Weed Management

The primary goal of weed management is to optimize yields by minimizing competition between the weeds and the crop. Weeds reduce yields by competing with the crop for water, light, and nutrients. Weeds also harbor insects and diseases and encourage vertebrate pests. Timely cultivation, wise use of herbicides, and never permitting weeds to go to seed are integral parts of a good weed management system. Many of the weeds found in these fields are difficult-to-control perennial weeds that are not common in annual crop culture. New plantings usually have fewer perennial weed problems than older plantings. Annual and biennial weeds can also exist in these fields. Fields should be scouted at least twice a year (spring and fall) to determine specific weed problems. The selection of a weed management tool should be based on specific weeds present in each field. Several herbicides are labeled for use in this crop. A list of herbicides and their recommended uses is presented in Table 39.

Herbicides can be broadcast or applied as a directed spray to the base of the crop. With a band treatment, only 1 to 2 feet on either side of the row is treated. The areas between the crop row is usually maintained with a mowed cover of sod, clover, weeds, or a combination of these. This cover is used primarily for erosion control and to improve trafficability in the field. With banding, less herbicide is needed in each acre. For example, a 3 foot band (1.5 feet on either side of the row) where rows are spaced 9 feet apart will require only one third the amount of herbicide normally required for a broadcast treatment.

Cultivation and mulching are sometimes used as weed management tools. All cultivations should be timely and shallow to minimize crop root injury, to minimize loss of soil moisture, and to avoid repositioning new weed seeds to the soil surface. Mulches that are free of weed seeds and placed thickly enough can be very effective at reducing or eliminating most annual weeds from the crop row. They are seldom effective on perennial weeds. If mulches are used in combination with herbicides, use the lowest recommended herbicide rate to avoid crop injury.

Table 39. Weed management in brambles†.

Weed Problem	Herbicide	Rate/Acre	Comments and Limitations
TRANSPLANT YEAR			
PREEMERGENCE WEED CONTROL			
Annual grasses and small seeded broadleaf weeds	(napropamide) Devrinol 50 DF	8 lb	Apply after transplanting to weed-free soil. Devrinol must be activated within 24 hrs by cultivation or enough water by irrigation or rainfall to wet the soil to a depth of 2 to 4 inches. The full rate may not be necessary at transplanting.
	(oryzalin) Surflan 4AS	2 to 4 qt	Do not apply until soil has settled around the plants and no cracks are present. Irrigation or 1 inch of rain is needed within 21 days of application. Shallow cultivation will improve control. May injure newly planted tissue culture plants.
Broadleaf weeds and some grasses	(simazine) Princep 4L Caliber 90	1 to 2 qt 1.1 to 2.2 lb	Use to improve the broadleaf weed activity of Devrinol or Surflan. Consider applying half the maximum rate after planting and half in the fall before winter annuals emerge. Do not use on newly transplanted tissue culture plants.
POSTEMERGENCE WEED CONTROL			
Emerged annual and most perennial grasses	(fluazifop) Fusilade DX	16 to 24 oz	See label for best times to treat specific weeds. Will not control broadleaf weeds or sedges. Do not apply to crops to be harvested within 1 year of application. Do not apply if rainfall is expected within 1 hour or if grasses are under drought stress. Must be used with a crop oil concentrate or non-ionic surfactant.
	(sethoxydim) Poast	1 to 2.5 pt	See label for best times to treat specific weeds. Will not control broadleaf weeds or sedges. Do not apply to grasses under stress (e.g., drought). Crop oil concentrate must be added to the spray tank. Do not cultivate 5 days before or 7 days after application. Do not apply more than 5 pints per acre per season.
Emerged annual weeds and suppression of perennial weeds.	(pelargonic acid) Scythe	3-10% solution	Contact material for burn down only. See Scythe comments on page in Strawberry section. See label for complete instructions.
Emerged annual and perennial weeds	(sulfosate) Touchdown	1 to 5 pt	NON-BEARING USE ONLY. Apply to actively growing weeds during site preparation prior to planting and no later than 1 year before harvest. Apply with a wiper or a shielded/directed spray. Do not allow the spray, spray drift, or mist to contact green foliage, suckers, open wound, or other green parts of the plant. Consult the label for rates for specific weeds and other precautions. Use with a surfactant or wetting agent.
ESTABLISHED PLANTINGS			
PREEMERGENCE WEED CONTROL			
Annual grasses and small seeded broadleaf weeds	(napropamide) Devrinol 50 DF	8 lb	Apply in the early spring before seedling weeds emerge. Devrinol must be activated within 24 hours by shallow cultivation or with enough rainfall or irrigation to wet the soil to a depth of 2 to 4 inches.

Table 39 continued. Weed management in brambles†.

ESTABLISHED PLANTINGS			
Weed Problem	**Herbicide**	**Rate/Acre**	**Comments and Limitations**
PREEMERGENCE WEED CONTROL			
	(oryzalin) Surflan 4AS	2 to 4 qt	Apply to weed-free soil in the spring. Irrigation or 1 inch of rainfall is needed within 21 days of application.
	(norflurazon) Solicam 80DF	2.5 to 5 lb	Apply in early spring when crop is dormant to clean and weed-free soil. May result in temporary bleaching or chlorosis of leaves from which the plant will recover. Do not use on nursery stock.
NOTE: For broad spectrum preemergence weed control, consider applying one of the above three "grass" herbicides (napropamide, oryzalin, or norflurazon) in addition to one of the following "broadleaf" herbicides (simazine, terbacil, or dichlobenil).			
Broadleaf weeds, some grasses, and suppression or some perennial weeds	(simazine) Princep 4L Caliber 90	2 to 4 qt 2.2 to 4.4 lb	Apply in the spring before bud break and before weeds emerge, or in the fall. Do not apply when fruit is present. For improved control as well as quackgrass suppression apply half in the spring and half after harvest. May injure 'Royalty' raspberries.
	(terbacil) Sinbar 80WP	0.5 to 2 lb	Apply in the early spring or in the fall as a directed spray to the base of the plants. Will also control small emerged weeds. Do not contact new shoots and avoid contact with bramble foliage. Spring application must be made before fruit set. Avoid application on plantings low in vigor. Planting must be at least 1 year old before application. Do not apply within 70 days before harvest.
	(dichlobenil) Casoron 50 WP Casoron 4G	100 lb 8 lb	Apply at temperatures below 40½F, preferably just before rain or snow. Soil must be settled around established plants. Uniform application is essential. Do not apply during new shoot emergence. The 4G formulation is effective on many perennial weed species. May reduce/delay new shoot emergence in plantings that are young or lacking vigor.
POSTEMERGENCE WEED CONTROL			
Emerged annual grasses and broadleaf weeds. Suppression of emerged perennial weeds	(paraquat) °Gramoxone Max	1.3 to 2.7 pt	Contact herbicide. Use with a non-ionic surfactant. Apply as a coarse directed spray to wet the weeds. Apply before emergence of new canes or shoots to avoid injury. Use of a shield is highly recommended.
Emerged annual and most perennial grasses	(sethoxydim) Poast	1 to 2.5 pt	See label for best times to treat specific weeds. Will not control broadleaf weeds or sedges. Do not apply to grasses under stress (e.g., drought). Crop oil concentrate must be added to the spray tank. Do not cultivate 5 days before or 7 days after application. Do not apply within 45 days before harvest in brambles. Do not apply more than 5 pints per acre per season.
Emerged annual weeds and suppression of perennial weeds.	(pelargonic acid) Scythe	3-10% solution	Contact material for burn down only. See Scythe comments in Strawberry section. See label for complete instructions.
Emerged annual and perennial weeds	(glyphosate) Roundup Ultra	1 to 5 qt	Apply to actively growing weeds. Apply with a wiper or a shielded/directed spray to the base of the plants. Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes, or foliage. Do not cultivate within 7 days after application.

†*Where brand names for chemicals are used, it is for the reader's information. No endorsement is implied, nor is discrimination intended against products with similar ingredients. Please consult pesticide product labels for rates, application instructions and safety precautions. Users of these products assume all associated risks.*

***Restricted use pesticide; pesticide applicators license required.**