudomonas syringae*, Van hall), bacterial fruit spot [*Xanthomonas pruni* (E. F. Smith), Dows], bacterial leaf spot (*X. pruni*), black knot [*Apisporina morbosus* (Schw.) Ark.], and plum leaf scald (*Xylella fastidiosa*), table 1.

TABLE 1. DISEASE RESISTANCE OF PLUM CULTIVARS IN EXPERIMENTAL PLANTINGS AT AUBURN AND SHORTER, ALABAMA

Cultivar	Disease index ¹					
	Bacterial fruit spot	Bacterial leaf spot	Bacterial canker	Black knot	Brown rot	Plum leaf scald
AU-Rosa	0	0	0	0	0	0
AU-Rubrum	0	0	0	5	2	1
AU-Amber	0	0	0	1	2	0
AU-Producer ...	0	0	0	0	2	1
AU-Roadside ...	0	0	0	0	2	1
Bruce	0	0	0	0	4	4
Crimson	0	0	0	0	1	3
Homeside	0	0	1	1	3	1
Methley	3	5	5	5	3	4
Morris	1	2	2	5	2	2
Ozark Premier	0	1	1	1	3	4
Purple	0	0	0	0	3	5
Santa Rosa	5	5	5	0	3	5

¹Disease index: 0 = 0, 1 = 1-10, 2 = 21-40, 3 = 41-60, 4 = 61-80, and 5 = 91-100 percent of fruit, leaves, and trees infected. Ratings were taken in years when injury from diseases was severe on susceptible cultivars.

FRUIT QUALITY

Fruits of AU-Rosa have dark red skin (post office red, HCC 45B)² and yellow flesh (saffron yellow HCC 21A)². Fruit quality is excellent for the fresh market, which makes AU-Rosa adaptable for home, roadside, and local markets. Fruit have adequate firmness for handling, packing, and shipping to commercial markets, table 2. Maturity date is about 2 weeks after Methley, table 3. Fruits were rated acceptable in canned fruit tests, table 4.

²Horticulture Color Chart; Royal Horticulture Society, London.

TABLE 2. FRUIT CHARACTERISTICS OF PLUM CULTIVARS

Cultivar	Fruit set	Flesh color	Skin color	Size	Shape Flavor	Flavor	Firmness	Stone freeness	Texture	Soluble solids
				<i>In.</i>						<i>Pct.</i>
AU-Rosa	5 ¹	yellow	dark red	1 ³ / ₈ -2 ¹ / ₄	5 ¹	5 ¹	5 ¹	cling	5 ¹	17.6
AU-Rubrum	5	dark red	dark red	2 ¹ / ₄ -2 ¹ / ₂	5	5	5	cling	5	15.6
AU-Amber	5	yellow	dark red	1 ³ / ₄ -2	5	5	4	cling	5	19.2
AU-Producer	5	dark red	dark red	1 ³ / ₄ -2	5	5	5	free	5	16.5
			to purple							
AU-Roadside	5	dark red	dark red	2-2 ¹ / ₂	5	5	4	semi-cling	5	17.2
Bruce	5	orange to red	orange to red	1 ³ / ₄ -2	5	3	2	cling	3	9.4
Crimson	5	crimson red	crimson red	1 ¹ / ₂ -1 ³ / ₄	5	5	5	cling	5	16.3
Homeside	5	cream	orange to light red	2 ¹ / ₄ -2 ¹ / ₂	5	5	4	cling	5	18.8
Methley	5	dark red	dark red	1-1 ¹ / ₄	5	5	3	cling	5	18.5
			to purple							
Morris	5	light red	light red	1 ³ / ₄ -2 ¹ / ₄	4	3	5	cling	5	13.4
Ozark Premier	5	cream	red to purple	2-2 ¹ / ₄	5	5	4	semi-cling	5	15.7
Purple	5	cream	dark red	2 ³ / ₄ -2	5	5	5	semi-cling	4	14.8
			to purple							
Santa Rosa	4	red	dark red	1 ¹ / ₄ -1 ¹ / ₂	5	5	5	cling	5	16.7
			to purple							

¹Rating index: 5 = excellent, 4 = good, 3 = fair, 2 = poor, and 1 = very poor.

TABLE 3. BLOOM AND HARVEST DATES AND YIELD OF PLUM CULTIVARS

Variety	Auburn			Headland		
	Bloom date	Harvest date	Yield ¹	Bloom date	Harvest date	Yield ¹
AU-Rosa	3-24	6-22	5	3-26	7-1	5
AU-Rubrum ..	3-22	6-19	5	3-24	6-16	5
AU-Amber	3-17	5-30	5	3-18	5-27	5
AU-Producer .	3-20	6-27	5	3-21	6-24	5
AU-Roadside .	3-22	7-4	5	3-22	6-29	5
Bruce ²	3-20	6-29	2	3-22	6-26	5
Crimson	3-22	7-14	5	3-22	7-5	5
Homeside	3-20	7-5	5	3-20	7-1	5
Methley ³	3-22	6-10	3	3-24	6-7	5
Morris	3-22	6-17	5	3-22	6-14	5
Ozark Premier	3-20	7-10	4	3-23	7-5	5
Purple	3-24	7-20	5	3-28	7-15	5
Santa Rosa ⁴ ...	3-24	7-5	3	3-26	7-1	5

¹Yield index: 0 = 10, 1 = very low, 2 = low, 3 = fair, 4 = good, and 5 = excellent.

²Trees short lived due to ring spot virus.

³Trees short lived due to black knot and bacterial canker.

⁴Trees short lived due to bacterial canker.

TABLE 4. MEAN QUALITY EVALUATIONS¹ OF 12 CANNED PLUM CULTIVARS

Cultivar	Color	Texture	Flavor	Overall quality ²
AU-Rosa	8	8	8	8.0
AU-Rubrum	8	8	8	8.0
AU-Amber	8	9	9	8.7
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	7	7.7
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

¹Numerical scores as follows: 9 or 10 = highly acceptable, 7 or 8 = acceptable, 5 or 6 = barely acceptable, and below 5 = unacceptable. Mean scores of an expert panel (3-4 panelists) were obtained on the canned plums after at least 6 weeks warm-storage.

²Overall ratings are the means of all the panelists' three quality ratings.

YIELDS

The cultivar has been in trials as Santa Rosa A-5 at five locations in the Alabama Agricultural Experiment Station and in grower trials. It compares favorably with other cultivars in yield. Production has been highest in central Alabama, table 5. Average yields of marketable fruit per tree were 39 pounds, 50 pounds, 89 pounds, and 81 pounds, respectively, from 3-, 4-, 5-, and 6-year-old trees.

TABLE 5. YIELD OF FRUIT OF AU-ROSA AT AUBURN, SHORTER, HEADLAND, THORSBY, AND FAIRHOPE, ALABAMA

Year	Fruit yield per tree					
	Auburn	Shorter	Headland	Thorsby	Fairhope	Average
	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>	<i>Lb.</i>
3	50	60	46	20 ¹	20 ¹	39
4	70	--	63	--	17 ¹	50
5	80	--	74	--	--	77
6	90	--	82	--	--	86

¹Reduced crop from late frost injury.

STORAGE

Fruits of AU-Rosa store as well as Crimson, AU-Producer, and Santa Rosa and better than AU-Roadside, AU-Amber, Homeside, and Methley, table 6.

TABLE 6. PERCENT MARKETABLE PLUM FRUIT AFTER STORAGE AT 32°F

Cultivar	Marketable, by weeks of storage				
	3	6	9	12	14
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
AU-Rosa	100	85	65	10	5
AU-Rubrum	100	85	65	10	5
AU-Amber	95	70	20	0	0
AU-Producer	100	90	65	30	15
AU-Roadside	95	70	20	0	0
Bruce	20	5	0	0	0
Crimson	100	90	65	30	15
Homeside	95	65	15	0	0
Methley	95	70	20	0	0
Morris	100	90	65	30	15
Ozark Premier	90	65	15	0	0
Purple	100	85	55	25	8
Santa Rosa	100	80	45	20	5

OUTSTANDING CHARACTERISTICS

Tree vigor and tolerance to plum leaf scald are the primary improvements of AU-Rosa. Trees of AU-Rosa are vigorous and show no evidence of plum leaf scald, table 1, whereas trees of susceptible varieties grow much more slowly and show obvious symptoms of plum leaf scald. Tree vigor is a primary selection criterion in the Southeast, and the relationship of plum leaf scald to phony peach makes resistance important.

Two other characteristics, ripening date and skin color at maturity, may be taken collectively as another important advantage of AU-Rosa. Its fruit ripens on the same date and is more fully colored at any comparable stage of maturity than Santa Rosa, tables 2 and 3.

Another improvement of AU-Rosa is increased tree longevity. In test orchards at two locations in Alabama, trees of AU-Rosa remained in extremely vigorous condition for 10 years.