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Some facts and recommendations in this publication are no longer endorsed by WSU Extension.

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Blackberries can be found throughout Washington, but are the most common and troublesome brush species infesting western Washington. They occur in pastures and rangeland, Christmas tree plantings, and forestlands as well as in many different noncrop situations. Noncropland occurrences include: utility, highway, pipeline, and railroad rights-of-way; around buildings; in fence rows, lumberyards, and storage areas; on industrial plant sites; and in recreational areas and homesites. Blackberries will not persist under the usual tillage practices used in crop production, hence they usually are not found in cropland.

The three most common blackberry species in western Washington are Himalaya blackberry (Rubus discolor), evergreen blackberry (Rubus laciniatus), and wild blackberry (Rubus ursinus). Their rapid spread by seed and vegetative propagation, their extreme vigor, rapid growth, and thorny habit make these blackberry species extremely troublesome and obnoxious plants which seriously interfere with commercial, agricultural, and recreational activities.

Although various mechanical and cultural control methods have been used for killing blackberries, the most efficient and least disruptive to the environment is that method which utilizes specific foliar-applied, translocated herbicides with little or no soil persistence. These types of herbicides are applied to blackberries in a lush, active stage of growth during blooming or fruiting. They are absorbed by leaves and stems and translocated to the roots where they exert their lethal effect. Herbicides should not be applied when the blackberries are in fruit if they are accessible to blackberry pickers.

With the suspension of 2,4,5-T and silvex use, it is necessary to use other herbicides for blackberry control. The following herbicides have resulted in blackberry control when applied under the right conditions and in the correct way: amitrole, dicamba, fosamine, glyphosate, and trichlopyr. Of these herbicides, only dicamba, Crossbow and Redeem may be used on pasture and rangeland. Consult labels for specific sites of application.

Herbicide drift onto adjacent desirable plants has been a problem when using handheld equipment, especially when treating blackberries growing along fencerows. Applications should be made only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants near enough to be injured. When treating blackberries use a low pressure coarse spray and treat all sides of the plant. Drift often occurs when trying to spray the entire blackberry plant from only one side.

**Amitrole (Amitrol-T, Amizol)**

Use 4 pounds active ingredient per acre when blackberry foliage is fully developed and at least a month before the winter dormant season. Retreatment is usually necessary to control plants coming from seeds and incompletely killed roots and crowns.

Amitrole is formulated in several different ways and under different trade names. Table 1 shows rates of application of the different proprietary formulations based on the suggested active ingredient use rate of 4 pounds active ingredient per acre.

**Methods/Precautions/Restrictions:**
1. Addition of a non-ionic adjuvant at a concentration of 8 fluid ounces per 100 gallons of water
(or 1/2 teaspoon per gallon of water) will enhance control.

2. Thorough coverage of all foliage is necessary for good control.

3. Do not spray or allow spray to drift to edible food or feed crops, cropland, or water which will be used for irrigation, drinking, or other domestic purposes.

4. If rainfall occurs within 24 hours, effectiveness may be decreased.

5. Keep livestock off treated areas.

6. Do not spray or allow spray to drift to lawns, shrubs, flowers, or other desirable vegetation.

7. Do not use in greenhouses or cold frames.

Dicamba (Banvel)

Use 4 pounds active ingredient per acre when blackberry foliage is fully developed and at least a month before winter dormant season. Dicamba, in addition to its foliar activity, also persists in the soil for a period of time resulting in control of germinating seedlings. Retreatment is often necessary to control incompletely killed roots and crowns.

Methods/Precautions/Restrictions:
1. Thorough coverage of all foliage to the point of runoff, including treatment of the root crown, is necessary for good control.

2. Addition of a non-ionic adjuvant at a concentration of 8 fluid ounces per 100 gallons of water will enhance control.

3. Since dicamba has soil residual activity, do not apply on or near desirable trees or plants or in locations where dicamba will leach into the root zone of these desirable plants—severe injury or death can occur.

4. Do not contaminate irrigation ditches, lakes, streams, ponds, or water used for domestic purposes.

5. Do not graze dairy animals in treated areas for 60 days after treatment.

6. Do not graze meat animals in treated fields within 30 days of slaughter.

7. Do not use seed from treated grasses for feed or food purposes.

8. Do not harvest grasses in treated areas for dry hay within 90 days of treatment.

9. Prevent drift at application time to desirable crop and ornamental plants.

Fosamine (Krenite)

Use 8 pounds active ingredient per acre during the 2-month period prior to fall leaf coloration. Apply so as to thoroughly and uniformly cover blackberries but not to run-off. Amount of total spray depends on height, density, and type of blackberries present. Retreatment is usually necessary to control plants regenerating from incompletely killed roots and seed.

Methods/Precautions/Restrictions:
1. Addition of a non-ionic adjuvant at a concentration of 8 fluid ounces per 100 gallons of water will enhance control.

2. If rainfall occurs within 12 hours, effectiveness may be decreased.

3. Do not spray or allow spray to drift to any body of water. However, blackberries on land adjacent to and surrounding domestic water-supply reservoirs, supply streams, lakes, and ponds can be treated.

4. Do not use on food crops

5. Do not allow drift or spray to contact desirable plants (crops or ornamentals).

Glyphosate (Roundup)

Use 3 pounds acid equivalent per acre in late summer or early fall after berries are formed. Retreatment is usually necessary to control plants regenerating from incompletely killed roots and seed.

Methods/Precautions/Restrictions:
1. Addition of a non-ionic adjuvant at a concentration of 8 fluid ounces per 100 gallons of water will enhance control.

2. Thorough coverage of all foliage is necessary for good control; however, do not spray to the point of run-off.

3. If rainfall occurs within 6 hours, effectiveness may be decreased.

4. Treatment should be made at least 1 week before a killing frost.

5. Do not mow, till, or remove treated plants for at least 10 days after spraying.

6. If blackberries have been mowed or tilled, do not treat until regrowth has reached the recommend stage of growth.

7. Do not spray or allow spray to drift to edible food or feed crops, ornamentals, or other desirable plants.

8. Do not mix, store, or apply glyphosate or glyphosate solutions in galvanized steel or unlined steel containers or spray tanks.

9. Do not contaminate irrigation ditches, lakes, streams, ponds, or water used for domestic purposes.
10. Do not apply with aerial spray equipment.
11. Control will be reduced under poor growing conditions such as drought stress, disease, or insect damage. Also, blackberries heavily covered with dust will not be adequately controlled.

**Metsulfuron (Escort)**

Use 0.3 to 0.6 ounce active ingredient (0.5 to 1 ounce Escort) per 100 gallons of water. Apply as a foliar wetting spray to point of runoff with handheld equipment when blackberries are fully leafed out until beginning of fall coloration.

**Methods/Precautions/Restrictions:**
1. Maintain constant agitation while mixing and applying the product.
2. Addition of a surfactant at a concentration of 1 quart per 100 gallons of water will enhance control.
3. Spray solution may degrade in acidic solutions (below pH 7) if not used within 24 hours.
4. Thorough coverage of all foliage (leaves, stems, etc.) is necessary for good control.
5. Do not spray or allow spray to drift to edible food or feed crops, cropland, other desirable plants, or any body of water.
6. Do not apply during periods of intense rainfall or water saturated soils as off-target movement may occur. Do not apply to highly compacted surfaces or to frozen surfaces as off-target movement may occur.
7. Do not use on lawns, golf courses, athletic fields, other turfgrass areas, or where roots of desirable vegetation are present or may extend.
8. Following application, do not use sprayer for application to crops as low rates of metsulfuron can kill or severely injure most crops except small grains.

**Triclopyr amine (Garlon 3A, Redeem) or Triclopyr ester (Garlon 4)**

Use the amine formulation at 2.25 pounds acid equivalent or the ester formulation at 3 pounds acid equivalent in 100 gallons of water per acre. Apply as a foliar wetting spray with handheld equipment when blackberries are actively growing.

**Methods/Precautions/Restrictions:**
1. Addition of a non-ionic adjuvant at a concentration of 1 quart per 100 gallons of water will enhance control when using the amine formulation.
2. Thorough coverage of all foliage (leaves, stems, root crowns, etc.) is necessary for good control.
3. If rainfall occurs within 12 hours of application, effectiveness may be reduced.
4. Do not contaminate irrigation ditches, lakes, streams, ponds, or water used for domestic purposes.
5. Do not graze Garlon treated areas or feed treated forage.
6. Redeem-treated areas may be utilized by livestock; however, withdraw livestock from treated forage at least 3 days before slaughter.
7. Do not apply with aerial spray equipment in the diversified crop areas of western Washington.
8. Following application, do not use sprayer for application to crops as low rates of metsulfuron can kill or severely injure most crops except small grains.
Table 1. Trade Names and Formulations with Corresponding Use Rates Based on Amount of Formulated Product for High Volume Treatments.

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Formulation</th>
<th>Rate Product/100 gal</th>
<th>Rate (product/gal of water)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amizol</td>
<td>Soluble powder</td>
<td>4 lb</td>
<td>0.6 oz</td>
</tr>
<tr>
<td></td>
<td>90% ai**</td>
<td></td>
<td></td>
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<tr>
<td>Amitrol-T</td>
<td>Liquid</td>
<td>2 gal</td>
<td>2.5 fl oz</td>
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<tr>
<td></td>
<td>2 lb ai/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banvel</td>
<td>Liquid</td>
<td>1 gal</td>
<td>2 fl oz</td>
</tr>
<tr>
<td></td>
<td>4 lb ai/gal***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Krenite</td>
<td>Liquid</td>
<td>2 gal</td>
<td>3.5 fl oz</td>
</tr>
<tr>
<td></td>
<td>4 lb ai/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roundup</td>
<td>Liquid</td>
<td>1 gal</td>
<td>2 fl oz</td>
</tr>
<tr>
<td></td>
<td>3 lb ae/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garlon 3A</td>
<td>Liquid</td>
<td>3 qts.</td>
<td>1.5 fl oz</td>
</tr>
<tr>
<td></td>
<td>3 lb ae/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garlon 4</td>
<td>Liquid</td>
<td>3 qt</td>
<td>1.5 fl oz</td>
</tr>
<tr>
<td></td>
<td>4 lb ae/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossbow</td>
<td>Liquid</td>
<td>1.5 gal</td>
<td>2 fl oz</td>
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<td></td>
<td>3 lb/gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escort</td>
<td>Dry flowable</td>
<td>1 oz</td>
<td>0.01 oz</td>
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<tr>
<td></td>
<td>60% ai/oz</td>
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<td></td>
</tr>
</tbody>
</table>

*Amount for spot treatment when small (1 to 5 gallon capacity) knapsack or handheld sprayers are used

**Active ingredient

***Acid equivalent

Originally prepared by D.V. Peabody, Associate Agronomist and Extension Weed Scientist (retired). Revised by Robert Parker, Extension Weed Scientist, WSU Prosser, WA.

**Warning. Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

The law requires that pesticides be used as the label directs. Uses against pests not named on the label and low application rates are permissible exceptions. If there is any apparent conflict between label directions and the pesticide uses suggested in this publication, consult your county Extension agent.

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