

Weed Management in Blackberry¹

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Weeds compete with blackberry plants for light, nutrients, and water. Weed interference can be minimized with proper cultural practices and herbicides. General maintenance, such as controlling weeds in adjacent areas (i.e., nearby fields, ditches, and driving paths), preventing weeds from producing seeds, and cleaning mowing equipment of weed seed, will prevent weeds from becoming a serious problem. Cultivation can be used but should be shallow to prevent root pruning and soil erosion.

Chemical Control

Herbicides available for weed control in blackberry are included in Tables 1 and 2. Table 1 lists herbicides that control weeds before they emerge (preemergence). Table 2 lists herbicides that control weeds after they emerge (postemergence). Because soil types in Florida vary, consult the labels for application rate restrictions based on soil type. Bearing plants are blackberry canes that are currently producing fruit. Nonbearing plants are blackberry canes that will not produce fruit for a year after application. The tables include preharvest intervals (PHI) and restricted-entry intervals (REI).

Practices for improving weed control with herbicides are as follows:

1. **Herbicide selection.** Preemergence herbicides control the weeds before they emerge from the seed or soil surface. Postemergence herbicides control weeds that have emerged through the soil surface.
2. **Optimal timing.** Preemergence herbicides should be applied in the early spring or fall before annual weeds emerge. Postemergence herbicide efficacy decreases as weeds grow. Consult the label for the correct size of weed to control.
3. **Sufficient coverage.** Herbicide labels require certain gallons per acre (GPA) or nozzle types for proper coverage. Before spraying, check that all nozzles have a correct spray pattern and correct output.
4. **Adequate activation.** Preemergence herbicides require rainfall or irrigation to move the herbicide into the soil profile where the weed seeds are present. Postemergence herbicides require a nonionic surfactant, crop oil concentrate, or methylated seed oil for increased herbicide uptake.

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Herbicide Resistance

Herbicide-resistant weeds are a continuous and growing concern for farmers. Methods for reducing the chances of herbicide resistance include:

1. **Rotate herbicide's mode of action.** Each herbicide's mode of action (MOA) is assigned a numerical group. Tables 1 and 2 list the MOA for each herbicide. Rotate between modes of action/numerical groups.
2. **Include multiple MOA.** Many herbicides allow for tank mixing. It is often suggested that preemergence herbicides be tank mixed with postemergence herbicides. This method controls weeds that will emerge, as well as weeds that have already emerged.
3. **Managing known resistance.** If an area of the field is known to have a resistant weed species, use mechanical weed removal to prevent the weed from producing seeds or other methods of propagation.

Table 1. Preemergence weed control in blackberry

Common name lb. a.i./A	(Trade name) formulation amount of product/A	Weeds controlled
Dichlobenil , MOA 20 Up to 4 2.0–3.9	(Casoron®) 4G Up to 100 lb. (Casoron®) 1.4 CS 1.4–2.8 gal.	Annual and some perennial weeds
<i>Remarks:</i> Bearing and nonbearing plants. Casoron® 1.4 CS must be applied to well-established plantings. Do not apply during new shoot emergence. Do not apply to St. Lucie fine sand, Arzell fine sand, and other light, sandy soils. Apply soil treatments from November 15 to February 15 when temperatures are below 70°F. Consult label for herbicides that can be tank mixed to broaden spectrum of weed control. Casoron® 4G REI 12 hours. Casoron® 1.4 CS REI 24 hours.		
Isoxaben , MOA 12 0.5–1.0	(Gallery®, Gallery® T&V) 75 DF 0.66–1.33 lb.	Certain broadleaf weeds
<i>Remarks:</i> Nonbearing plants. Direct spray solution to the base of the canes. Rainfall or a sprinkler irrigation of 0.5 in. or more within 21 days after application is required for activation. Can be applied to newly transplanted plants after irrigation or rain settles soil around the roots. Consult label for herbicides that can be tank mixed to broaden spectrum of weed control. REI 12 hours.		
Isoxaben , MOA 12+ Oryzalin , MOA 3 2.0–4.0 + 0.5–1	(Snapshot®) 2.5 TG 100–200 lb.	Certain broadleaf and annual grass weeds
<i>Remarks:</i> Nonbearing plants. Apply with a drop or rotary spreader. Requires 0.5 in. or more of rainfall or irrigation within 3 days of application for activation. Do not exceed 600 lb. product/A in a year. Allow 60 days between applications. REI 12 hours.		
Napropamide , MOA 15 4	(Devrinol®) 50 DF 8 lb. (Devrinol®) 10 G 40 lb.	Small-seed broadleaf and annual grass weeds
<i>Remarks:</i> Bearing and nonbearing plants. Can be applied to newly transplanted trees. Apply in fall or early spring before weeds emerge. Direct spray solution to the base of the plants to minimize contact with foliage and fruit. Cultivate or irrigate to a depth of 2–4 in. within 24 hours of application. REI 12 hours.		
Norflurazon , MOA 12 0.98–1.18	(Solicam®) 80 WDG 1.25–1.50 lb.	Small-seed broadleaf and annual grass weeds
<i>Remarks:</i> Bearing and nonbearing plants. Apply during the dormant season. Do not apply before 12 months after planting. Temporary loss of pigment (whitening) in leaf veins may occur with normal use. Rainfall or irrigation is required within 4 weeks of application. Consult label for postemergence herbicides that can be tank mixed to broaden spectrum of weed control. Can be applied as a sequential application, but do not exceed 2.5–3.75 lb. product/A in a year. PHI 60 days. REI 12 hours.		
Oryzalin , MOA 3 2–6	(Oryzalin, Surflan®) 4 AS 2–6 qt.	Certain annual broadleaf and grass weeds
<i>Remarks:</i> Bearing and nonbearing plants. Apply as a sequential treatment with 2.5 months between applications. Do not exceed 12 qt./A per year. Irrigation or rain event of 0.5–1 in. must occur within 1 week of application. Consult label for herbicides that can be tank mixed to broaden spectrum of weed control. REI 24 hours.		
Simazine , MOA 5 2–4	(Princep®, Simazine) 90 WDG 2.2–4.4 lb. (Princep®, Simazine) 4 L 2–4 qt.	Annual broadleaf and grass weeds
<i>Remarks:</i> Bearing and nonbearing canes. Do not apply more than 1 lb. a.i./A on plantings less than 6 months old. Apply half the maximum in the spring before bud break and half in the fall. Do not apply more than 4 lb. a.i./A per calendar year. Moisture is required to get the herbicide into the soil profile. REI 48 hours.		
Terbacil , MOA 5 0.8–1.6	(Sinbar®) 80 WP 1–2 lb.	Annual broadleaf and grass weeds
<i>Remarks:</i> Plantings must be established for 1 year. Make a single band or broadcast application. Apply in the fall or early spring before fruit set and weed emergence. Do not apply to soils containing less than 1% organic matter. Approximately 0.5–1.0 in. of rainfall or irrigation must occur within 2 weeks of application. PHI 70 days. REI 12 hours.		

Table 2. Postemergence weed control in blackberry

Common name lb. a.i./A	(Trade name) formulation amount of product/A	Weeds controlled
Carfentrazone , MOA 14 0.013–0.031	(Aim [®]) 2 EC 0.8–2.0 fl. oz. (Aim [®]) 1.9 EW 0.8–2.0 fl. oz.	Broadleaf weeds
<i>Remarks:</i> Apply to bearing and nonbearing plants. Consult label for appropriate rate based on weed species. Do not apply more than 6 fl. oz./A in a year. Apply with hooded sprayer direct to the bottom 18 in. of the cane to reduce contact with green stem tissue, desirable fruit, blooms, and foliage. Applications must be 14 days apart. Consult label for herbicides that can be tank mixed to broaden spectrum of weed control. Include a nonionic surfactant at 0.25% v/v or crop oil concentrate at 1% v/v. PHI 15 days. REI 12 hours.		
Clethodim , MOA 1 0.14–0.25	(Arrow [®] , Select [®]) 2 EC 6–8 fl. oz. (Select Max [®]) 1 EC 9–16 fl. oz.	Annual and perennial grass weeds
<i>Remarks:</i> Arrow [®] and Select [®] can be applied to nonbearing plants only. Select Max [®] can be applied to bearing and nonbearing plants. Include a nonionic surfactant at 0.25% v/v. Direct the spray to the base of the canes. PHI 7 days. REI 24 hours.		
Diquat , MOA 22 0.7–0.9	(Diquat) 2 L 1.5–2.0 pt.	Broadleaf and grass weeds
<i>Remarks:</i> Nonbearing plants. Direct spray to the base of the plant to minimize contact with green stems and foliage. Include a nonionic surfactant at 0.06%–0.5%. Apply for site preparation before planting and do not apply within 1 year of harvest. REI 24 hours.		
Fluazifop , MOA 1 0.25–0.38	(Fusilade [®] DX) 2 EC 16–24 fl. oz.	Annual and perennial grass weeds
<i>Remarks:</i> Bearing and nonbearing plants. Direct spray solution to the base of the canes to minimize contact with leaves. Do not apply more than 72 fl. oz./A per season. Include nonionic surfactant at 0.25%–0.5% v/v or crop oil concentrate at 1% v/v. REI 12 hours.		
Glyphosate , MOA 9 0.47–4.5	(Various formulations)	Broadleaf and grass weeds
<i>Remarks:</i> Glyphosate has various formulations. Consult individual labels for rates. Do not exceed 9.6 lb. a.i./A in a single season. Direct spray solution to the base of the canes to minimize contact with desirable vegetation. Consult label for herbicides that can be tank mixed to broaden spectrum of weed control. PHI 14 days. REI 4 hours.		
Paraquat , MOA 22 0.5–1	(Gramoxone Inteon [®]) 2 SL 2–4 pt. (Firestorm [®]) 3 SL 1.3–2.7 pt.	Broadleaf and grass weeds
<i>Remarks:</i> Apply before new canes emerge. Direct spray to the base of the canes to minimize drift to foliage, flowers, and fruits. Do not make more than five applications per year. Consult label for herbicides that can be tank mixed to broaden spectrum of weed control. PHI 21 days. REI 12 hours.		
Pelargonic Acid	(Scythe [®]) 3%–10% v/v	Broadleaf and grass weeds
<i>Remarks:</i> Bearing and nonbearing plants. Contact herbicide that should be applied with a shielded sprayer and direct spray to the base of the tree to minimize contact with foliage and green bark. Apply before new growth or crop emerges from the soil. Should be tank mixed with preemergence herbicide to broaden spectrum of weed control. REI 12 hours.		
Sethoxydim , MOA 1 0.3–0.5	(Poast [®]) 1.5 EC 1.5–2.5 pt.	Annual and perennial grass weeds
<i>Remarks:</i> Bearing and nonbearing plants. Include crop oil concentrate at 2 pt./A or methylated seed oil at 1.5 pt./A. Do not apply more than 2.5 pt./A in a single application. Do not exceed 5.0 pt./A per season. Consult label for herbicides that can be tank mixed to broaden spectrum of weed control. PHI 45 days. REI 12 hours.		