

BELLUM®

[Selective] Herbicide

COMMERCIAL

AGRICULTURAL
SUSPENSION

A herbicide for use in field, seed, and sweet corn, cranberry, blueberry, and turf for control of annual broadleaf weeds.

ACTIVE INGREDIENT:

Mesotrione 480 g/L

Contains 1,2-benzisothiazolin-3-one at 0.033 % as a preservative

**READ THE LABEL AND ATTACHED BOOKLET BEFORE USING
KEEP OUT OF REACH OF CHILDREN****POTENTIAL SKIN SENSITIZER**

REGISTRATION NO.: 35252 PEST CONTROL PRODUCTS ACT

NET CONTENTS: 1 L - Bulk

ALBAUGH, LLC
1525 NE 36th Street
Ankeny IA 50021
United States
1-800-247-8013

For medical or treatment information from exposure to this product, call 1-888-347-6732
(7 days/week, 24-hr).

For 24-hour chemical spill, leak, fire, exposure, or accident response information, call
CHEMTREC toll free at 1-800-424-9300.

AD071224

LABEL

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.

FIRST AID

IN CASE OF POISONING, contact a physician or a poison control centre **IMMEDIATELY**. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

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.

TOXICOLOGICAL INFORMATION

Treat symptomatically if ingested or in contact with eyes or skin. If gastric lavage is considered necessary, prevent aspiration of gastric material. Administration of activated charcoal may also be considered.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

Potential skin sensitizer.

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing, loading, clean-up and repair. Gloves are not required during application within a closed cab. Wash the outside of the gloves before removing. Wash splashes from skin and eyes **IMMEDIATELY** with plenty of water. Avoid working in spray mist. Avoid all drift or contact with other vegetation. After spraying, wash hands and shower thoroughly with soap and water. While using product, do not eat, drink or smoke. Wash hands and exposed skin with soap and water thoroughly before eating, drinking, smoking, applying cosmetics or using the toilet. Keep product away from food, drink and animal feed. Store product in original container, tightly closed and in a safe place.

DO NOT use or store product near heat or open flame. **DO NOT** apply beyond the field boundary.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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

STORAGE

Store this product away from food or feed. Always store product in original container with top closed in a cool, dry place. Avoid contamination of seed, feed and foodstuffs. BELLUM can be stored in freezing conditions. If frozen, allow to thaw and agitate thoroughly prior to use.

DISPOSAL

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial/territorial regulatory agency. Contact the manufacturer and the provincial/territorial regulatory agency in case of a spill, and for clean-up of spills.

CONTAINER DISPOSAL:

FOR DISPOSAL OF PLASTIC JUGS:

DO NOT reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial/territorial requirements.

FOR REFILLABLE CONTAINERS:

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. DO NOT reuse this container for any other purpose.

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DO NOT use or store product near heat or open flame. **DO NOT** apply beyond the field boundary.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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

STORAGE

Store this product away from food or feed. Always store product in original container with top closed in a cool, dry place. Avoid contamination of seed, feed and foodstuffs. BELLUM can be stored in freezing conditions. If frozen, allow to thaw and agitate thoroughly prior to use.

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If there is no container collection site in your area, dispose of the container in accordance with provincial/territorial requirements.

FOR REFILLABLE CONTAINERS:

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. DO NOT reuse this container for any other purpose.

GENERAL INFORMATION

BELLUM is a suspension concentrate herbicide that has soil residual activity and provides selective control or suppression of annual broadleaf weeds in corn, and other listed crops. BELLUM has a high level of crop safety to allow for flexibility in application timing in corn and cranberries.

This product may be tank mixed with (a fertilizer, 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 this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact ALBAUGH, LLC at 1-800-247-8013 for information before applying any tank mix that is not specifically recommended on this label.

BELLUM may be tank mixed with a range of herbicides as part of a one pass broad-spectrum weed control program in corn.

In post-emergent applications, BELLUM is absorbed through the leaves and is rapidly translocated to the plant's growing points.

BELLUM may also be tank mixed with a post-emergent grass herbicide for broader spectrum post-emergent weed control in corn.

ENVIRONMENTAL PRECAUTIONS

Toxic to small wild mammals, aquatic organisms and to non-target terrestrial plants. Observe spray 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 filter strip between the treated area and the edge of the water body.

DIRECTIONS FOR USE

CORN

1.) Pre-emergent Application: (Field Corn, Production Seed Corn and Sweet Corn) – Eastern Canada Only

Apply BELLUM at 0.30 L per hectare in a spray volume of 200 L and a minimum pressure of 206 kPa (refer to the “*MIXING AND SPRAYING INSTRUCTIONS*” section of this label).

BELLUM will control:

lamb's-quarters	wild mustard
redroot pigweed	common ragweed (suppression)
velvetleaf	

BELLUM tank-mixed with DUAL II MAGNUM® Herbicide, PRIMEXTRA® II MAGNUM Herbicide, DUAL II MAGNUM Herbicide plus AATREX® LIQUID 480 Herbicide will provide broad-spectrum control of annual broadleaf and grass weeds. Consult the tank mix partner label for precautions, use rates and weeds controlled.

Use Rates for Pre-emergent Application

WEEDS CONTROLLED	RATE/HA BELLUM	RATE/HA TANK MIX PARTNER ¹
Broadleaf Weeds	0.30 L	
	0.30 L	1.25 – 1.75 L DUAL II MAGNUM Herbicide
		3.0 – 4.0 L PRIMEXTRA II MAGNUM Herbicide

Broadleaf Weeds and Annual Grasses	1.25 – 1.75 L DUAL II MAGNUM Herbicide + 2.1 - 3.1 L AATREX Liquid 480 Herbicide
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¹ Consult the label of the product(s) tank mixed with BELLUM for specific instructions regarding grass and broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.

2.) **Early Post-emergent Application: (Field Corn only) - Eastern Canada only**

Apply BELLUM at 0.30 L per hectare in a spray volume of 200 L and a minimum pressure of 206 kPa (refer to the “*MIXING AND SPRAYING INSTRUCTIONS*” section of this label).

BELLUM will control:

lamb's-quarters	wild mustard
redroot pigweed	common ragweed (suppression)
velvetleaf	

BELLUM tank-mixed with DUAL II MAGNUM Herbicide, PRIMEXTRA II MAGNUM Herbicide, DUAL II MAGNUM Herbicide plus AATREX Liquid 480 Herbicide will provide broad-spectrum control of annual broadleaf and grass weeds. Consult the tank mix partner labels for precautions, use rates and weeds controlled.

Use Rates for Early Post-emergence Application (Spike to 2 leaf stage of corn and cotyledon to 2 leaf stage of weeds)

WEEDS CONTROLLED	RATE/HA BELLUM	RATE/HA TANK MIX PARTNER ¹
Broadleaf Weeds	0.30 L	
Broadleaf Weeds and Annual Grasses	0.30 L	1.25 – 1.75 L DUAL II MAGNUM Herbicide
		3.0 – 4.0 L PRIMEXTRA II MAGNUM Herbicide
		1.25 – 1.75 L DUAL II MAGNUM Herbicide+ 2.1 – 3.1 L AATREX Liquid 480 Herbicide

¹ Consult the label of the product(s) tank mixed with Bellum for specific instructions regarding grass and broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.

3.) **Late Post-emergent Application: (Field Corn only) – Eastern Canada only**

Apply BELLUM at 0.21 L per hectare in a spray volume of 100-200 L of water and a minimum pressure of 206 kPa (refer to the “*MIXING AND SPRAYING INSTRUCTIONS*” section of this label).

Always add a spray surfactant. Use the non-ionic surfactant AGRAL® 90 at 0.20% v/v.

For best results, apply BELLUM to actively growing weeds. Weeds that emerge after an application of BELLUM will be controlled after they absorb the herbicide from the soil provided there is sufficient moisture for uptake.

BELLUM will control:

eastern black nightshade	redroot pigweed
velvetleaf	common ragweed (suppression only)

up to the 8-leaf weed stage.

BELLUM tank-mixed with AATREX Liquid 480 Herbicide will provide control of all four weeds listed above. BELLUM tank-mixed with AATREX Liquid 480 Herbicide and a glyphosate containing product will provide control of all four weeds listed above plus emerged annual and perennial weeds for use ONLY on glyphosate tolerant corn. BELLUM tankmixed with Ultim Herbicide + AATREX Liquid 480 Herbicide will provide broadspectrum control of annual broadleaf and grass weeds. Consult tank mix partner labels for precautions. Consult Ultim Herbicide labels for use rates and weeds controlled.

Use Rates for Post Emergent Application (3 to 8 leaf stage of corn and up to 8 leaf stage of broadleaf weeds)

WEEDS CONTROLLED	RATE/HA BELLUM ¹	RATE/HA TANK MIX PARTNER ²
Eastern black nightshade, redroot pigweed, velvetleaf, common ragweed (suppression only)	0.21 L	
Eastern black nightshade, redroot pigweed, velvetleaf, common ragweed	0.21 L	0.58 L AATREX Liquid 480 Herbicide
Weeds controlled by BELLUM plus weeds controlled by Ultim Herbicide	0.21 L	33.7 g Ultim Herbicide ³
Weeds controlled by tank mixture of BELLUM + AATREX Liquid 480 Herbicide plus weeds controlled by Ultim Herbicide	0.21 L	0.58 L AATREX Liquid 480 Herbicide + 33.7 g Ultim Herbicide ³
Weeds controlled by BELLUM plus emerged annual and perennial weeds For use ONLY on glyphosate tolerant corn	0.21 L	1.67 L glyphosate (of a 540 g ae/L formulation) ⁴
Weeds controlled by tank mixture of BELLUM + AATREX Liquid 480 Herbicide plus emerged annual and perennial weeds For use ONLY on glyphosate tolerant corn	0.21 L	0.58 L AATREX Liquid 480 Herbicide+ 1.67 L glyphosate (of a 540 g ae/L formulation) ⁴

¹Add AGRAL 90 at 0.2% v/v.

²Consult the label of the product(s) tank mixed with BELLUM for specific instructions regarding soil-type variations, and rotational crop, grazing or other restrictions.

³Tank mixes containing Ultim Herbicide can only be applied up to the 6-leaf stage of corn.

⁴ Some perennial weeds may not be controlled with this rate of glyphosate. Consult the glyphosate product label regarding perennial weeds controlled. For glyphosate formulations that are not 540 g ae/L, refer to the glyphosate product label to determine the appropriate rate for the target weeds.

Pre-Harvest Intervals

Crops	PHI (days)
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Field corn grain/stover	100
Field corn forage	90
Sweet corn	50

USE PRECAUTIONS:

BELLUM may be used pre-emergent on field corn, production seed corn and sweet corn. Post-emergent applications may be made on Field Corn only. Not all seed corn inbreds and sweet corn varieties have been tested; the use of BELLUM must be approved by the seed company and comply with the directions given by the seed company.

Although BELLUM has a flexible recropping profile, certain crops may be sensitive to low concentrations in the soil. Therefore, careful consideration should be given to crop rotation plans prior to using BELLUM (refer to *“RECROPPING GUIDELINES”*).

Dry conditions following application may reduce the pre-emergent activity of BELLUM. If an activating rain (12 mm) is not received within 7-10 days after a pre-emergent application, rotary hoeing is suggested to activate the herbicide.

Do not apply to soils that contain less than 1% or more than 10% organic matter.

When applied post emergent, thorough coverage of emerged weeds is essential for effective control with BELLUM. Although weed competition is quickly halted, visual symptoms of dying weeds (discolouration) may take up to 2 weeks to appear depending on the weed species and growing conditions.

Optimum control of emerged weeds will be obtained when weeds are actively growing. Under unfavourable conditions, such as drought, heat, flooding, prolonged cool temperatures or insufficient fertility, adequate control may not be achieved and re-growth may occur.

Temporary crop injury (bleaching) may occur under extreme weather conditions or when the crop is under stress due to inadequate or abnormally high moisture levels or extreme temperatures. The symptoms are most visible where excessive rates have been applied, such as sprayer overlaps. Corn quickly outgrows these effects and continues to grow normally.

Do not make a foliar post-emergent application of any organophosphate or carbamate insecticide within 7 days before or 7 days after a BELLUM application or severe injury may occur to corn. Albaugh, LLC will not be held responsible for losses or damage resulting from such use.

BELLUM may be applied prior to or following a pyrethroid-type insecticide such as FORCE® Insecticide or MATADOR® 120EC Insecticide.

Do not cultivate corn within 7 days before or after a post-emergent BELLUM application.

Make only one application of BELLUM per year in all crops except in cranberries for control of cinquefoil, goldenrod, rushes and sedges where a second application is required.

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.

MIXING AND SPRAYING INSTRUCTIONS:

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.

DO NOT apply by air.

DO NOT apply using airblast equipment.

Spray Buffer zones:

A spray buffer zone is NOT required for uses with hand-held application equipment permitted on this label.

The spray 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	Spray Buffer Zones (metres) Required for the Protection of:	
		Aquatic habitat	Terrestrial habitat
Field sprayer*	Field corn, seed and sweet corn, highbush and lowbush blueberry, and turf	1	4
	Cranberry	1	10

* The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray 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.

APPLICATION IN LIQUID FERTILIZERS:

Nitrogen solutions (such as 28-0-0 UAN), excluding suspension fertilizers, may replace water as a carrier for pre-emergence application in corn. Do not use nitrogen solutions as a carrier to corn that has emerged. Constant agitation is necessary to maintain a uniform mixture during application.

GROUND APPLICATION ONLY (DO NOT apply using airblast equipment):

Water Volume:

Apply in 100 – 200 litres per hectare.

Spray Pressure:

206 – 300 kPa

Spray Nozzles:

Flat Fan with 50 mesh or larger screens. For uniform coverage and increased penetration of the crop canopy, set the nozzles at a downward angle of 90 degrees (90°).

Surfactant:

Post-emergent applications of BELLUM must be applied with the non-ionic surfactant AGRAL 90 at 0.2% v/v (2.0 L for each 1000 L of spray mixture).

Mixing Procedure:

1. Ensure that the sprayer is totally clean.
2. Fill the sprayer half full with water. Engage gentle agitation.
3. Ensure that the agitation system is working properly and that it creates a rippling or rolling action on the water surface.
4. If required, add Ultim Herbicide slowly and agitate until completely dispersed.
5. Add BELLUM and PRIMEXTRA II MAGNUM Herbicide or AATREX Liquid 480 Herbicide (if an applicable tank-mix) slowly and agitate until completely dispersed. To ensure complete dispersion, wait 2 or 3 minutes after the last of the herbicide has been added to the tank.
6. Fill the tank to three quarters full with water.
7. Add DUAL II MAGNUM Herbicide if required.
8. Add the non-ionic surfactant if applicable (e.g., AGRAL 90) at 0.2% v/v.
9. Add glyphosate-containing product if required. Refer to the label of the tank mix partner and the surfactant for the specific mixing instructions.
10. Continue agitation while completing the filling of the sprayer with water.
11. Always ensure that agitation is maintained until spraying is completed, even if stopped for brief periods of time.
12. If agitation is stopped for more than 5 minutes, re-suspend the spray solution by running on full agitation prior to spraying. **BELLUM must be sprayed the same day as mixing.**
13. Do not mix, load or clean spray equipment where there is a potential to contaminate wells or aquatic systems.

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Albaugh, LLC under the User Requested Minor Use Label Expansion program. For these uses, Albaugh, LLC 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.

FIELD CORN (EASTERN CANADA ONLY)

TIMING ¹	Weeds Controlled	RATE/HA BELLUM	RATE ² /HA TANK MIX PARTNER	REMARKS
Preemergent	Tall Waterhemp	0.30 L	3 – 4 L PRIMEXTRA II MAGNUM Herbicide ³ in 200 L carrier/ha	Make only one application per year. Apply by ground equipment only.
Postemergent ⁴	Volunteer Adzuki Bean (<i>Vigna angularis</i>), large crabgrass (<i>Digitaria sanguinalis</i>), Giant Ragweed ⁵ and Tall Waterhemp, Common Cocklebur ⁵	0.21 L	0.58 L AATREX Liquid 480 Herbicide + 0.2% v/v AGRAL 90 in 100 - 200 L water/ha	Make only one application per year. Apply by ground equipment only.

¹Apply at 3-8 leaf stage of corn.

² Consult tank mix partner label for precautions.

³ Use higher rate of PRIMEXTRA II MAGNUM Herbicide for heavier weed problems.

⁴ Apply at the unifoliate to trifoliate leaf stage of adzuki bean, at the 1-6 leaf stage of large crabgrass, when giant ragweed is at the cotyledon-10 leaf stage and up to the 8-leaf stage of Tall Waterhemp and when common cocklebur is up to the cotyledon – 6 leaf stage. ⁵ Suppression only.

SEED AND SWEET CORN (EASTERN CANADA AND BRITISH COLUMBIA ONLY)

TIMING	RATE/HA BELLUM	RATE ¹ /HA TANK MIX PARTNER	REMARKS
Postemergent ²	0.21 L	0.2% v/v AGRAL 90	<p>Make only one application per year.</p> <p>Apply in 100-200 L water/ha at 205-300 kPa.</p> <p>DO NOT apply by air.</p> <p>Do not harvest sweet corn treated with BELLUM within 50 days of treatment. Harvest seed corn at the normal interval.</p> <p>Seed corn inbreds and sweet corn varieties may vary in their tolerance to herbicides, including BELLUM. Since not all seed corn inbreds or sweet corn varieties have been tested for tolerance to BELLUM, first use of BELLUM should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your seed supplier for information on the tolerance of specific seed corn inbreds to BELLUM.</p>

			Do NOT apply on Delmonte 2038 as unacceptable crop injury will occur.
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¹Consult tank mix partner label for precautions.

² Late post-emergence (3-6 leaf stage).

ESTABLISHED CRANBERRY BEDS

TIMING	RATE/HA BELLUM	WEEDS CONTROLLED	REMARKS
Preemergent ¹ and early postemergent to the weeds	0.30 L	lamb's-quarters, redroot pigweed, velvetleaf, wild mustard, common ragweed ² , vetch ² and creeping buttercup ²	Make only one application per year except for control of cinquefoil, goldenrod, rushes and sedges where a second application is required.
OR			Allow for a minimum of 14 days between applications.
Late post emergent ³ to the weeds	0.21 L ⁴	Eastern black nightshade, redroot pigweed, velvetleaf, common ragweed ² , vetch ² and creeping buttercup ²	Apply in 200 L water/ha for pre-emergence application and in 100 - 200 L water/ha for post-emergence application at 206 - 300 kPa.
OR			DO NOT apply by air.
Post emergent to the weeds ³	2 applications of 0.21 L ⁴	Weeds controlled with a single application of 0.21 L plus cinquefoil (<i>Potentilla</i> spp.) ² , goldenrod, rushes (<i>Juncus Canadensis</i> , <i>J. effuses</i> , <i>J. bufonlus</i> , <i>J. tenuis</i>) ² , and sedges (<i>Carex</i> spp.) ²	DO NOT apply using airblast equipment.
			DO NOT apply BELLUM through any type of irrigation equipment.
			Bearing Beds – Apply between bud break and fruit set. Do not harvest within 60 days of treatment.
			Non-Bearing Beds – Apply between bud break and 60 days prior to fall or winter flooding.
			DO NOT harvest within 365 days of treatment.
			DO NOT flood within 60 days of treatment.
			DO NOT apply directly to water or areas where surface water is present.
			DO NOT spray to runoff.
			DO NOT apply if rainfall or sprinkler irrigation for frost protection is expected within 48 hours.
			Wait at least 18 months after the last BELLUM application in cranberries before replanting cranberries.

¹Up to the 2-leaf weed stage.

²Suppression only.

³3 to 8 leaf weed stage.

⁴Add AGRAL 90 at 0.2% v/v.

HIGHBUSH BLUEBERRY (BEARING AND NON-BEARING YEARS)

TIMING	RATE/HA BELLUM	WEEDS CONTROLLED	REMARKS
Preemergent to weeds ¹	0.30 L/ha	Lamb's-quarters, redroot pigweed, velvetleaf, wild mustard, common ragweed ⁴	Make only one application per year. Apply BELLUM up to 8 leaf stage to weeds and prebloom to crop.
OR			
Post emergent to weeds ²	0.30 L/ha ³	Eastern black nightshade, velvetleaf, redroot pigweed, common ragweed ⁴	Apply broadcast (directed spray to the base of the plant) ground application. Apply in 100-200 L/ha water at 206-300 kPa. DO NOT apply by air. DO NOT apply using airblast equipment.

¹ up to 2 leaf weed stage

² 3 to 8 leaf weed stage

³ AGRAL 90 at 0.2% v/v

⁴ Suppression

LOWBUSH BLUEBERRY (BEARING AND NON-BEARING YEARS)

TIMING	RATE/HA BELLUM	WEEDS CONTROLLED	REMARKS
Preemergent to weeds ¹	0.30 L/ha	Lamb's-quarters, redroot pigweed, velvetleaf, wild mustard, common ragweed ⁴	Make only one application per year. Apply BELLUM up to 8 leaf stage to weeds.
OR			
Post emergent to weeds ²	0.30 L/ha ³	Eastern black nightshade, velvetleaf, redroot pigweed, common ragweed ⁴	Do not harvest crop within 60 days of application. Apply broadcast (over the top of the blueberries) ground application. Apply in 100-200 L/ha water at 206-300 kPa. DO NOT apply by air. DO NOT apply using airblast equipment.

¹ up to 2 leaf weed stage

² 3 to 8 leaf weed stage

³ AGRAL 90 at 0.2% v/v

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, BELLUM is a Group 27 herbicide. Any weed population may contain or develop plants naturally resistant to BELLUM and other Group 27 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

Where possible, rotate the use of BELLUM or other Group 27 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.

Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.

Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.

Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.

Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.

For further information and to report suspected resistance, contact ALBAUGH, LLC at 1-800-247-8013.

RECRIPPING GUIDELINES:

Certain crops have been shown to be sensitive to low residues of BELLUM in the soil. The minimum recropping interval is the time between the last application of BELLUM and the anticipated date of planting of the next crop.

To avoid injury to subsequent crops after an application at the recommended rate of BELLUM, the following recropping intervals should be observed.

CROP	MINIMAL RECROPPING INTERVAL
Winter Wheat	3 months
Spring Wheat, Field Corn (grain or silage), Seed Corn, Sweet Corn	10 months
Alfalfa, Potato, Soybeans, Transplanted Tomato, White Beans	11 months
All Other Crops	Bioassay

Observe the recropping guidelines of any product(s) to be tank mixed with BELLUM.

In the event of crop failure, only field corn (grain or silage), seed corn, or sweet corn can be planted as a salvage crop in the same fields in which the failed crop was treated with BELLUM. An application of BELLUM must NOT be made to the salvage crop.

Land treated with BELLUM CAN ONLY BE PLANTED TO A CROP NOT LISTED IN THE PREVIOUS TABLE if a field bioassay can be successfully performed. The bioassay must indicate normal growth with no yield reductions.

A bioassay may be conducted in any year following the year of application to assess the tolerance of the tested crop intended for planting in the year following the bioassay. Do not conduct a bioassay in the year of application. When conducting a field bioassay, it is very important to select a representative area(s) of the field previously treated with BELLUM to plant the test crop(s).

FIELD BIOASSAY

1. **Representative Sample:**
Ensure that soil parameters such as soil texture, depth of topsoil layer, soil pH and drainage of the test area selected are representative of the remainder of the field.
2. **Sample Size:**
The seeded area of each selected bioassay crop must be large enough to ensure that reliable results are obtained. The seedbed preparations and seeding of the bioassay crop(s) should be conducted the same way as when the entire field would be planted.
3. **Other Residual Herbicides:**
It is important that other herbicide products which are known to have residual activity were not applied to the field between the last application of BELLUM and the bioassay testing period. Avoid the use of other pesticides during the duration of the bioassay as they may damage the indicator crop(s).
4. **Comparisons:**
Ideally, an untreated check strip in a neighbouring field should be established and monitored for comparison since growing conditions can vary greatly from year to year and may result in erroneous results.
5. **Assessment:**
The site should be monitored regularly throughout the growing season. Watch for any damage to the crop such as thinning, yellowing or stunting. A yield sample should be taken and compared to an adjacent untreated field.

DO NOT ROTATE TO OTHER CROPS UNTIL THE BIOASSAY INDICATES NORMAL GROWTH WITH NO YIELD REDUCTIONS.

Failure to follow these recropping guidelines could result in injury to seeded crop(s).

ADHERE TO THESE PRODUCT LABELS FOR BROADLEAF WEEDS CONTROLLED, PRECAUTIONS, WARNINGS, RESTRICTIONS, TANK MIXING AND SPRAYING INSTRUCTIONS, ROTATIONAL CROPS AND DETAILED DIRECTIONS FOR USE REGARDING DOSAGE VARIATIONS ACCORDING TO SOIL TYPE.

SPRAYER CLEANUP:

To avoid subsequent injury to other crops, thoroughly clean application equipment immediately after spraying. Ensure that all traces of the product are removed. The following procedures are recommended:

1. Drain and flush tank, boom and all hoses for several minutes with clean water containing a household detergent. **Do not** clean the sprayer near desirable vegetation, wells or other water sources.
2. Fill the sprayer tank with clean water and add one litre of household ammonia (containing 3% ammonia) per 100 litres of water. Allow the solution to agitate for 15 minutes prior to flushing the solution through the boom and nozzles. Drain the system.
3. Remove the nozzles and screens and wash separately in a bucket containing the ammonia solution.
4. Thoroughly rinse the tank, hoses, booms, nozzles and screens with clean water for a minimum of 5 minutes to remove all traces of ammonia.
5. Dispose of all rinsings in accordance with provincial/territorial regulations.

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