Performance of Bramble Cultivars in Louisiana

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Brambles have not traditionally been cultivated in Louisiana because of the abundance of wild dewberries and blackberries. The recent decline of wild brambles and the introduction of several blackberry cultivars with high yields, large fruit, and excellent fruit quality (1, 3, 4, 5, 6) have generated an interest in planting blackberries for home and commercial uses. The following study was conducted to determine the suitability of several different bramble cultivars for South Louisiana.

In March 1979, a trial planting with 3 replications of several bramble cultivars was established at Louisiana State University in Baton Rouge, LA on a silt loam soil. Rows were 3.05 meters apart with plants set 0.92 meters and root cuttings 0.61 meters apart within 3.05 meter plots. A two-wire trellis with wires 0.61 and 1.52 meters from the ground was provided as support for trailing vines while erect plants were trained to a 0.61 meter wide by 1.22 meter tall hedge as previously described (2). Standard cultural practices were followed for fertilization, pruning, and pest control.

All cultivars fruited the following year and each year since. The cultivars planted had a wide range of ripening dates, with the earliest ripening in late April to early May and the latest lasting until mid-late July (Table 1). Fruits were harvested weekly and the weight of fruit from each 3.05 meter plot was recorded. In order to determine the fruit size, the weight of 25 representative fruits was recorded for each plot. Subjective evaluations of color, firmness, flavor on a scale of 1 to 10, with 1 indicating unacceptable quality and 10 indicating outstanding quality were recorded for each plot.

There were variations in yields among cultivars and also among the three years observed (Table 1). Cheyenne, Comanche, and Cherokee were

Table 1. Plant type, harvest season, and yield of brambles in Louisiana.

Cultivar	Plant type	Harvest[1] season	Yield (Kg/Ha)			
			1980	1981	1982	Average
Brazos	Erect, thorny	4/22-6/27	8,196a	10,131ab	5,278a	7,868a
Cheyenne	Erect, thorny	5/19-6/27	9,355a	7,670a-c	2,727b	6,584ab
Wells Beauty	Erect, thorny	5/19-6/27	7,115a	6,206b-d	1,732b	5,018bc
Comanche	Erect, thorny	4/22-6/27	8,993a	4,750c-e	666b	4,803bc
Cherokee	Erect, thorny	4/22-6/27	8,254a	4,374c-e	1,472b	4,700bc
Rosborough	Erect, thorny	4/22-6/27	702b	4,599c-e	6,882a	4,061b-d
Ebony King	Erect, thorny	4/22-7/18	2,141b	5,581c-e	2,820b	3,514c-e
Lawton	Erect, thorny	5/19-6/27	2,279b	6,227b-d	1,735a	3,414b-e
Eldorado	Erect, thorny	5/19-6/27	1,470b	5,997b-e	2,157b	3,208c-e
Flordagrand	Trailing, thorny	4/22-5/6	843b	5,620b-e	1,947b	2,803de
Treeform	Erect, thorny	5/19-7/18	1,136b	2,751c-e	488b	1,458de
Young	Trailing, thorny	4/22-6/27	962b	1,699de	868b	1,166de
Thornfree	Semierect, thornless	4/22-7/18	980b	1,117de	1,099b	1,065e

[1]Harvest season varied from year to year.
Mean separation within columns by Duncan's multiple range test, 5% level.

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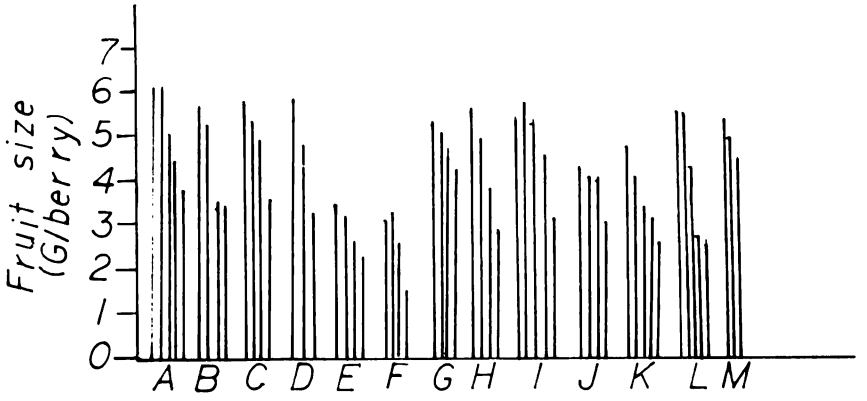
Fig. 1. Changes in bramble fruit size as harvest season progresses.



*Cultivar A = Brazos, B = Cherokee, C = Cheyenne, D = Comanche, E = Ebony King, F = Eldorado, G = Flordagrand, H = Lawton, I = Rosborough, J = Thornfree, K = Treeform, L = Wells Beauty, M = Young.

the highest yielding cultivars in 1980 but their yields dropped greatly over the next 2 years. Brazos was a high yielder in all 3 years, while Rosborough had a low yield in 1980 but showed steady improvement through 1982, when it was the highest yielding cultivar. The improvement of Rosborough was probably due to an improvement of the plant stand over the years. The remaining cultivars showed similar yields in relation to each other for the 3 years, with the highest yields occurring in 1981 for most cultivars.

Fruit size varied greatly among the cultivars and years (Table 2). Those cultivars with an average fruit size larger than 5 grams/fruit were Young, and Brazos in 1980; Rosborough, Brazos, Young, Lawton and Flordagrand in 1981; and Rosborough in 1982. With a few exceptions, fruit size was larger in 1981 than either of the other 2 years. A few cultivars showed a slight increase in fruit size for the first 2-3 harvests and then followed the general pattern of decreasing fruit size as the harvest season progressed (Figure 1). The decline in fruit size with progressive harvests occurred all three years.

All quality variables showed both cultivar and yearly variation. Fruit color was generally very good for the high yielding cultivars with some uneven coloring shown by Brazos, Cheyenne, Ebony King, and Eldorado (Table 3). Most of these cultivars showed small increases in color values over the years. Firmness was also very good for most cultivars (Table 4), with 1981 values slightly lower than those in 1980 and 1982. Flavor was the most variable of all quality factors observed (Table 5). The majority of the cultivars had the lowest flavor ratings in 1980 with gradual improvement over the next 2 years. Two exceptions are Ebony King and Eldorado, which showed large increases in flavor ratings in 1981, followed by slight decreases in 1982.

Table 2. Average size of bramble fruits (grams/fruit).

Cultivar	1980	1981	1982	Average
Flordagrand	——	5.85a	——	5.85a
Brazos	5.02b-d	5.79a	4.67a-d	5.70ab
Rosborough	4.36b-e	5.80a	5.04a-c	5.04bc
Young	5.08a-d	5.26a	4.22c-e	4.85bc
Cheyenne	4.93bc	4.62ab	4.29b-e	4.54cd
Comanche	4.45c-f	4.83a	3.66d-g	4.27de
Wells Beauty	4.16d-g	4.52a-e	4.72a-d	4.29de
Lawton	3.88e-h	5.13a	4.28b-e	4.27de
Cherokee	4.52b-f	4.10a-d	4.17c-e	4.13de
Thornfree	3.87e-h	3.55b-d	——	3.92ef
Treeform	3.28g-i	3.45cd	3.40e-h	3.42fg
Ebony King	2.35i	3.39cd	2.60gh	2.59h
Eldorado	2.31i	2.79d	2.30h	2.43h

Mean separation within columns by Duncan's multiple range test, 5% level.

Table 3. Color evaluations of bramble fruits.[1]

Cultivar	1980	1981	1982	Average
Cherokee	7.6b-e	8.8ab	8.9ab	8.4a
Cheyenne	7.4b-f	8.8ab	9.1a	8.4a
Rosborough	7.9bc	8.7ab	8.5ab	8.3ab
Ebony King	7.6b-d	8.5ab	8.4bc	8.3ab
Eldorado	7.4b-f	8.7ab	8.8ab	8.3ab
Wells Beauty	7.2c-g	8.4a-c	9.1a	8.2ab
Flordagrand	9.0a	7.3e-g	——	8.1ab
Brazos	7.5b-f	8.3a-c	8.4bc	8.1ab
Treeform	7.4b-f	7.8b-e	8.5ab	8.0ab
Lawton	6.6gh	8.4a-c	8.4bc	7.9b
Comanche	6.7f-h	8.4a-c	8.4bc	7.9b
Thornfree	7.1c-h	7.7c-f	——	7.2c
Young	6.9d-h	6.7fg	7.1e	6.9c

[1]Scale of 1-10 ; 1 = unacceptable, 10 = outstanding.
Mean separation within columns by Duncan's multiple range test, 5% level.

There are many bramble cultivars suited for cultivation in Louisiana and much interest has developed for growing blackberries. The highest yielding cultivars have good fruit size and quality, erect thorny canes, and a ripening period that peaks in May and June. Flordagrand, Thornfree, and Treeform could be planted to extend the harvest season from April to July. However, the first two of these cultivars have the drawback of being trailing plants which require trellising and the third has canes with very large re-

Table 4. Firmness evaluations of bramble fruits in Louisiana.[1]

Cultivar	1980	1981	1982	Average
Lawton	8.6ab	8.5a	8.8ab	8.7a
Cherokee	8.5ab	8.4a-c	9.0a	8.7a
Wells Beauty	8.4ab	8.5ab	9.0a	8.6a
Comanche	8.3ab	8.3a-c	8.5a-c	8.5ab
Cheyenne	7.9bc	8.2a-e	8.9a	8.3ab
Rosborough	8.3a-c	7.9b-f	8.6a-c	8.2bc
Eldorado	7.4c-e	7.7e-g	8.4a-c	7.9cd
Ebony King	7.4c-e	7.7ef	8.3bc	7.8cd
Brazos	7.4c-e	7.4e-h	8.2bc	7.6d
Flordagrand	8.0a-d	7.5d-h	——	7.6d
Treeform	6.8d-g	7.7d-g	8.2c	7.5d
Thornfree	6.8d-g	7.6d-h	——	7.0e
Young	6.6e-g	6.2i	6.0e	6.3f

[1]Scale of 1-10; 1 = very soft, 10 = very firm.
Mean separation within columns by Duncan's multiple range test, 5% level.

Table 5. Flavor ratings of brambles in Louisiana.[1]

Cultivar	1980	1981	1982	Average
Cherokee	8.6a	8.1a	8.6a	8.4a
Thornfree	7.5a-e	7.8ab	——	7.7b
Treeform	6.8b-g	7.7ab	8.0b	7.4bc
Cheyenne	7.0b-f	7.5a-e	7.3c-f	7.2b-d
Rosborough	6.5b-g	7.3b-f	7.8a-c	7.2b-d
Young	7.9a-d	6.9d-g	6.9d-f	7.2b-d
Wells Beauty	6.3d-g	7.2b-f	7.4b-d	6.9c-e
Lawton	6.4c-g	7.5a-e	6.8d-f	6.9de
Comanche	5.9e-h	7.0c-f	8.5a-c	6.7d-f
Brazos	5.4gh	7.5a-d	7.6bc	6.7d-f
Flordagrand	6.0d-h	6.5f-h	——	6.4ef
Ebony King	4.1hi	7.4a-e	7.0d-f	6.2fg
Eldorado	3.7i	7.1b-f	6.8d-f	5.9g

[1]Scale of 1-10; 1 = unacceptable, 10 = outstanding.
Mean separation within columns by Duncan's multiple range test, 5% level.

curved thorns that make hand-picking difficult.

A bramble breeding program is currently underway at LSU to develop higher yielding, higher quality blackberries for Louisiana and the southern part of the U.S. Special emphasis is being placed on the development of erect thornless cultivars.

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Book Review

Modern Fruit Science. Ninth Edition. Norman F. Childers. Horticultural Publications. August 1983. 3906 NW 31 Place, Gainesville, FL 32606. Softback $35; hardback $40; foreign softback $40; hardback $45 plus handling charges—$2 domestic; $3 foreign.

Although this text has been in existence for over 30 years it has undergone a complete revision with a new format bringing every phase of fruit growing up to date as of 1982-83. It is adapted for classroom use, growers and home gardeners.

This current revision consists of 578 pages with 23 chapters devoted to apple regions, production and cultivars; establishing the fruit planting; pruning apple trees; soil management for apples; flower bud formation, pollination, and fruit set in the apple; thinning apple fruits for alternate bearing; grafting and budding trees; freezing injury to apples; harvesting; packing and processing apples; storing apples; marketing apples; pear and quince culture; culture of plums; cherry culture; edible nuts and minor fruit crops; control of insects and diseases; frost and drought control; grape growing; strawberry growing; bush berry culture; some home fruit garden tips.

The appendix explains many hard to find topics in horticulture such as pomology laboratory exercises; glossary of word definitions as related to horticulture; sources of pomology books; pomology books for professionals; farm management and other facts concerning fruit growing.

The text contains 12 full pages of color prints dealing with bloom development, insects, diseases, and nutrient deficiencies of fruit crops. These form a distinctive reference. They would form an excellent teaching tool if laminated for classroom use.

—R. K. Simons