

Blackberry and Dewberry: Biology and Control¹

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There are numerous *Rubus* (blackberry and dewberry) species in the Southeastern U.S., many of which are found in Florida. Blackberry is commonly found in fence rows, ditch banks, and pastures and can be overlooked for extended periods of time. However, lack of management can give rise to thickets that are difficult to control.

Blackberry and dewberry are often viewed simply as nuisance weeds that reduce grazing within a portion of the field. This may not seem that detrimental. However, severe financial losses can occur if cattle are injured by these growing thickets. For example, a bull's reproductive organs can be severely damaged by blackberry or dewberry thorns. Lesions or scratches from the thorns may result in infection or complete loss of reproductive performance. Lactating cows and dairy cows are not safe either. Thorns can scratch and cause infections of the udder, which may result in lower milk production. Therefore, blackberry infestations can result in monetary losses from both reduced grazing and potential animal injury.

Identification

It may be difficult to distinguish dewberry and blackberry when looking at a single leaf. However, the overall plant appearance and growth habits of these two species are quite different. Dewberry has a low, vine-like growth habit and will rarely reach greater than 2 feet in height (Figure 1). Blackberry has a very upright growth pattern and will commonly reach 3 to 6 feet in height (Figure 2). Dewberry commonly has slender thorns with red hairs on the stem (Figure 3) while blackberry has hard, tough thorns and no hairs. Additionally, the seeds in dewberry fruit are much larger and tougher than those in blackberry.

Biology

Blackberry is a perennial, thicket-forming shrub that is common throughout the southeastern U.S. Under each plant is a large lateral-growing root system that will sprout and produce additional plants. The rhizomatous root system is perennial while the above-ground canes are biennial (living for two years). The first year, the canes emerge and grow rapidly; the second year, the canes bud and produce

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Figure 1. Dewberry, trailing or vine-like growth pattern.



Figure 2. Bush-type blackberry noted by upright growth.



Figure 3. Slender thorns with red hairs on dewberry stem.

flowers and fruit. The canes subsequently die after fruiting.

Control

Herbicide application timing is important for effective blackberry control. Blackberry is most sensitive to herbicides when blooming in late spring and in the fall prior to frost. Applications made soon after emergence from winter dormancy or during fruiting are generally less effective. It is also important that the plants are not drought-stressed at the time of herbicide application. Therefore, applications made during the spring or summer months, when regular rainfall is common, are often the most effective times to spray.

Mowing is an effective practice if the goal is to keep blackberry at a manageable size until herbicide treatment is warranted. However, controlling blackberry by mowing alone is difficult and often ineffective. The large underground root structures are difficult to kill with mowing and resprouting of the cut stems is common. Additionally, blackberry propagates from both seed and rhizomes. Therefore, mowing at bloom will reduce seed production, but will do little to stop the spread of blackberry rhizomes.

However, mowing can be an effective component when combined with herbicides. Large, dense thickets often have many dead canes with no leaves or 2-year-old canes that possess old leaves. Old leaves do not absorb herbicide sprays as effectively as new foliage and are not as susceptible to herbicide applications. Additionally, dead canes can intercept the spray and decrease herbicide contact with susceptible foliage. Therefore, mowing will reduce the size of the thicket and make herbicide application easier.

Herbicides should not be applied in the same growing season as mowing. Applying herbicides soon after mowing will often lead to ineffective or inconsistent control. The most effective strategy is mowing followed by 6 months of active blackberry regrowth before herbicide treatment. In north Florida, for example, if mowing takes place in October, it is often best to delay herbicide applications until the following August since blackberry does not actively grow from November to February.

Soon after herbicide application it may be necessary to mow the dead blackberry plants to improve grazing in the treated area. However, it is best to allow the herbicide to work for approximately 6 weeks before the dead canes are mowed and removed. This will allow the herbicide sufficient time to act before the treated plants are destroyed.

Another factor to consider is herbicide application volume. To control the massive underground root system, thorough spray coverage of the foliage is essential. To achieve proper coverage, sprayer output should be calibrated to deliver between 30 and 40 gallons of spray solution per acre.

Herbicides

Currently, several herbicides list blackberry on their label. The most effective herbicides are Banvel, Cimarron, Remedy (or Garlon), PastureGard, and Telar. Velpar is a less effective herbicide option. Weedmaster and 2,4-D will reduce the growth for a period of weeks, but individual plants rarely die and thicket density will not be reduced.

PastureGard (triclopyr + fluroxypyr) and Remedy (triclopyr) can safely be applied to bermudagrass and bahiagrass. Remedy at 2 pints per acre (\$20) or Pasturegard at 3 or 4 pints per acre (\$18 or \$24) applied when blooming is effective, but retreatment the following year is often required to achieve 100% control. These herbicides will cause rapid blackberry death (relative to Cimarron and Telar which are more slow acting) while controlling many other broadleaf species. Remedy will not control dewberry. Pasturegard applied at 4 pints per acre is more effective on dewberry, but only fair control (60 or 70%) should be expected.

Cimarron (metsulfuron-methyl) is currently labeled for use only in bermudagrass pastures at a rate of 0.4 ounces per acre. Cimarron **cannot** be applied to bahiagrass or severe injury or death of the forage will occur. At a cost of approximately \$10 per acre, Cimarron is an attractive option for many producers. However, the maximum application rate of 0.4 ounces per acre is somewhat low for blackberry and may provide inconsistent control. Currently, Cimarron is the most effective herbicide for dewberry control.

Telar (chlorsulfuron) is closely related to Cimarron, but can safely be applied to bermudagrass and bahiagrass. Telar at 0.75 oz/A is effective on blackberry, but will not likely control other common pasture weeds.

Banvel (dicamba) is a highly effective herbicide that can be used to control numerous weed species. However, Banvel must be applied at a rate of 2 quarts per acre to effectively control blackberry. Considering this application costs approximately \$40 per acre, Banvel is rarely the most economical option.

Summary

Complete blackberry and dewberry eradication is difficult and will likely require multiple applications and/or tactics. When relying solely upon herbicides to control these species, it is best to spray when blooming or in the fall prior to frost. If a mowing strategy is employed, at least six months of active regrowth should occur prior to herbicide application, and at least six weeks should pass after herbicide application before removing dead canes.