

2021 PEST MANAGEMENT GUIDE: WEEDS

Cultural Weed Management

Why culturally manage weeds? To increase yield and reduce pesticide exposure to off-target organisms, such as bees.

Weeds Compete with Wild Blueberry for:

- Water
- Light
- Nutrients

The method for controlling one weed may encourage another. A combination of careful ID and monitoring of the weed situation in a field, with cultural management and the wise use of herbicides (only when critical) forms the basis of a sound weed management program.

THERE IS NO QUICK FIX. One method will not control all weeds.

CULTURAL WEED MANAGEMENT FOR WILD BLUEBERRY		
WEEDS MANAGED	METHOD	COMMENTS
Most weeds, especially grasses	Test soil for pH and reduce with sulfur if above 4.0	Add fertilizer only if leaf analysis indicates a deficiency. Maintain soil pH at 4.0.
Most weeds except grasses	Hand pulling	Effective against spot infestations. Pull before any weed flowers go to seed.
Weeds spread by seed or vegetative parts carried on equipment, especially mechanical harvesters	Field sanitation	Steam clean and inspect equipment before entering a field.
Bracken fern, sweet fern, dogbane, seedling or sprouting trees, flowering weeds	Mowing above blueberry plants	Most successful if done during the vegetative year. Cut flowers off before they go to seed.
Coniferous trees, some weeds spread by seed	Fire pruning	When burning with straw or hay, use weed-free material.
Weeds that form crowns at or above ground level	Cut or mow woody weeds three times in the non-crop year	Mow or cut plants to ground level.
Some weeds spread by seed	Mulching on bare spots	Apply mulch 2" to 4" deep. Use one of the following: bark, woodchips, shavings, sawdust, peat or sand.

Chemical Weed Management

THIS CHART IS NOT A SUBSTITUTE FOR READING AND FOLLOWING THE LABEL. It is unlawful to use any pesticide for other than the registered use. Read and follow the label on the product container. The user assumes all responsibility for use inconsistent with the label. Trade names are used for identification. No product endorsement is implied, nor is discrimination intended against similar materials. Cooperative Extension makes no warranty or guarantee of any kind concerning the use of these products. **Check with your processor regarding PHI restrictions or MRL restrictions for export sales. Please note: This revised version replaces any previous charts.**

- Extremely toxic to fish
- Extremely toxic to bees
- Extremely toxic to birds
- Extremely toxic to people
- Moderately toxic to fish
- Moderately toxic to bees
- Moderately toxic to birds
- Moderately toxic to people

HERBICIDES WITH ENVIRONMENTAL PERSISTENCE^a

GROUP ^b	USE & TOXICITY	HERBICIDE	ACTIVE INGREDIENT & SIGNAL	TIMING: CROP CYCLE & WEED EMERG. (PRE OR POST)	RATE: PER/ACRE & MAX/ACRE/YR	PHI DAYS	REI HOURS	NOTES
1	GRASSES	Arrow 2 EC Intensity Clethodim 2E and others	clethodim	PRUNE POST EARLY CROP	Broadcast*: 4 to 8 oz. Spot: 0.33 to 0.65 oz /1 gal-water. Add 0.5 oz NIS Max: 32 oz (0.5 lb ai); 8 oz per app (at least 14 days apart).	45	24	*Read label for rate, use higher rates for perennial grasses. Add 0.25% v/v NIS or 1% v/v COC (Arrow) in 5 to 40 GPA water. Apply as broadcast spray minimum 30 psi. Spot Treatment: Treat until wet but do not allow runoff. Caution: Do not use COC. Tank mixing with certain post-emergence broadleaf herbicides may reduce grass control. Human & Environment: High aspiration toxicity. HP, S
		Select Max		PRUNE POST EARLY CROP	Broadcast*: annual 6 to 16 oz, perennial 12 to 16 oz Spot**: 0.44 to 0.85 oz /1 gal-water. Max: 64 oz (0.485 lb ai); 16 oz per app (at least 14 days apart).	45	24	*Add NIS 0.25% v/v in 5-40 GPA water **Add NIS at 0.33 oz/gal water Spot Treatment: Treat until wet but do not allow runoff. Caution: Do not apply when grass is stressed. Do not apply post-emergence broadleaf herbicides within 1 day of application. Human & Environment: High toxicity for aspiration, mutagenicity and carcinogenicity. MP, S
		Fusilade DX	fluzafop-P butyl	PRUNE POST CROP *POST-HARVEST*	Broadcast*: 8 to 24 oz Spot*: 0.75 oz./1 gal-water Spot**: 2 app of 24 oz/app (at least 14 days apart); Total 48 oz (0.75 lb ai)	305	12	*Add 1% v/v COC or 0.25% v/v NIS Caution: Do not use if grass is drought-stressed or if rainfall is expected within one hour. Crop injury: May occur if other herbicides are applied within 5 days, also reducing control efficacy. Human & Environment: High aspiration toxicity. HP, S
		Poast	sethoxydim	PRUNE POST EARLY CROP	Broadcast*: 1.0 to 2.5 pt Spot***: 2 oz. in 1 gal water Max: 5 pts; 2.5 pt/app (at least 14 days apart)	30	12	*Add 2 pt/a COC, **Add 1.5 oz COC or 0.5 oz NIS/gal. Must add crop oil concentrate (COC) or surfactant. Caution: Do not apply when grass is drought stressed. Human & Environment: HP, S
2	BROADLEAF, GRASSES & SEDGES	Sandea (24c label expires 12/31/2022)	halosulfuron-methyl	PRUNE PRE	0.5 oz to 1 oz Max: 1 oz (0.047 lb a.i)	14	12	Mixing with products such as Velpar, Velossa or Sinbar will broaden the spectrum of weeds controlled. Applications: Should be made 1 to 2 months prior to breaking dormancy in the spring of after complete dormancy in the fall. Caution: Phytotoxicity may occur with overlapping boom swaths (overapplication). Do not apply when frost is present or where soil is saturated. Do not apply to plants that are active, under stress or less than one year of age. Human & Environment: LP, S
		Express TS 50 (24c label expires 01/20/26).	tribenuron methyl	PRUNE POST CROP *POST-HARVEST*	0.8 to 1 oz Add NIS 0.25% v/v Max: 1 oz	365	12	For special use on Bunchberry. Field Conditions: Apply in the spring of a prune year or fall after harvesting and up until killing frost. Fertilizer applications before or after applying Express will help blueberry plants recover. Caution: Do not use COC or an MSO. Do not use in solutions below pH 6.0. Human & Environment: Moderate toxicity for skin. MP, S
3	RESISTANT GRASSES	Kerb SC	pronamide	PRUNE OR CROP *POST-HARVEST*	2.5 to 5 pt Max: 1 app/5 pt (2 lb ai)	--	24	May only be applied in fall/winter of either year (before ground-freeze or snow). Rate depends on the weed species present (see label). Field Conditions: Most effective in soil with <4% OM and when temperature is <55°F. Activation: Rain/snowmelt is required to move into root zone. Human & Environment: MP, S
		Kerb 50W		PRUNE POST	2 to 4 lb Max: 1 app/4 lb (1-2 lb ai)			
5	GRASS & BROADLEAF	Velpar L CU Tide Hex. 2SL	hexazinone	PRUNE PRE	4 to 12 pt Max: Up to 8 pts if treated in past 8 yrs	450	48	Apply in spring of prune year pre-emergence. May be impregnated on fertilizer and applied after tip-dieback. Field Conditions: Use lower rates on poorly drained soil and steep slopes. Use higher rates on heavier soil or soils high in organic matter. Activation: Moisture required; high temps and humidity help. Caution: Maintain a 50-foot buffer from any well head or water reservoir and do not apply to frozen or flooded fields. Avoid contact with blueberries. Human & Environment: Highly toxic to eyes. HP, S
		Velpar DF CU			1.2 to 3.6 lb Max: 2.4 lb if treated in past 8 yrs			
		Velossa			3.3 to 10 pt Max: 6.6 pt if treated in past 8 yrs			
7	GRASS & BROADLEAF	Sinbar WDG (2ee label for fertilizer)	terbacil	PRUNE PRE CROP *POST-HARVEST*	2 to 3 lb (Minimum 20 GPA). Max: 3 lb	--	12	Apply pre-emergence in prune year or in crop year before bud-break. Field Condition: Use higher rate on heavy soil or soils high in OM. May be impregnated on fertilizer (See 2ee label). Activation: Moisture required. Caution: Do not use on soil with <1 % organic matter, in sand or loamy sand with <3% OM, or where roots are exposed. Human & Environment: LP, S
		Direx 4L Diuron 4L	diuron	PRUNE PRE	1.6 qt Max: --	NA	12	Apply in late spring of prune year pre-emergence. Activation: Moisture required within 2 weeks post-treatment Caution: Do not use on soils with <2% organic matter or on foliage or exposed roots. Do not use near fruit trees. Human & Environment: LP, S
9	GRASS & BROADLEAF	Multiple formulations	glyphosate	PRUNE POST CROP	Wiper: Sponge 10% v/v herb, 20% woody; Rope/wick-33% v/v. Directed spray: 2% v/v Max: 6 lb a.e. for all formulations (see label)	14	4	Use rate based on 41-49%, adjust accordingly. Add 1- 2% w/w spray grade AMS to increase efficacy on woody weeds only. See labels for surfactant guidelines; do not use surfactant for wiper applications. Caution: Non-Selective. Avoid contact with blueberries. Will kill all actively growing plants. Human & Environment: LP, S
		Matrix SG (supplemental label expires 4/30/21, up for renewal) Solida	rimsulfuron	PRUNE PRE POST	4 oz Max: 1 app/4 oz For spray: use NIS 0.125-0.25% v/v or COC 1% v/v (spray solution should be pH 5-7)	NA	4	Pre-emergence: Broadcast. Early post-emergence: Directed spray. Field Conditions: Do not use on soils with >6% OM. Caution: Post-emergence spray may result in temporary chlorosis or stunting. Do not use on frozen/snow covered soil, soils classified as Sand. Human & Environment: MP, S
10	RESISTANT GRASS & BROADLEAF	Rely 280	glufosinate	PRUNE POST	Broadcast: 29 oz Spot: 1.7 oz in 1 gal water Max: 164 oz (3 lb ai); 2 app of 82 oz per app	14	12	Foliar-active only. Apply pre-blueberry emergence. Field Conditions: Apply on a warm, sunny humid day. Add to spray tank last; may require an antifoam agent. Human & Environment: Highly toxic for eyes and reproduction. LP, S
14	RESISTANT GRASS & BROADLEAF	Zeus Prime XC	carfentrazone & sulfentrazone	PRUNE PRE	7.7 to 15.2 oz Max: 1 app/15.2 oz (0.41 lb ai) Maintain spray solution between pH 5-9.	3	12	Apply in prune year before blueberry emergence. Field Conditions: Availability decreases with finer soils and increases with higher pH; do not apply on sand with <1% OM. Activation: Ideally apply to moist soil with 1/2-1" rainfall/irrigation within 14 days of application. Caution: Do not tank mix with flumioxazin or other products containing sulfentrazone. Human & Environment: Moderate toxicity for liver. LP, S
		Valor SX	flumioxazin	PRUNE PRE POST	6-12 oz Max: 1 app/12 oz	7	12	Activation: Moisture is necessary to activate in soil. Use Valent® tank cleaner to remove residue from equipment. Crop injury: And delayed emergence may occur with spring application. Human & Environment: Moderate reproductive toxicity. LP, NS
18	FERN	Asulox (supplemental label expires 12/31/24)	asulam	PRUNE POST	Spot ONLY* Add NIS 0.25% v/v Max: 1 gal	365	12	For special use on bracken fern in the prune year. Field Conditions: Ferns should be in full frond. Apply once every other year on prune-field only; control symptoms will not be visible until the following year. Human & Environment: High for skin and eyes. HP, S
27	ANNUAL BROADLEAF	Callisto (24c label expires 12/31/22)	mesotrione	PRUNE PRE POST	3-6 oz or 2 oz (24c label) Max: 2-3 app. of 2-3 oz (min 14 days apart) or 1, 6oz app	60	12	*Only Callisto has a 24c label allowing use in the crop year. Post-emergence Applications: Must be made before weeds reach 5" in height. To increase efficacy: Add COC (1% v/v). Add 8.5 lbs AMS/100-gal water. Crop Injury: May occur in dry conditions or over 85°F. See 24C label for revised prune year/crop year application. Human & Environment: MP, S
		EARLY CROP* PRE POST		4 oz. (24C label) Add NIS Max: 1 app/4 oz (0.19 lb ai)				
		Explorer Mesotrione 4SC		PRUNE PRE POST	3-6 oz Max: 2 app. of 3 oz (min 14 days apart) or 1 app of 6 oz	NA	12	

Prepared by Lily Calderwood, Extension Wild Blueberry Specialist and Brogan Tooley, Research Assistant. The University of Maine, Orono, ME 04469. February 2021.

PLEASE NOTE: THIS REVISED VERSION REPLACES ANY PREVIOUS CHARTS.

^a Environmental persistence rankings were estimated using a combination of available evidence, PHI, and REI. LP = low persistence, MP = moderate persistence, HP = high persistence. S = systemic, NS = not systemic

^b Group Number: To reduce the likelihood of herbicide resistance developing in target weeds, growers should rotate between herbicides with different group numbers in the growing season, ideally using multiple group numbers. Products with the same group number should not be used in consecutive sprays.

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