Texas Blackberries

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Blackberries (*Rubus* sp.) are well adapted to most areas of Texas, and are easy to grow in home gardens. However, for profitable production, good management is essential. Small commercial plantings of blackberries are scattered throughout Texas. Where berries are sold as fresh fruit, they are marketed in pick-your-own operations.

Blackberries are biennials and begin bearing the year after planting. The first year they can bear 2,000 pounds per acre, or about 8 gallons per 100 feet of row. Plants may produce for 15 years if managed; but, the best production is usually during years 3 through 8. Good yields range from 5,000 to 10,000 pounds per acre.

Soil
Blackberries grow best in sandy soil; however, they can be grown in soils that are at least one foot deep, have good drainage, and have a range of pH 4.5 to pH 7.5. On soils with a pH of 8.0 or above, plants will experience severe iron chlorosis and chelate will be needed. If internal soil drainage is not fast, grow blackberries in a raised bed.

Climate
Blackberries are a warm southern climate crop and can be grown anywhere in USDA Hardiness Zone 7, 8, or 9. Rainfall or irrigation will be needed weekly.

Varieties
Brambles grown in Texas fall into four types. The wild southern blackberry is the cultivated type and has been improved through breeding so that we now have excellent varieties.

1. *Brazos*, a Texas A&M variety released in 1959, is an erect thorned blackberry and has been the standard in Texas for 35 years. Its healthy canes produce a high yield of large fruit. The acid-flavored fruit is usually recommended for cooking more than for the fresh market.

2. *Rosborough*, a variety released by Texas A&M University in 1977, is an erect thorned blackberry and has large fruit which are sweeter than *Brazos*, and yields are often higher. It is the best early variety for East and South Central Texas.

3. *Womack*, released in 1977 by Texas A&M University, is an erect thorned blackberry and yields are similar to *Rosborough*, but fruit are smaller. It does best on deep, sandy soil.

4. *Shawnee*, released by the University of Arkansas, is an erect thorned blackberry and is a new variety which produces large fruit late in the season. Fruit is soft, so they do not ship nor store well.

5. *Choctaw*, also released by the University of Arkansas is an early, erect variety which produces medium-large soft fruit. Seed size is small.

6. *Brison*, a variety released by Texas A&M University in 1977, is an erect thorned blackberry and has done better in south-central Texas and on black land clay soils. Fruit is very large and similar to *Rosborough*.

7. *Humble* produces a medium sized, low acid, unusually sweet berry and is resistant to Double Blossom. Unfortunately, very few nurseries propagate *Humble*.

8. *Arapaho*, released in 1993 by the University of Arkansas, is an erect thornless variety that produces a medium sized, firm, high-quality fruit over a four-week season. Arapaho is very productive, has no thorns, and is resistant to both Double Blossom and Rust. No other variety offers this many positive characteristics; however, it is very new and with time, unknown problems could develop.

9. *Navaho*, released by the University of Arkansas in 1989, is an erect thornless variety which produces a firm, medium sized, sweet berry. It is difficult to establish from root cuttings, but produces a dense hedgerow after establishment. It ripens later than Arapaho, but yields are usually higher.

10. *Hull*, released by the USDA in 1981, is a semi-erect thornless plant with medium sized fruit that has an acid flavor if not fully ripened to a dull, black color. It is recommended as a garden variety in north and east Texas, because lack of winter chilling may limit its use in south Texas.

Planting is usually done from root cuttings during the dormant season. Root cuttings are pieces of root about the size of a pencil, which are dug in winter, and may be stored in moist sawdust or sphagnum moss wrapped in plastic. They are laid horizontally in the ground about 2 inches to 4 inches deep and 2 to 3 feet apart in the row. Dormant bareroot blackberry plants may also be planted during the winter. Plants should be spaced two to three feet apart in rows eight to twelve feet apart. Nursery plants in containers can be planted at any time of year, although early spring is best and watering will be critical.

Pruning is necessary to maintain an orderly planting and to control diseases. Long handled "loppers" are best for pruning blackberries. During the first year, growth is sprawling and does not need topping. Although blackberry roots are perennial, tops are biennial. Prima canes are produced the first year and produce rapid vegetative growth only. Cut prima canes back when they reach 36 to 48" to encourage branching, as illustrated in Figure 1. Floricanes are the second year of the biennial cycle and bloom in March. The fruit ripens in May. After fruiting, the floricanes will die and should be cut to the ground. To make picking easier, some growers hedge the rows to a 4' height and a 3' width while others train the prima canes onto a vertical three wire trellis. Every three years mature plants need to be mowed to the ground to remove diseased wood and rejuvenate growth. This

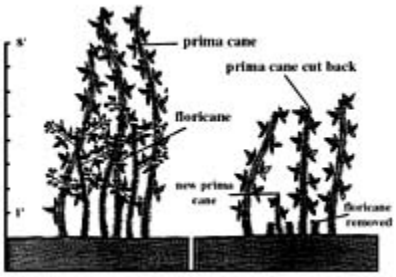

Figure 1. Blackberry pruning immediately after harvest.
Click image for larger view.

usually reduces yield the following year. It should only be attempted where irrigation can stimulate prima cane growth by the end of the season.

Fertilization is limited to nitrogen. It is best applied in small frequent amounts in a band along the row, beginning at bloom. An initial soil test will indicate some deficiencies as well as pH. If soil pH is over 8.0, blackberries can show iron chlorosis, which is corrected with soil applications of Fe 138 Iron Chelate or foliar iron sprays every three to four weeks.

Irrigation is essential for new plantings and mature bearing plants. Drip irrigation lines can be buried at planting time, or laid on top of the ground beside the plants and covered with mulch. Begin irrigation in March or April and reduce watering by September in order to slow new growth and allow hardening of the canes. Infrequent winter irrigations may be needed during drought years.

Weed control is necessary to maximize yields and minimize harvesting problems. If there are perennial weeds in the planting area, these should be killed before planting. They may be sprayed with glyphosate or glufosinate the year before planting berries. A mulch of hay or rotted wood chips will help to slow weed growth. Preemergent herbicides, Surflan and low rates of Simazine, may be applied by commercial growers.

Pests
Proper management and sanitation are important to keep blackberries vigorous and minimize problems. Some chemical control may be needed.

Double blossom, rosette, or witches broom in the most serious fungal disease in east and southeast Texas. Short, broom-like clusters of foliage arise from infected canes. Blooms appear large and misshapen with wrinkled and distorted petals and may have leaves in the flowers. Infected canes should be removed and destroyed, and wild berries in the area should be destroyed. Mowing plants to the ground may be necessary. Benomyl can be used during bloom. *Humble* is resistant and *Brazos* and *Womack* have some tolerance. *Navaho* and *Arapaho* are resistant, and *Shawnee* and *Choctaw* are susceptible.

Anthracnose is a fungal disease which produces small purplish spots on new shoots, and leaves in the spring. A shot hole effect on leaves may result and canes may die back. Affected fruits are usually small, dry, and scabby. Plant in sites with good air circulation and control weeds. Chemical control is with copper sprays in the spring when leaf buds are just beginning to open, and Captan or benomyl when flower buds appear and after petal fall.

Orange rust fungus produces masses of orange colored spots on leaves in the spring. It moves through the plant, and all canes produced after that will be non-productive. It is a serious problem for susceptible varieties, especially *Humble*. Infected plants should be removed

Crown gall is a bacterial disease that causes swelling on the base of the canes. It may be prevented by purchasing cuttings or plants from a reliable source, and not planting in areas known to be infected.

Nematodes may infest roots. Blackberries should not be planted in areas where nematodes are present.

Strawberry weevil is a small, reddish brown weevil which lays its eggs at the base of the flower buds where the larva girdles the stem. An insecticide such as Sevin or diazinon may be applied when cut buds are first noted, and as needed thereafter.

Red-neck cane borer burrows longitudinally in the cane, causing plants to lose vigor and die. Strict pruning and destruction of infested canes and wild berries is important to control its spread.

Spider mites may feed on leaves in summer, giving them a dull grey look. Sprays of insecticidal soap directed under the leaves may help to lower populations, or Kelthane miticide may be used.

Stink bugs and leaf-footed plant bugs attack maturing berries causing dried brownish drupelets. Sevin may be effective if used while the insects are small.

Thrips may live in the berries between the drupelets, making them unmarketable.

White grubs may feed on the roots, lowering plant vigor.

Harvest

Thousands of wild blackberries and dewberries are harvested and marketed by the gallon along Texas highways in May and early June. Cultivated blackberries are hand harvested and usually sold as pick-your-own or wholesale in 12-pint flats. The fruit should be picked every three days to obtain a maximum sugar content. The storage life is only one day without refrigeration. Few crops are as easy to grow and as rewarding as blackberries; however, it is easy to plant more than what can be pruned, kept weed-free, and irrigated.