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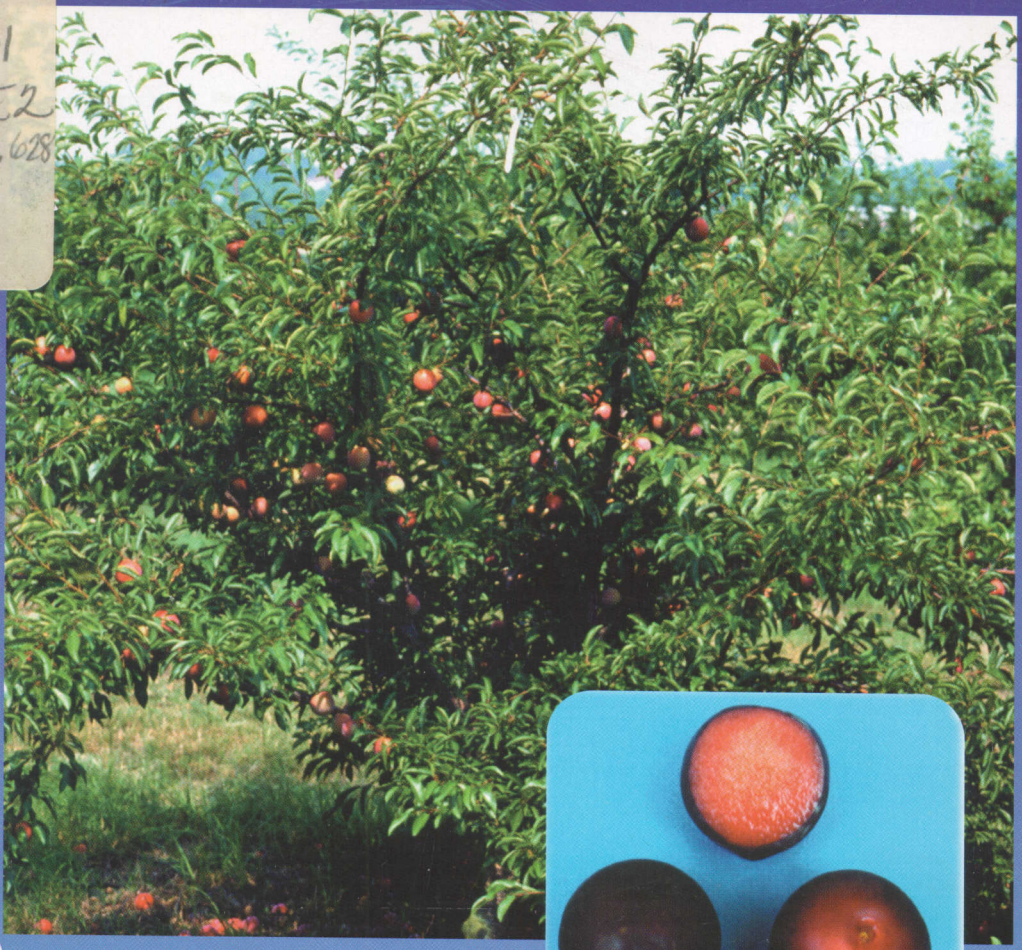

Plum *Variety* Trials in Alabama *1986-1995*

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PLUM VARIETY TRIALS IN ALABAMA 1986-1995

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INTRODUCTION

Plums are an important horticultural crop in many parts of the world including Europe, Asia, and North America. There are some 18 species of plums that have contributed germplasm to commercial plum production (*11*). Of these, only a few are of primary economic importance. Perhaps the most important plum in the United States is *Prunus Domestica* L., which is the primary germplasm source for fresh market and prune-type plums. The second most important germplasm source is *P. salicina* Lindl., the primary genetic source of fresh market Japanese plums.

Plums grown in the Southeast are primarily fresh market Japanese plums. Plum production in Alabama has traditionally been associated with peach production centered in the Chilton County area. Culturally, plums require similar or identical rootstocks, nutrient and water requirements, pest control, pruning, and harvesting as those used for peaches. This study was undertaken to evaluate commercially available plum cultivars and advanced breeding lines for performance throughout Alabama.

MATERIALS AND METHODS

Plantings were established in 1986 and 1987 at five research stations in Alabama. An additional planting was established in 1990. Plantings were established in 1986 at the Wiregrass Substation (Headland), the Chilton Area Horticulture Substation (Clanton), and at the Sand Mountain Substation (Crossville). Plantings were established in 1987 at the E.V. Smith Research Center (Shorter) and at the North Alabama Horticulture Substation (Cullman). Additionally, a planting was established at the Piedmont Substation (Camp Hill) in 1990.

Prior to planting, land was prepared according to Auburn University soil test recommendations. Trees were planted with a 20-foot between-row spacing and a 20-foot within-row spacing, except at the Wiregrass Substation where in-row spacings were 15 feet. Trees were trained to an open-center and were pruned in late winter according to standard practices. Each trial consisted of 21-25 cultivars (tables 1-6 and figures 1-3).

Boyhan is a Senior Research Associate and Norton is a Professor Emeritus of Horticulture. Hollingsworth is Retired Superintendent of the North Alabama Horticulture Substation, Eason is Retired Superintendent of the Sand Mountain Substation, Pitts is Superintendent of the Chilton Area Horticulture Substation, Witt is Superintendent of the E.V. Smith Research Center Horticulture Unit, Ivey is Retired Superintendent of the Wiregrass Substation, and Owen is Superintendent of the Piedmont Substation.

All plantings were arranged in randomized complete block designs with single-tree replicates. The trials at Wiregrass, Chilton, and Piedmont consisted of six replications while those at E.V. Smith, Sand Mountain, and North Alabama consisted of four replications. Bloom dates and harvest dates were recorded for each tree at each location. Bloom dates reflect trees that had at least 50% of their blooms open. The range of bloom dates reported was calculated by averaging the earliest recorded bloom dates and averaging the latest recorded bloom dates for the years of the study. Harvest dates were calculated in the same fashion (figures 4-6). The bloom and harvest dates were compiled for North, Central, and South Alabama. The North Alabama data are a combination of data collected at the North Alabama and Sand Mountain substations. The Central Alabama bloom and harvest dates consist of data collected at E.V. Smith, Chilton, and Piedmont research units. The South Alabama bloom and harvest dates were collected at the Wiregrass Substation.

Yield data were collected annually at each substation; however, not all trials produced fruit each year at all substations. Yield data were expressed as average pounds of fruit per tree for each entry.

Ten fruit from each tree were analyzed for skin color, flesh color, fruit length, fruit width, weight, soluble solids, and stone freeness. These data are combined from all locations and all years and are presented in Table 7.

RESULTS AND DISCUSSION

The highest plum yields were observed at the Chilton Area Horticulture Substation (Table 1). The average yield per tree was 55 pounds compared to 26 pounds per tree in a similar trial at Pontotoc, Mississippi *(2)*. Yield consistency from one year to the next was lacking in many varieties with such notable exceptions as AU-Producer (which was among the top five producers four out of the six years of the study) and Byrongold, AU-Cherry, and Methley (which were in the top five three out of six years).

The results observed in the trial at the E.V. Smith Research Center are consistent with plum production in Central Alabama (Table 2). The average yield for all cultivars for 1992-1994 was 39 pounds per tree. Several cultivars had yields greater than 50 pounds per tree, particularly in 1993 and 1994, and many had yields of more than 100 pounds per tree. Yield consistency for any particular variety from one year to the next was lacking, however. Extremely high yields one year often were followed by lower yields the next. This may be the result of alternate-year bearing, however, not enough data were available to conclusively draw this inference.

Results at the Piedmont Substation were extremely promising. Yields in 1995 were so high that the reported yield results (Table 3) are from only four of the six replications. The overwhelming amount of fruit and a lack of sufficient labor to handle a complete harvest prevented harvest of all replications. Data will continue to be collected from this orchard.

Yields at Sand Mountain Substation averaged 24 pounds per tree for the production years of 1991, 1994, and 1995 (Table 4), but in 1992 and 1993 no

plums were harvested due to late frosts and freezes, a problem that commonly plagues production. Plums typically bloom from the end of February to the middle of March when fluctuating temperatures can damage recently opened flowers. AU-Producer and Methley were among the top five producers in both years that harvests were recorded at Sand Mountain.

Yield variability was even more evident at the North Alabama Substation, where data could be recorded for one year only (Table 5).

Yields at the Wiregrass Substation also were disappointing. The average yield over the course of the trial was five pounds per tree with a high of 36 pounds per tree for Byrongold in 1992 (Table 6). There were no yields in 1989 and 1990. The trial was terminated early in 1992 because of a dramatic loss of tree vigor and high mortality. More than one-third of the trees had died and another one-third showed dead or dying limbs. This study illustrates that there are some serious unanswered questions concerning commercial production of plums in this area of the state.

When bloom dates from North and Central Alabama were compared, an approximate two-week difference in earliest blooms was observed (figures 1-2). The earliest average bloom dates occurred on March 11 in North Alabama and February 23 in Central Alabama.

Bloom date comparisons between Central and South Alabama showed that bloom dates for many varieties in South Alabama were later than in Central Alabama. This may be due to inadequate chilling in South Alabama, which results in delayed bloom and lower yields. Of the 24 entries for which bloom dates were recorded in South Alabama, 16 had bloom dates that averaged March 9 or later.

Most of the harvest in North Alabama was from June 18 to July 7, but a few varieties ripened earlier or later. In Central Alabama most of the harvest occurred from June 5 to July 4. The range of harvest dates were similar in South Alabama to that in Central Alabama with a few exceptions (CB-28, Homeside, and Mariposa M-1).

Fruit quality of plums is often considered to be more important than overall yield (Table 7). Since there are many plum types, it is important to evaluate for fruit quality prior to selection. Some important plum characteristics are fruit size, stone freeness, skin texture, soluble solids, acidity, and firmness. For fresh market production large size is highly desirable. Stone freeness refers to the ability of the flesh to come free from the seed. Plums range from strongly free to fully cling, with free stones considered the more desirable. Skin texture can be smooth or waxy; smooth being more desirable than waxy. Soluble solids refers to the percent of sugar present, which ranges from 10-15%. High sugar content is considered more desirable, but fruit quality also is determined by acid content and other compounds that give the fruit its unique flavor. The skin may be important in this regard because it can impart a bitter aftertaste, which is undesirable. Finally, fruit firmness also is important, particularly after harvest. Some plums soften rapidly after harvest, particularly those with *P. angustifolia* in their background.

OVERVIEW OF VARIETAL CHARACTERISTICS

Many differences exist among the numerous varieties evaluated in this study. The following is an overview of some of the more noteworthy varieties.

AU-Amber is a high quality plum developed at Auburn University that has purple skin and yellow flesh *(6)*. It has medium sized fruit with the highest average sugar content of any entry in the trials. One major drawback to this variety is that it blooms early, which often results in reduced or no yields due to late frosts and freezes during the flowering period.

AU-Cherry is a high yielding, self-fertile variety *(7)*. It is sweet when fully ripe but has very small fruit and is, therefore, best suited for dooryard and local production. AU-Producer is another high quality Auburn plum with relatively high yields of medium sized, firm fruit. It is somewhat acid until completely ripe. It has an upright growth habit that may require extra care in pruning to prevent weak, narrow crotch angles in scaffold branches.

AU-Roadside is a large red plum developed for the local fresh market in Alabama *(5)*. AU-Rosa is a large, firm, high quality plum similar to Santa Rosa with red or yellow skin and yellow flesh *(9)*. The growth habit of this tree is characteristic of Santa Rosa, with an upright vase shape consisting of narrow branch angles.

AU-Rubrum is an early-fruiting mutant of Crimson *(8)*. This is a large red plum with good characteristics, is generally stone free, and is early ripening with fair to good yields. Crimson is an Auburn University selection of a cross between Bruce and Methley that produces fruit later than AU-Rubrum and has better disease resistance than Methley *(3)*. Homeside *(4)* is relatively large in size with good yields of mid- to late-season production. Its skin color is not particularly attractive and the fruit lacks firmness for commercial production; however it possesses good disease resistance.

Several advanced breeding lines developed at Auburn University also were evaluated in this study. Auburn #1 is an advanced breeding line that shows promise and may be an Auburn University release in the near future. The CB series cultivars are mid- to late-season plums, mostly red skinned with red flesh. These plums were developed to meet the demand for later season production. CD-90 is a high quality advanced breeding line with yellow flesh and skin. It lacks firmness at maturity and has been eliminated from the breeding program. Frontier M-1 is a dwarf form of Frontier that has been disappointing in production. It may, however, be useful as a rootstock. Methley B-20 is a bright red plum with yellow flesh. This plum tends to be small and the skin has an undesirable waxy texture.

Bruce 12-4 (Auburn University germplasm release) produces many fruit on a relatively small tree. The fruit, however, soften quickly making this variety suitable primarily for green plum production.

Byrongold, which was released by the U.S. Department of Agriculture at Byron, Georgia, is a large plum, with yellow skin and *P. americana* in its pedigree (10). This plum produces well and, coupled with its unusual yellow color, should find a following in fresh market production.

Methley, which has both *P. salicina* and *P. cerasifera* in its background, is probably the most widely grown plum in the Southeast. It is a vigorous tree with small purple fruit but is susceptible to black knot and bacterial canker. The aim of the breeding program at Auburn University has been to improve disease resistance, size, and quality of plums as compared with Methley. Ozark Premier is another popular plum with large yellow-fleshed fruit with red skin and waxy texture.

Robusto and Segundo were developed from crosses of *P. salicinia* and *P. angustifolia*, which results in a somewhat different leaf shape and tree habit *(10)*. They are early, large red-fruited types. This fruit is undesirable, however, because it softens quickly and has only fair flavor. These varieties are more suitable for green plum production.

Explorer, another standard variety, is a large, purple, mid-season, poor yielding plum. Frontier is a large red, early- to mid-season plum that produces good yields. Morris is a medium size, red, early- to mid-season plum that also produces good yields. Reports from East Texas trials indicate Morris was the highest yielding variety tested in that trial *(1)*. Santa Rosa, which is particularly susceptible to bacterial diseases, is an early- to mid-season plum with red skin and yellow flesh. It produces large fruit on an upright-growing tree. Upright growth is characteristic of this cultivar and may require extra care in pruning to ensure strong, wide-angle scaffold branches. Shirley is a medium sized plum with red skin and yellow flesh. It is early in production, produces good yields, but has undesirable off-flavors.

CONCLUSION

Based on the results of these trials, plums remain a marginal crop in the Southeast. Market windows exist for green plums and for fresh market, usually in conjunction with other fresh produce, particularly peaches. Inconsistent yields and crop failures, associated with late frosts and freezes during the critical blooming period, plague plums. Additionally, there are several bacterial diseases (plum leaf scald, bacterial canker, and bacterial spot) for which there is only limited tolerance in some varieties, such as AU-Producer, Homeside, and AU-Amber.

Work continues at Auburn University to develop high quality, disease resistant varieties with an ongoing breeding program. Continued evaluation of the variety trial at the Piedmont Substation and new trials at the E.V. Smith Horticulture Unit and the Chilton Area Horticulture Substation are part of this program. Advanced breeding lines under test include CD-122, which remains free of plum leaf scald (PLS) after several years in evaluation at the PLS evaluation orchard on the main campus of Auburn University. Cooperative work with researchers in Georgia to evaluate new material on a regional basis continues at the Chilton Area Horticulture Substation and the E.V. Smith Horticulture Unit.

Table 1. Plum Yield Results, Chilton Area Horticultural Substation, Clanton

Cultivar	1989	1990	1991	1992	1993	1994	Average yield
				(Lb./tree)			
AU-Amber	0	41	1	110	0	71	37
AU-Cherry	46	60	173	13	34	40	61
AU-Producer	46	39	228	13	64	74	77
AU-Roadside	26	56	72	11	0	5	28
AU-Rosa	24	39	61	104	0	33	44
AU-Rubrum	7	32	37	1	0	5	14
Auburn #1	56	88	115	27	4	6	49
Bruce 12-4	10	121	91	32	1	21	46
Byrongold	25	278	182	95	0	36	103
CB-15	6	105	63	133	0	9	53
CB-28	12	125	93	119	0	8	60
CB-68	28	137	88	95	0	0	58
Crimson	16	44	54	32	0	3	25
Explorer	3	9	14	0	0	63	15

TABLE 1, CONTINUED. PLUM YIELD RESULTS, CHILTON AREA HORTICULTURE SUBSTATION, CLANTON

Cultivar	1989	1990	1991	1992	1993	1994	Average yield
				(Lb./tree)			
Frontier	9	69	83	26	0	3	32
Frontier M-1	0	86	55	38	0	8	31
Homeside	8	71	47	30	0	14	28
Methley	26	110	243	27	4	137	91
Methley B-20	0	65	63	12	14	11	28
Morris	35	91	40	74	21	10	45
Ozark Premier	75	10	187	0	0	13	48
Robusto	0	26	136	57	17	70	51
Santa Rosa	29	47	117	51	46	32	54
Segundo	6	38	98	55	12	67	46

TABLE 2. PLUM YIELD RESULTS, E.V. SMITH HORTICULTURE UNIT, SHORTER

Cultivar	1990	1991	1992	1993	1994	Av. yield
	----------*(Lb./tree)*----------					
AU-Amber	0	0	17	4	57	16
AU-Cherry	8	14	4	58	21	21
AU-Producer	2	0	14	18	44	16
AU-Roadside	2	5	0	0	9	3
AU-Rosa	2	3	13	12	22	10
AU-Rubrum	19	8	9	100	4	28
Auburn #1	23	2	28	125	14	38
Bruce 12-4	12	27	32	61	71	41
Byrongold	18	32	70	0	25	29
CB-15	24	1	29	6	23	16
CB-71	15	17	40	13	28	23
CD-90	21	0	36	13	47	23
Explorer	0	0	3	0	10	3
Frontier M-1	3	1	18	0	32	11
Homeside	8	0	19	107	18	30
Methley	4	6	22	121	186	68
Methley B-20	1	14	11	43	40	22
Morris	23	20	17	45	18	25
Ozark Premier	5	1	34	107	26	35
Robusto	4	5	15	21	64	22
Shirley	2	10	90	54	84	48

TABLE 3. PLUM YIELD RESULTS, PIEDMONT SUBSTATION, CAMP HILL

Cultivar	1993	1995	Average yield
	----------*(Lb./tree)*----------		
Santa Rosa A-11	--	125	125
CB-15	29	85	57
Auburn #1	12	58	35
Crimson M-2	9	104	56
Methley F-1-1	17	111	64
Ozark Premier	5	209	107
AU-Cherry	14	46	30
Homeside	13	26	19
Robusto	17	53	35
AU-Roadside	10	39	25
AU-Producer	32	120	76
AU-Rosa	18	56	37
Methley	21	16	18
AU-Rubrum	11	85	48
Segundo	8	74	41
Methley B-20	34	38	36
Robusto	15	67	41
Byrongold	18	172	95
CB-122	28	71	49
Bruce 12-4	8	143	75
CB-68	2	124	63
Explorer	6	40	23
Shirley	1	114	57
CB-28	23	110	66

TABLE 4. PLUM YIELD RESULTS, SAND MOUNTAIN SUBSTATION, CROSSVILLE

Cultivar	1991	1992 & 1993	1994	1995	Av. yield*
	----------*Lb./tree*----------				
AU-Amber	21		12	9	14
AU-Cherry	88		14	29	44
AU-Producer	75		49	71	65
AU-Roadside	52	NO YIELDS	3	2	19
AU-Rosa	0		12	11	8
AU-Rubrum	26		24	-	25
Auburn #1	27		44	44	39
Bruce 12-4	23		4	4	10
Byrongold	86		0	13	33
CB-15	14		0	4	6
CB-28	31		0	18	16
CB-68	15		31	13	20
Crimson	31		27	26	28
Explorer	0		5	15	7
Homeside	31		0	2	11
Methley	41		29	137	69
Methley B-20	9		5	18	11
Morris	37		14	-	25
Ozark Premier	24		9	22	18
Robusto	32		10	23	22
Segundo	31		4	2	12

*Average yields reflect yields of 1991, 1994, and 1995.

TABLE 5. PLUM YIELD RESULTS, NORTH ALABAMA HORTICULTURE SUBSTATION, CULLMAN

Cultivar	1991	1992-1994
	Lb./tree	
AU-Amber	21	
AU-Cherry	12	
AU-Producer	29	
AU-Roadside	10	
AU-Rosa	8	
AU-Rubrum	15	
Auburn #1	10	
Bruce 12-4	17	
Byrongold	29	
CA-1	2	NO YIELDS
CB-15	4	
CB-71	52	
CD-90	18	
Crimson	23	
Explorer	18	
Frontier M-1	2	
Homeside	6	
Methley	35	
Methley B-20	19	
Morris	13	
Ozark Premier	71	

TABLE 6. PLUM YIELD RESULTS, WIREGRASS SUBSTATION, HEADLAND

Cultivar	1988	1989-90	1991	1992	Av. yield*
	----------Lb./tree----------				
AU-Amber	0		1	0	0
AU-Cherry	6		1	2	3
AU-Producer	1		1	0	1
AU-Roadside	2	NO YIELDS	0	0	1
AU-Rosa	2		0	0	1
AU-Rubrum	7		3	2	4
Auburn #1	12		1	0	4
Bruce 12-4	1		0	0	0
Byrongold	4		1	36	13
CB-15	17		0	1	6
CB-28	10		0	0	3
CB-68	5		0	0	2
Crimson	3		3	0	2
Frontier M-1	1		0	0	0
Homeside	2		0	0	1
Mariposa M-1	3		0	0	1
Methley	1		2	12	5
Methley B-20	1		0	0	0
Morris	4		2	7	4
Ozark Premier	7		1	0	3
Robusto	4		0	15	6
Segundo	4		0	14	6

*Averages reflect yields for 1988, 1991, and 1992 only. Trees were removed at the end of the 1992 season due to high mortality.

Table 7. Fruit Characteristics

Entry	Skin color	Flesh color	Soluble solids	Stone freeness*	Length	Width	Weight
			(Pct.)		*(In.)*	*(In.)*	*(Gms/fruit)*
AU-Amber	Purple	Yellow	16.2	7.5	1.2	1.2	47
AU-Cherry	Red/Bronze	Blood Red	15.4	3.5	0.8	0.9	22
AU-Producer	Red	Red/Yellow	13.8	6.1	1.1	1.1	35
AU-Roadside	Red	Red	12.4	5.9	1.4	1.4	65
AU-Rosa	Red/Yellow	Yellow	13.5	4.6	1.4	1.5	72
AU-Rubrum	Red	Red	13.9	6.7	0.9	0.9	55
Auburn #1	Red	Red	14.1	6.3	1.0	1.0	51
Bruce 12-4	Red/Orange	Yellow/Red	10.5	4.1	1.1	1.1	45
Byrongold	Yellow	Yellow	12.5	4.9	1.1	1.2	67
CB-15	Red	Red	15.2	5.1	1.3	1.3	57
CB-28	Red	Red	14.6	3.9	1.4	1.4	55
CB-68	Red	Red	12.2	5.7	1.0	1.1	51
CB-71	Red/Purple	Red	14.5	8.8	0.7	0.8	76
CD-122	Yellow	Yellow	16.4	4.2	1.5	1.6	41
CD-90	Yellow	Yellow	16.1	4.8	0.9	1.0	71

*1=cling, 10=free.

TABLE 7, CONTINUED. FRUIT CHARACTERISTICS

Entry	Skin color	Flesh color	Soluble solids	Stone freeness*	Length	Width	Weight
			(Pct.)		*(In.)*	*(In.)*	*(Gms/fruit)*
Crimson	Red	Red	13.6	4.1	0.9	0.9	53
Explorer	Red/Purple	Purple	13.4	7.0	1.2	1.3	73
Frontier	Red	Red	10.3	3.8	1.5	1.5	74
Frontier M-1	Red	Red	13.3	5.1	1.2	1.3	69
Homeside	Red/Yellow	Yellow/Red	14.2	5.2	1.4	1.5	71
Methley	Purple	Purple	13.6	3.8	0.9	1.0	33
Methley B-20	Red	Yellow	12.5	7.4	1.0	1.0	33
Methley F1-1	Red	Red	15.2	6.6	1.6	1.6	43
Morris	Red	Red	13.9	4.8	0.9	0.9	55
Ozark Premier	Red/Yellow	Yellow	13.5	6.9	1.4	1.4	81
Robusto	Red	Red	12.1	2.9	1.0	1.0	43
Santa Rosa	Red	Yellow	13.0	4.5	1.3	1.3	64
Santa Rosa A-11	Red	Yellow	17.9	6.6	1.7	1.8	56
Segundo	Red	Red	12.3	2.9	1.0	1.0	41
Shirley	Red	Yellow	13.5	2.4	1.3	1.2	46

*1=cling, 10=free.

FIG. 1. Bloom Dates for North Alabama

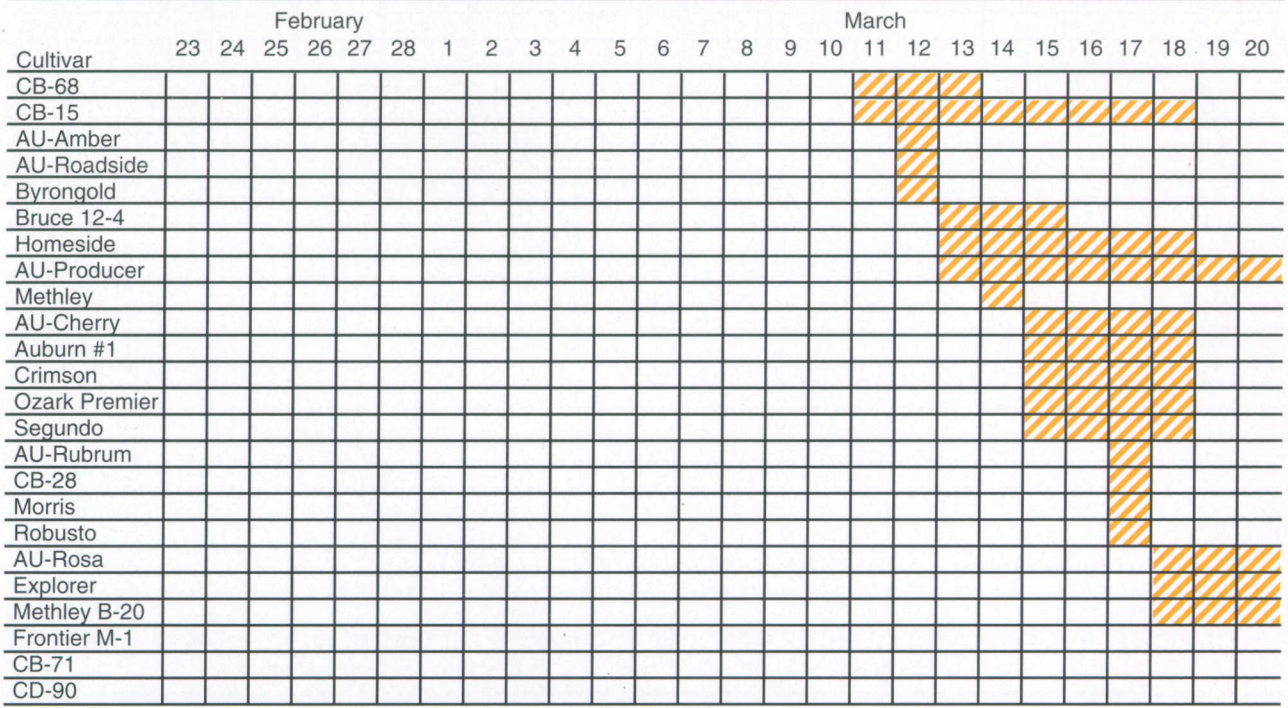


FIG. 2. Bloom Dates for Central Alabama

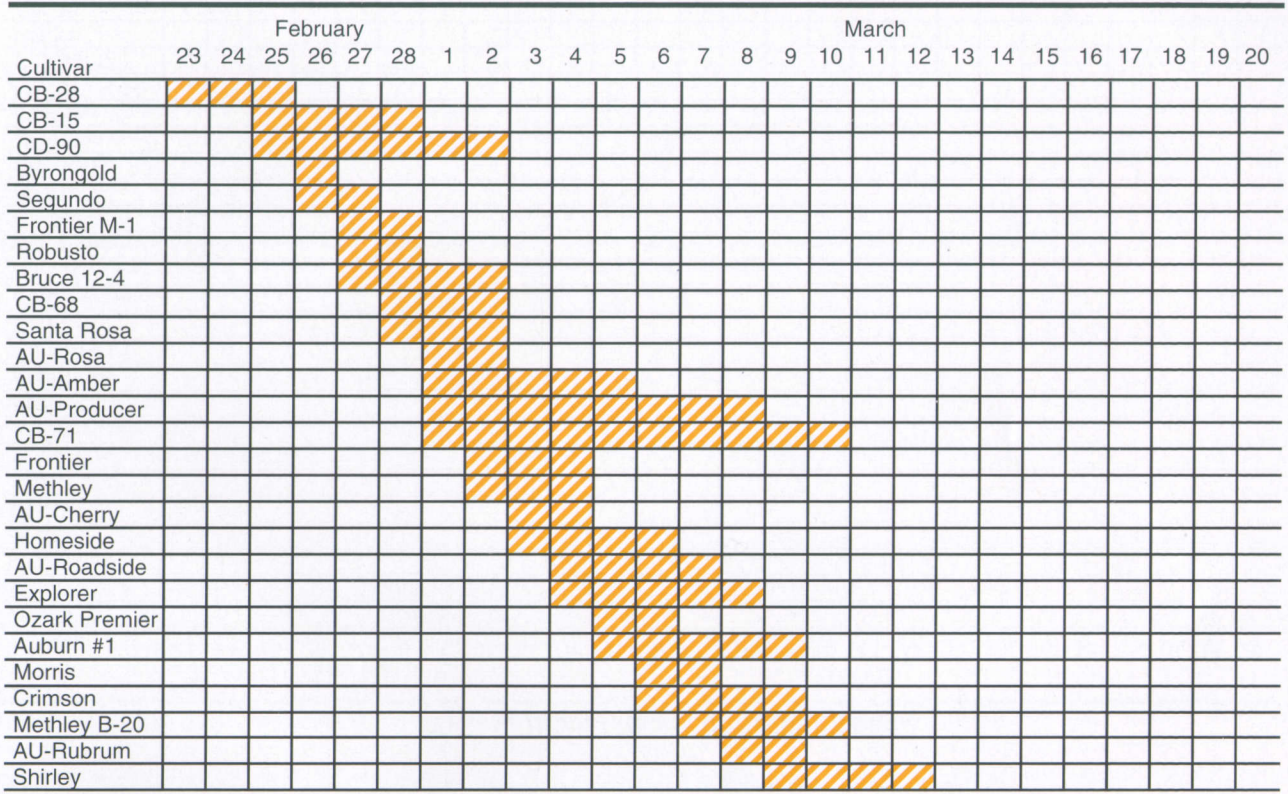


FIG. 3. Bloom Dates for South Alabama

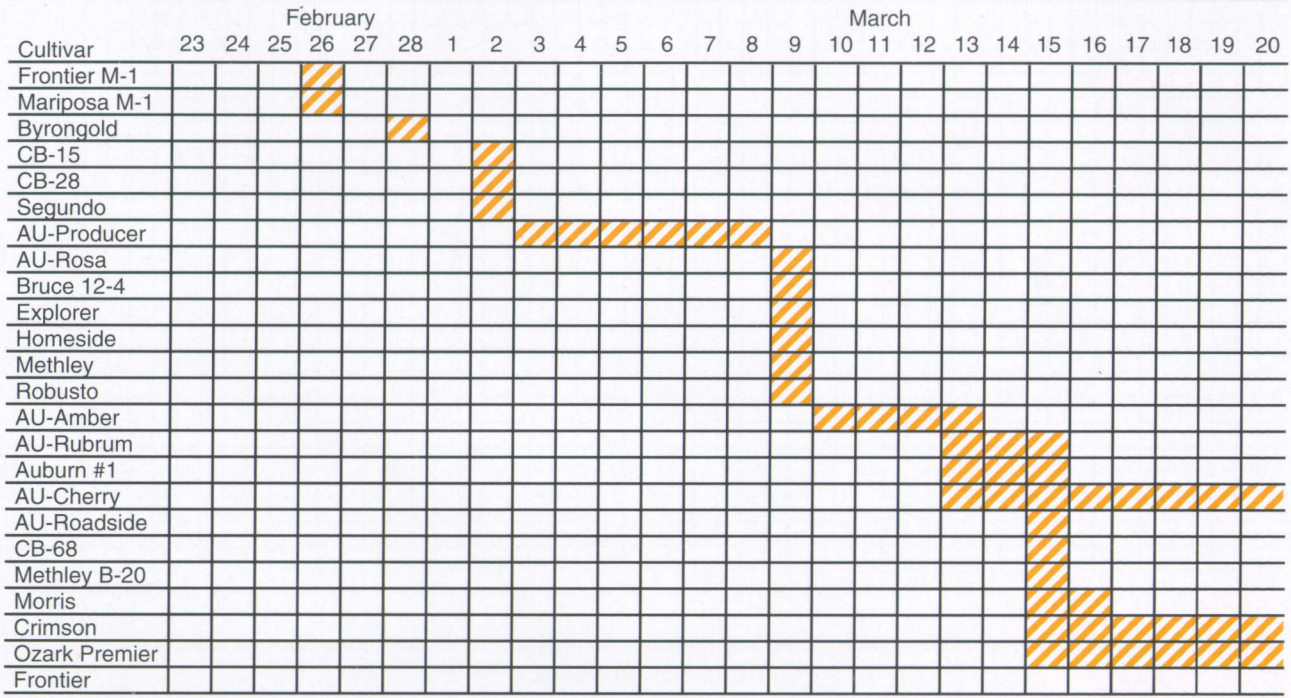


FIG. 4. Harvest Dates for North Alabama

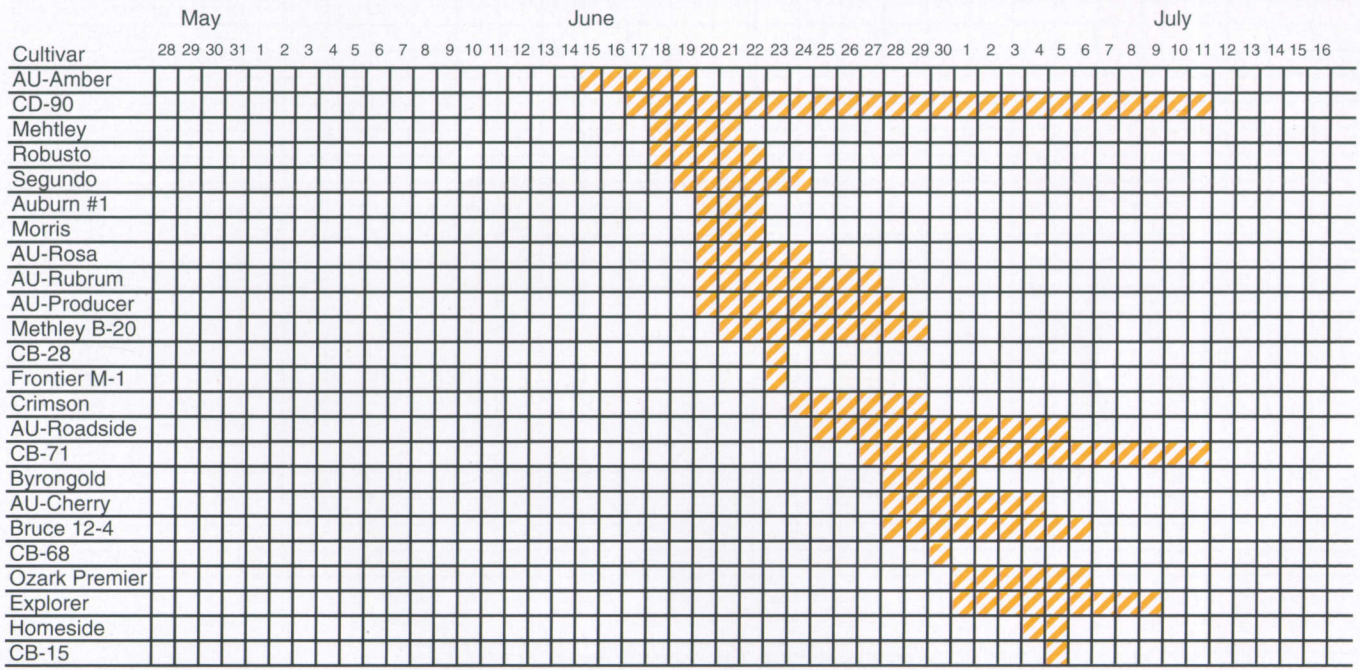


FIG. 5 Harvest Dates for Central Alabama

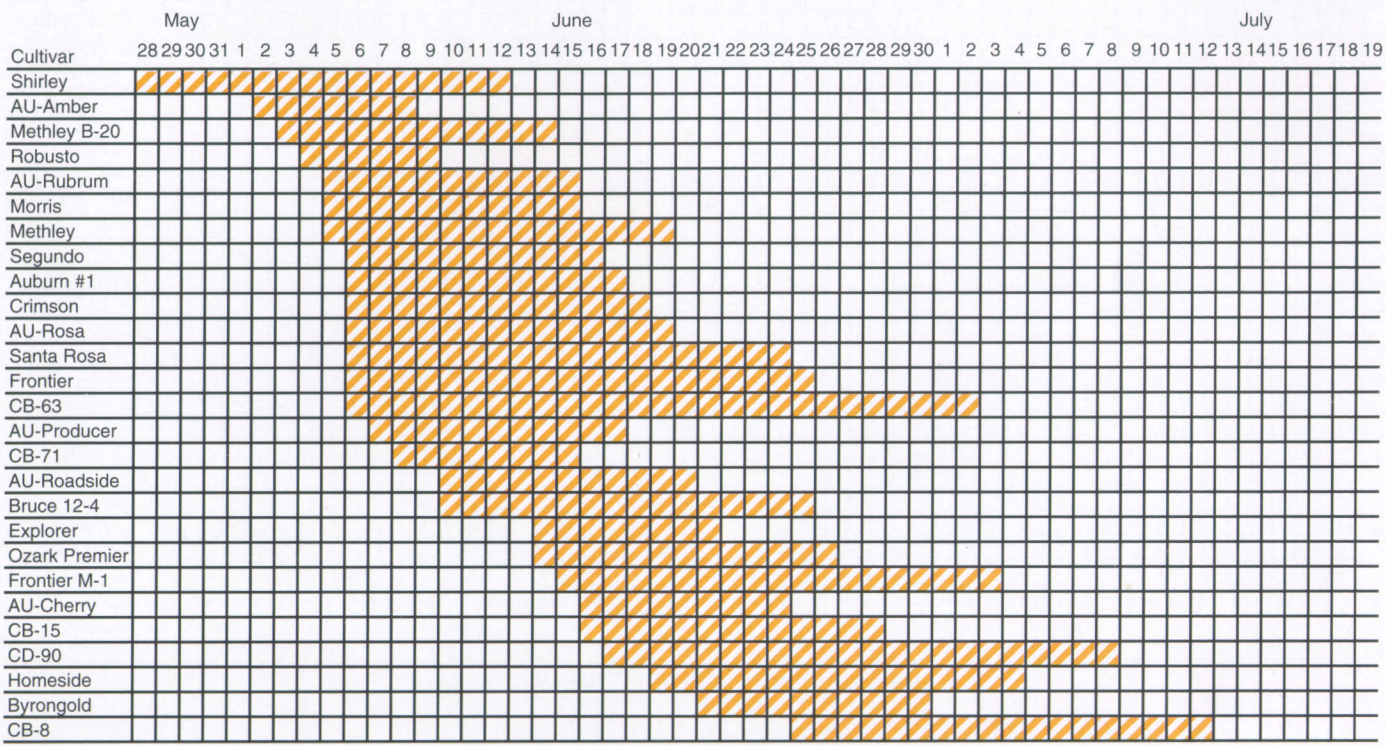
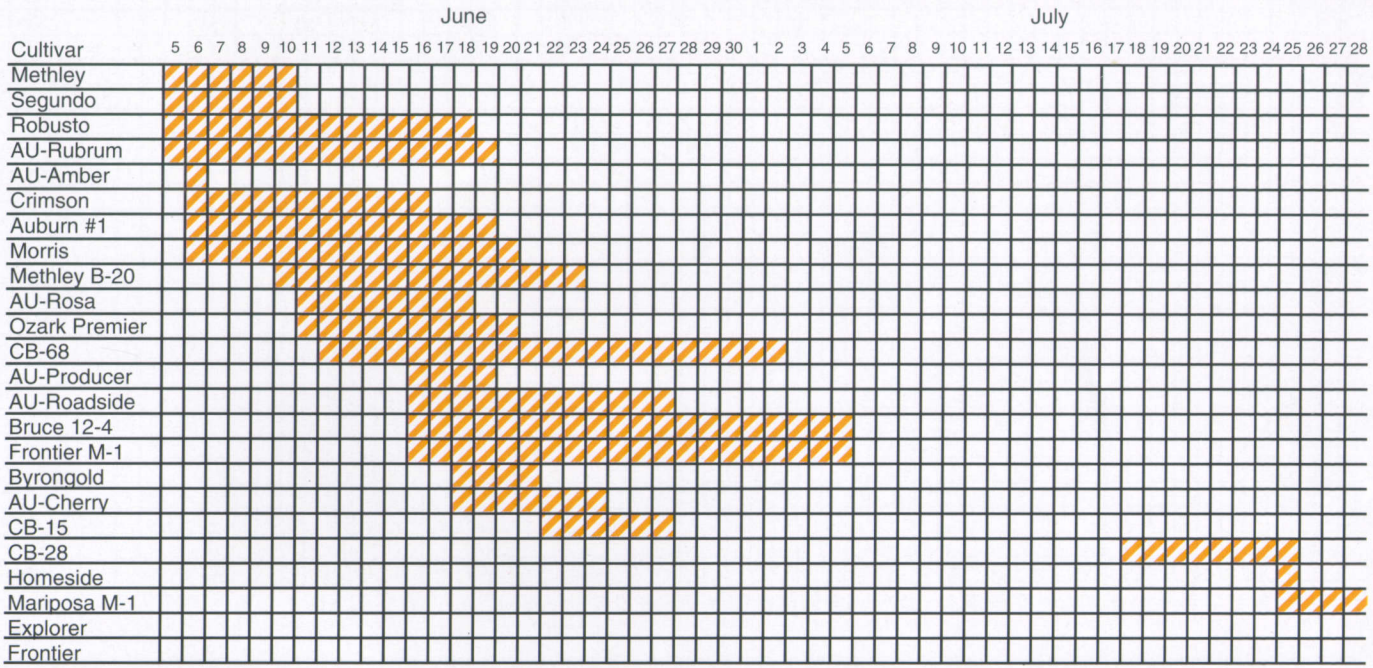


FIG. 6. Harvest Dates for South Alabama



REFERENCES

(1) Lipe, J.A. 1979. Plum Variety Performance and Quality in East Texas. Prog. Rep., Texas Agr. Exp. Stat. No. PR-3556.

(2) Matta, F.B., R.C. Sloan, Jr., and O.P. Vadhwa. 1994. Performance of Japanese Plum Cultivars in Northern Mississippi. Fruit Var. J. 48:89-93.

(3) Norton, J.D. 1973. Crimson and Purple - Two Disease Resistant Plums for the Commercial Market. Agr. Exp. Stat. Auburn Univ. Lflt. 85.

(4) Norton, J.D. 1975. Homeside: An Excellent Quality Plum for Home and Roadside Market. Agr. Exp. Stat. Auburn University. Circ. 218.

(5) Norton, J.D., J.M. Snell, D.A. Smith, and K.S. Rymal. 1984. AU-Roadside: An Excellent Quality Plum for Home Use and Local Markets. Agr. Exp. Stat. Auburn Univ. Circ. 271.

(6) Norton, J.D., G.E. Boyhan, D.A. Smith, and B.R. Abrahams. 1989. AU-Amber: An Excellent Quality Plum for the Early Market. Agr. Exp. Stat. Auburn Univ. Circ. 199.

(7) Norton, J.D., G.E. Boyhan, D.A. Smith, and B.R. Abrahams. 1989. AU-Cherry Plum Cultivar Developed for Home Garden Production. Agr. Exp. Stat. Auburn University. Circ. 305.

(8) Norton, J.D., G.E. Boyhan, D.A. Smith, and B.R. Abrahams. 1990. New Early Season Plum Developed -- AU-Rubrum Cultivars Combined High Yielding Ability with Disease Resistance and Excellent Fruit Quality. Agr. Exp. Stat. Auburn University. Circ. 301.

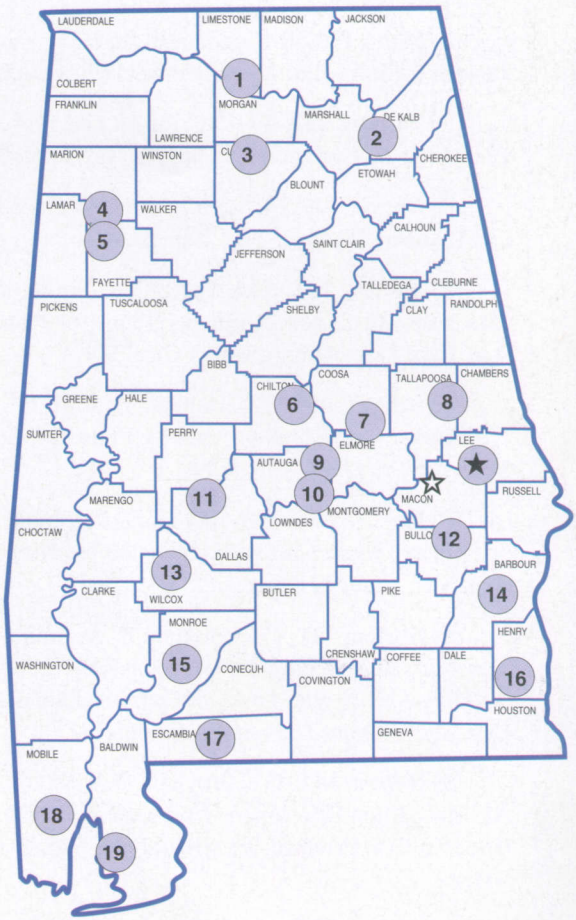
(9) Norton, J.D., G.E. Boyhan, D.A. Smith, and B.R. Abrahams. 1990. AU-Rosa Plum Developed: Mid-season, High Yielding, and Disease Resistance Cultivar Produces Excellent Fruit. Ag. Exp. Stat. Auburn Univ. Circ. 304.

(10) Okie, W.R., J.M. Thompson, C.C. Reilly, F.I. Meredith, J.A. Roberton, B.G. Lyon. 1992. "Segundo," "Byrongold," and "Rubysweet" Plums and BY69-1637P Plumcot-Fruits for the Southeastern United States. Fruit Var. J. 46:102-107.

(11) Weinberger, J.H. 1975. Plums, 336-347. In: J. Janick and J.N. More (eds.) Advances in Fruit Breeding. Purdue Univ. Press, West Lafayette, Ind.

Alabama's Agricultural Experiment Station System
AUBURN UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, livestock, forestry, and horticultural producers in each region in Alabama. Every citizen of the state has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.



Research Unit Identification

★ Main Agricultural Experiment Station, Auburn.

☆ E. V. Smith Research Center, Shorter.

1. Tennessee Valley Substation, Belle Mina.
2. Sand Mountain Substation, Crossville.
3. North Alabama Horticulture Substation, Cullman.
4. Upper Coastal Plain Substation, Winfield.
5. Forestry Unit, Fayette County.
6. Chilton Area Horticulture Substation, Clanton.
7. Forestry Unit, Coosa County.
8. Piedmont Substation, Camp Hill.
9. Foresty Unit, Autauga County.
10. Prattville Experiment Field, Prattville.
11. Black Belt Substation, Marion Junction.
12. The Turnipseed-Ikenberry Place, Union Springs.
13. Lower Coastal Plain Substation, Camden.
14. Forestry Unit, Barbour County.
15. Monroeville Experiment Field, Monroeville.
16. Wiregrass Substation, Headland.
17. Brewton Experiment Field, Brewton.
18. Ornamental Horticulture Substation, Spring Hill.
19. Gulf Coast Substation, Fairhope.