

SERENE

Liquid Herbicide

Serene is a liquid herbicide for non-selective vegetation control of areas in and around established trees and shrubs, non-crop areas, right-of way, industrial land sites and in and around labelled food crops. Leaves no harmful residue in the soil.

COMMERCIAL

ACTIVE INGREDIENT: Acetic Acid 20%

REGISTRATION NO.: 30248 PEST CONTROL PRODUCTS ACT

**IN CASE OF EMERGENCY INVOLVING A POISONING OR MAJOR SPILL,
CALL 1-866-336-2983**

CAUTION: SKIN IRRITANT

DANGER: CORROSIVE TO EYES

NET CONTENTS: 5L - Bulk

**KEEP OUT OF REACH OF CHILDREN
READ THE LABEL BEFORE USING**

Belchim Crop Protection Canada Inc.
104 Cooper Drive, Unit 3
Guelph, ON N1C 0A4
1-866-613-3336

Serene is a post emergent, foliar active, vegetation management product. It can also be used in and around perennial food crops. Serene is non-selective to green foliage and is non-residual in soil.

Areas of use: sidewalks, driveways and patios; railroad rights-of-way, power stations, industrial sites, around farm buildings, storage areas, tank farms, in and around greenhouses, plant nurseries, golf courses, in fencerows, in vacant lots and in and around food crops.

Annual Weeds Controlled: Ragweed species, Chickweed, Lamb's-quarters, Black Medic, and seedling Canada fleabane.

Perennial Weeds Suppressed: Dandelion, Plantain species, Clover species, Wild Carrot, Toadflax, Quack Grass, Tufted Vetch, Hawkweed species, Curled Dock, Canada thistle, Kentucky Bluegrass and Sedges.

Retreatment is required for complete control of established perennial weeds.

GENERAL DIRECTIONS FOR USE

Best results are achieved from spring and early summer applications to actively growing young weeds. Degree of control depends on several factors, including weed size and stage at application. Apply on a mostly sunny day with temperatures at or above 21° C (70° F). Small annual weeds may be completely controlled with a single application. Control of larger, more established weeds, not completely desiccated with one application, may be short-term and require retreatment. Weeds that are mature, dormant or hardened due to moisture stress tend to be more tolerant to herbicide treatment. Complete coverage of undesirable vegetation is necessary to achieve control. Only contacted vegetation will be affected. Seedling perennial weeds may be controlled with a single application; however, repeat application is required for control of regrowth of established perennial weeds. Rainfall within 1 hour of application will reduce degree of control. DO NOT re-enter or allow entry into the treated areas until the residues have dried. As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

RATES FOR USE
FOR EARLY SEASON ANNUAL WEED CONTROL, when weeds are small (3-5 leaf) and actively growing; mix a spray solution consisting of 1 L of product for each 3 L of water. Ensure adequate mixing. Spray unwanted vegetation to the point of wetness.
SPOT TREATMENT APPLICATION: Use a single nozzle or hand-gun applicator to direct the spray and thoroughly wet undesirable foliage.
FOR CONTROL OF LARGER ANNUAL WEEDS AND TOP GROWTH REDUCTION (SUPPRESSION) OF PERENNIAL WEED GROWTH. Mix a spray solution consisting of 1 L of product for each 2.25 L of water. Use an application system, solution volume and adequate spray pressure to ensure complete coverage of unwanted vegetation. Best results with larger weeds will be achieved by spot treatment. Retreatment is required for regrowth of perennial weeds.

FOR CONTROL OF SEEDLING CANADA FLEABANE, LARGER, ESTABLISHED ANNUAL WEEDS AND TOP GROWTH REDUCTION (SUPPRESSION) OF ESTABLISHED PERENNIAL WEEDS: Use full strength (undiluted) with adequate spray pressure to ensure complete coverage of unwanted vegetation. Best results with larger weeds will be achieved by spot treatment. Retreatment is required for regrowth of perennial weeds.

FOR CONTROL OF WEEDS IN GREENHOUSES: To control weeds in non-crop areas of the greenhouse such as under planting benches, in walkways, and in beds after harvest, prepare a spray solution consisting of 1 L of product for each 3 L of water. Ensure adequate mixing. Spray weeds to the point of wetness using a medium droplet size to minimize drift. Complete coverage of the weeds is necessary to achieve control. Best results will be achieved if the weeds are actively growing. Avoid contact of the spray solution onto desirable vegetation. Avoid contact of the spray solution onto desirable vegetation. DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

Serene in Solution	Litres/m ²	Litres/ha
Serene Full Strength	5 litres/69.7 m ²	717.5 litres/ha
Serene 1:2.25 Dilution (Serene:Water)	1.53 litres/69.7 m ²	219.5 litres/ha
Serene 1:3.0 Dilution (Serene:water)	1.25 litres/69.7 m ²	179 litres/ha

CROP SPECIFIC DIRECTIONS FOR USE:

GENERAL DIRECTIONS FOR USE IN AND AROUND LABELLED FOOD CROPS:

Apply as a directed spray using ground application equipment only. Before applying Serene, start with clean, well maintained application equipment. Spray equipment should be cleaned thoroughly following a Serene application.

Always use the higher rate of this product per hectare within the recommended range when weed growth is heavy or dense, or weeds are growing in an undisturbed (non-cultivated) area.

This product does not provide residual weed control. Heavy rainfall or irrigation immediately after application may wash the chemical off the foliage and a repeat treatment may be required.

Field sprayer application:

DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground. For tractor mounted boom sprayers, the use of low clearance hooded or shielded sprayers that ensure spray drift does not come in contact with the crop or foliage is strongly recommended.

Use caution when applying under circumstances where possible drift to non-target plants, Serene is a non-selective herbicide. Do not make applications during temperature inversions.

DO NOT apply this product through any type of irrigation system.
Use appropriate water volumes to ensure good spray coverage.
DO NOT apply by air.

Buffer zones:

Use of the following spray methods or equipment DO NOT require a buffer zone: hand-held or backpack sprayer and spot treatment, inter-row hooded sprayer, low-clearance hooded or shielded sprayers that ensure spray drift does not come in contact with orchard crop fruit or foliage, soil drench and soil incorporation.

For application to rights-of-way, buffer zones for protection of sensitive terrestrial habitats are not required; however, the best available application strategies which minimize off-site drift, including meteorological conditions (e.g., wind direction, low wind speed) and spray equipment (e.g., coarse droplet sizes, minimizing height above canopy), should be used. Applicators must, however, observe the specified buffer zones for protection of sensitive aquatic habitats.

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of application	Crop	Buffer Zones (metres) Required for the Protection of:				
		Freshwater Habitat of		Estuarine/Marine Habitats of Depths:		Terrestrial Habitats*
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Non-crop	2	1	1	1	1

*Buffer zones for the protection of terrestrial habitats are not required for use on rights-of-way including railroad ballast, rail and hydro rights-of-way and utility easements.

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

Tank Mixing:

This product may be tank mixed with a supplement or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions for Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on the label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact Belchim Crop Protection Canada, Inc. at 1-

866-613-3336 for information before applying any tank mix that is specifically recommended on this label.

FOR CONTROL OF WEEDS IN THE FOLLOWING FOOD CROPS:

DIRECTIONS FOR USE IN AND AROUND THE FOLLOWING ORCHARD AND VINEYARD CROPS: Apple and Grape

- Serene offers control of susceptible weeds listed on this label. Apply Serene as a uniform band or as a spot application directed at weeds on the ground between the trunks or vines. Not intended for broader applications outside of these areas such as drive rows.
- Avoid direct or indirect spray contact to the foliage.
- For apples, do not apply to trees established less than one year. Apply to healthy established trees. Do not apply when plants are under stress. Do not apply after budbreak unless using hooded or shielded application equipment and applicator can ensure spray drift will not come in contact with fruit or foliage.
- For grapes, do not apply to vines established less than two years. Do not apply to grapes that are not trellised or staked unless they are free standing. Do not apply during the period after budbreak through final harvest, unless using shielded application equipment and applicator can ensure spray drift will not come into contact with fruit or foliage.

NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS. The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Belchim Crop Protection Canada Inc. under the User Requested Minor Use Label Expansion program. For these uses, Belchim Crop Protection Canada Inc. has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

DIRECTIONS FOR USE IN AND AROUND THE FOLLOWING CROP: Cranberry

Crop	Target Pest	Rate
Cranberry	Sedges SUPPRESSION ONLY	Spray Serene on weed at rates of 2-6% or applied in soil injection at the rates of 6-12% (v/v) of active ingredient
<ul style="list-style-type: none"> • Dilute stock Serene to the rate required in water and spray weeds or inject into soil to suppress sedge plants which surround cranberry. • For pure weed spot treatment only. • Do not apply directly to cranberry. • Retreatment is required for regrowth of weeds. • Pure spot weeds can be sprayed at 2-6% of Serene without drift OR soil injected at 6 - 12% of Serene without contact with cranberry root systems. 		
Crop Group	Crops	Application Directions

<p>Crop Group 1 Root and Tuber Vegetables</p>	<p>Arrowroot, Jerusalem Artichoke, Beet, Burdock, Canna, Carrot, Celeriac, Chervil, Chicory, Chufa, Dasheen, Ginseng, Horseradish, Parsley, Parsnip, Potato, Radish, Rutabaga, Salsify, Skirret, Sweet Potato, Turnip and Yam.</p>	<p>Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label. Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop. Apply using hooded or shielded application equipment. Ensure spray drift will not come in contact with foliage. Do not spray the crop directly. Do not apply when plants are under stress. Retreatment is required for regrowth of weeds.</p>
<p>Crop Group 3-07 Bulb Vegetables</p>	<p>Chive, Chinese, fresh leaves; Chive, fresh leaves; Daylily; Elegans hosta; Fritillaria; Garlic; Kurrat; Lady’s leek; Leek; Lily; Onion, bulb; Onion, green; Onion, fresh; Onion, macrostem; Onion, pearl; Onion, potato; Shallots and Wild leek</p>	<p>Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label. Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop. Apply using hooded or shielded application equipment. Ensure spray drift will not come in contact with foliage. Do not spray the crop directly. Do not apply when plants are under stress. Retreatment is required for regrowth of weeds.</p>
<p>Crop Group 4-13 Leafy Vegetables (greenhouse or field)</p>	<p>Amaranth, Arugula, Aster, Blackjack, Broccoli raab, Broccoli, Cabbage, Cat’s Whiskers, Cham-chwi, Cham-na-mui, Chervil, Chinese cabbage, Chipilin, Chrysanthemum, Cilantro, Collards, Corn salad, Cosmos, Cress, Dandelion, Dang-gwi, Dillweed, Dock, Dol-nam-mul, Ebolo, Endive, Escarole, Fameflower, Feather cockscomb, Good King Henry, Hanover salad, Huauzontle, Jute leaves, Kale, Lettuce, Maca, Mizuna, Mustard greens, Orach, Parsley, Plantain, Primrose, Purslane (garden), Radicchio, Radish, Rape greens, Rocket, Shepherd’s purse, Spinach, Swiss chard, Tanier spinach, Turnip greens, Violet, Watercress and</p>	<p>Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label. Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop. Apply using hooded or shielded application equipment. Ensure spray drift will not come in contact with foliage. Do not spray the crop directly. Do not apply when plants are under stress. Retreatment is required for regrowth of weeds.</p>

	Cultivars, varieties and/or hybrids of these.	
Crop Group 5-13 Brassica Head and Stem Vegetables	Broccoli; Brussels sprouts; Cabbage; Cabbage, Chinese-Napa; Cauliflower and Cultivars, varieties and/or hybrids of these.	Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label. Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop. Apply using hooded or shielded application equipment. Ensure spray drift will not come in contact with foliage. Do not spray the crop directly. Do not apply when plants are under stress. Retreatment is required for regrowth of weeds.
Crop Group 8-09 Fruiting Vegetables (greenhouse or field)	African eggplant, Bush tomato, Currant tomato, Eggplant, Garden huckleberry, Goji berry, Groundcherry, Martynia, Okra, Pea eggplant, Pepino, Pepper (bell and non-bell), Scarlett eggplant, Sunberry, Tomatillo, Tomato, and Cultivars, varieties and/or hybrids of these.	Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label. Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop. Apply using hooded or shielded application equipment. Ensure spray drift will not come in contact with foliage. Do not spray the crop directly. Do not apply when plants are under stress. Retreatment is required for regrowth of weeds.
Crop Group 9 Cucurbit Vegetables (greenhouse or field)	Cucumber, gourd, muskmelon (includes cantaloupe, casaba, Crenshaw and honeydew melons), <i>Momordica</i> spp., pumpkin, summer squash, watermelon, winter squash.	Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label. Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop. Apply using hooded or shielded application equipment. Ensure spray drift will not come in contact with foliage. Do not spray the crop directly. Do not apply when plants are under stress. Retreatment is required for regrowth of weeds.
Crop Group 11-09 Pome Fruit, excluding apples	Crabapple, Mayhaw, Pear, Pear (oriental) and Quince.	Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label. Apply Serene as a uniform band or spot application directed at weeds on the ground between the trunks or plants.

(see above for use instructions on apples)		<p>Ensure spray drift will not come in contact with foliage.</p> <p>Do not spray the crop directly.</p> <p>Apply only to weeds around healthy established trees.</p> <p>Do not apply after budbreak unless using hooded or shielded application equipment and applicator can ensure spray drift will not come into contact with fruit or foliage.</p> <p>Do not apply when plants are under stress.</p> <p>Retreatment is required for regrowth of weeds.</p>
Crop Group 12-09 Stone Fruit	Apricot; Cherry (sweet); Cherry (tart); Nectarine; Peach; Plum; Plum, Prune; and Plumcot.	<p>Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label.</p> <p>Apply Serene as a uniform band or spot application directed at weeds on the ground between the trunks or plants.</p> <p>Ensure spray drift will not come in contact with foliage.</p> <p>Do not spray the crop directly.</p> <p>Apply only to weeds around healthy established trees.</p> <p>Do not apply after budbreak unless using hooded or shielded application equipment and applicator can ensure spray drift will not come into contact with fruit or foliage.</p> <p>Do not apply when plants are under stress.</p> <p>Retreatment is required for regrowth of weeds.</p>
Crop Group 13-07 Berries and Small Fruits (greenhouse or field)	Amur river grape, Aronia berry, Bayberry, Bearberry, Bilberry, Blackberry, Blueberry (highbush and lowbush), Buffalo currant, Buffaloberry, Chilean Guava, Chokecherry, Cloudberry, Currant, Elderberry, European barberry, Gooseberry, Highbush cranberry, Honeysuckle, Huckleberry, Jostaberry, Juneberry, Kiwi, Lingonberry, Loganberry, Maypop, Mountain pepper berries, Mulberry, Muntries, Native currant, Partridgeberry, Pincherry, Raspberry, Riberry, Schisandra berry, Sea buckthorn, Serviceberry, Strawberry, Wild raspberries, and Cultivars,	<p>Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label.</p> <p>Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop.</p> <p>Apply using hooded or shielded application equipment.</p> <p>Ensure spray drift will not come in contact with foliage.</p> <p>Do not spray the crop directly.</p> <p>Do not apply when plants are under stress.</p> <p>Retreatment is required for regrowth of weeds.</p>

	varieties, and/or hybrids of these.	
Crop Group 14-11 Tree Nuts	Almond, Beech Nut, Bur oak, Butternut, Chestnut, Chinquapin, Ginkgo, Hazelnut (Filbert), Heartnut, Hickory nut, Japanese horse-chestnut, Pecan, Pine nut and Walnut (black and English), and Cultivars, varieties, and/or hybrids of these.	<p>Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label.</p> <p>Apply Serene as a uniform band or spot application directed at weeds on the ground between the trunks or crop.</p> <p>Ensure spray drift will not come in contact with foliage.</p> <p>Do not spray the crop directly.</p> <p>Apply only to weeds around healthy established trees.</p> <p>Do not apply after budbreak unless using hooded or shielded application equipment and applicator can ensure spray drift will not come into contact with fruit or foliage.</p> <p>Do not apply when plants are under stress.</p> <p>Retreatment is required for regrowth of weeds.</p>
Crop Group 22 Stalk, Stem and Leaf Petioles	Agave; Aloe vera; Asparagus; Bamboo; Cardoon; Celery; Celery, Chinese; Celtuce; Fennel; Fern; Fuki; Kale, sea; Kohlrabi; Palm hearts; Prickly pear; Rhubarb; Udo; Zuiki and Cultivars, varieties and hybrids of these.	<p>Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label.</p> <p>Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop.</p> <p>Apply using hooded or shielded application equipment.</p> <p>Ensure spray drift will not come in contact with foliage.</p> <p>Do not spray the crop directly.</p> <p>Do not apply when plants are under stress.</p> <p>Retreatment is required for regrowth of weeds.</p>
Miscellaneous	Globe artichokes, peanuts, hops, outdoor ornamentals.	<p>Serene offers control of susceptible weeds listed when applied at the rates and timings outlined on this label.</p> <p>Apply Serene as a uniform band or spot application directed at weeds on the ground between the crop.</p> <p>Apply using hooded or shielded application equipment.</p> <p>Ensure spray drift will not come in contact with foliage.</p> <p>Do not spray the crop directly.</p> <p>Do not apply when plants are under stress.</p> <p>Retreatment is required for regrowth of weeds.</p>

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN. Corrosive to the eye. DO NOT get in eye. May irritate skin. Causes mucous membrane irritation. Avoid contact with skin and clothing. Wash immediately after use. Wash contaminated clothing with soap and hot water before reuse. Avoid inhaling vapours or spray mist. A well-ventilated area is required for task-related duties. DO NOT re-enter or allow entry into the treated areas until the residues have dried. Wear long-sleeved shirt, long pants, chemical resistant gloves, safety goggles or face shield, and shoes plus socks during loading, application, and when performing clean-up and maintenance activities. For broadcast application and application in areas with poor ventilation, the applicator must also wear a NIOSH/MSHA-approved vapour respirator.

Avoid all contact with desirable plants. Overspray or drift will injure contacted foliage. Avoid application to reactive metals such as aluminum, tin, iron, or items such as fencing or lawn furniture in order to prevent staining, mottling, or otherwise interfering with finished metal surfaces. Avoid spraying on windy days.

Apply only when the potential for drift to areas of human habitation or human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature, application equipment and sprayer settings.

ENVIRONMENTAL PRECAUTIONS

Toxic to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

FIRST AID

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION

Treat symptomatically.

STORAGE

Store this product away from food or feed. Keep from freezing. Store in original container out of reach of children.

DISPOSAL

1. Triple or pressure-rinse the empty container. Dispose of rinsings on bare ground.
2. Follow provincial instruction for any required additional cleaning of the container prior to its disposal.
3. Make the container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.