

# Broadstrike <sup>™</sup> RC Herbicide

GROUP 2 HERBICIDE

FOR SALE FOR USE IN EASTERN CANADA ONLY AS A SELECTIVE HERBICIDE FOR BROADLEAVED WEED CONTROL IN HYBRID FIELD CORN AND SOYBEANS.

COMMERCIAL (AGRICULTURAL)

READ THE LABEL AND BOOKLET BEFORE USING KEEP OUT OF REACH OF CHILDREN

ACTIVE INGREDIENT: flumetsulam 80.0%

Wettable granules Warning, contains the allergen sulfites

REGISTRATION NO. 27004 PEST CONTROL PRODUCTS ACT

**NET CONTENTS**: 0.715 kg - bulk

**Corteva Agriscience Canada Company** Suite 240, 115 Quarry Park Rd. SE

Calgary, AB T2C 5G9 1-800-667-3852

<sup>™</sup>Trademark of Corteva Agriscience and its affiliated companies.

#### PRECAUTIONS Avoid contact with skin, eyes or clothing. KEEP OUT OF REACH OF CHILDREN

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 spray drift to areas of human habitation and areas of 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.

# PROTECTIVE CLOTHING AND EQUIPMENT

When mixing, loading and applying, wear long-sleeved shirt and long pants, chemical-resistant gloves, shoes and socks and protective eye wear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining personal protective equipment. If no such instructions for washables, use detergent and hot water. Keep and wash personal protective equipment separately from other laundry.

# **OPERATOR USE PRECAUTIONS**

When handling this product, users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the washroom
- If herbicide penetrates clothing, remove immediately, then wash thoroughly and put on clean clothing.
- Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **FIRST AID**

# 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

No specific antidote. Employ supportive care. Treatment should be based on judgment of the physician in response to reactions of the patient.

# AGRICULTURAL CHEMICAL

Do not ship or store with food, feeds, drugs or clothing.

#### **ENVIRONMENTAL PRECAUTIONS**

TOXIC to aquatic organisms and 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 of this product 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. This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

# STORAGE

Store this product away from food or feed. Store in original container in a secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. Keep away from food or feed. Do not store at temperatures above 50°C for extended periods of time.

# DISPOSAL

#### **Recyclable Containers**

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.

#### **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.

#### **Returnable Containers**

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

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.

#### **GENERAL INFORMATION**

Broadstrike RC Herbicide is a selective herbicide for the control of certain annual broadleaved weeds in hybrid field corn and soybeans. In hybrid field corn, Broadstrike RC may be applied surface preplant, preplant incorporated, preemergence or early postemergence. In soybeans, Broadstrike RC may be applied surface preplant, preplant incorporated or preemergence.

Absorption of Broadstrike RC occurs through both foliage and root uptake. Susceptible weeds exposed to Broadstrike RC stop growing and either die or remain non-competitive with the crop. Because uptake and translocation of Broadstrike RC involves uptake by both roots and/or foliage, adequate soil moisture is necessary for optimal activity.

FAILURE TO FOLLOW LABEL INSTRUCTIONS MAY RESULT IN ERRATIC WEED CONTROL OR CROP DAMAGE. READ ALL DIRECTIONS CAREFULLY BEFORE APPLYING.

## **GENERAL USE PRECAUTIONS**

- Soil Insecticides: Organophosphate granular insecticides must not be used on a corn crop to be treated with BROADSTRIKE RC. Serious crop injury may occur.
- DO NOT APPLY BY AIR.

- Do not apply when weather conditions favour drift to non-target sites. Minimize spray drift to wildlife habitats. To minimize spray drift to non-target areas:
  - 1. Do not use nozzles that produce a fine spray droplet.
  - 2. Use sufficient spray volume to ensure adequate coverage with large droplet size sprays.
  - **3.** Keep ground-driven spray boom as low as possible above the target surface.
  - 4. Spray when conditions are calm or wind speed is less than 10 km/hr.
- Adequate soil moisture is required for optimum herbicide activity of Broadstrike RC. Surface preplant, preemergence or early postemergence applications of Broadstrike RC require an activating rainfall which moistens the soil to a depth of at least 5 cm.
- Do not apply when air temperature is near freezing or when freezing conditions are expected for several days following time of application.
- Extended cold, wet conditions (soil temperatures below 10°C for extended periods) or abnormally high soil moisture conditions during emergence and early crop development can cause Broadstrike RC injury symptoms on corn such as temporary yellowing of the leaves and/or crop stunting. Corn will quickly outgrow these symptoms once normal growing conditions resume.
- Over-application may result in crop injury or rotational crop damage from soil residues.
- Conditions such as seedling disease, cold weather, excessive moisture, compacted soils (such as along headlands) or eroded knolls or hillsides may increase the possibility of crop injury from Broadstrike RC.
- Make only 1 application per year.
- Do not apply Broadstrike RC to sweet corn, seed corn or popcorn.
- For use in corn at 62.5 g/ha, do not apply to areas where the soil pH is greater than 7.8 or where the soil organic matter is less than 2.0%.
- For use in soybeans at 87.5 g/ha, do not apply to areas where (both apply) the soil pH is greater than 7.8 and organic matter is less than 2% as this may result in decreased crop tolerance.
- Do not apply to peat or muck soils or where the soil organic matter is greater than 5%.
- Do not repeat application of Broadstrike RC to the same field in the following season as there is a potential for residue build-up.

# Sprayer Clean-Out Instructions

To avoid injury to desirable plants, thoroughly clean equipment used to apply this product before re-use or using it to apply other chemicals.

- 1. Immediately after spraying, completely drain the sprayer tank. Any contamination on the outside of the spraying equipment should be removed by washing with clean water.
- 2. First rinse:
  - Spray the inside of tank with clean water and fill the sprayer with at least one tenth of the spray tank volume.
  - Agitate and circulate for 15 minutes, and flush through booms and hoses.
  - Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
  - Drain tank completely.
- 3. Second rinse:
  - Fill the tank with clean water.
  - Add All Clear Spray Tank Decontaminator as per manufacturer's recommendations while filling the tank with clean water.
  - Agitate and then flush the boom and hoses with the cleaning solution. Top up with water making sure the tank is completely full. Allow to stand for 15 minutes with agitation. Flush the solution out of the spray tank through the spray booms. Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
  - If possible, let the solution stand in the sprayer tank and booms for an extended period of time, overnight if possible.
  - After flushing the boom and hoses, drain tank completely.

- Remove nozzles and screens and clean separately with a cleaning agent or an ammonia solution (100 mL in 10 L water).
- 4. Third rinse:
  - Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume.
  - Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
  - Drain tank completely.

# **ROTATIONAL CROP RESTRICTIONS**

When tank mixing with other herbicides, follow the most restrictive crop rotation guidelines on the label of each product used. The table below outlines the interval required between the application of Broadstrike RC and the seeding of rotational crops.

Сгор	Crop Rotation Interval (months)
winter wheat	4
spring wheat, spring barley, oats, soybeans, common beans (dry, snap), lima beans, processing peas, field corn, seed corn	10

Rotational crops except field corn and soybeans may sustain injury if dry conditions, not favourable to herbicide breakdown, persist following application of Broadstrike RC.

Following application of Broadstrike RC in a dry year, the risk of injury to rotational crops may increase in light-textured soils containing less than 2% organic matter because of a higher bioavailability of herbicide residues for plant uptake.

A field bioassay should be conducted before planting other crops not listed above. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production the following year.

#### **Field Bioassay**

Using typical tillage, seeding practices, and timings for the particular crop, plant several strips of the desired crop across the field previously treated with Broadstrike RC. Plant the strips perpendicular to the direction Broadstrike RC was applied. The strips should also be located so that different field conditions are encountered, including soil texture, drainage and compacted areas. If the crop does not show visible symptoms of injury or stand reduction, the field can be seeded with the test crop in the growing season following the bioassay. If visible injury or stand reduction occurs, the test crop should not be seeded and the bioassay must be repeated the next growing season.

## PREHARVEST/GRAZING INTERVAL

- The pre-harvest interval for hybrid field corn is 90 days.
- Do not graze the treated corn crop prior to harvest for silage; sufficient data are not available to support such use.
- Do not graze the treated soybean crop or cut for hay; sufficient data are not available to support such use.

#### TANK MIXTURES

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 Corteva Agriscience Canada Company at 1-800-667-3852 or <u>www.corteva.ca</u> for information before applying any tank mix that is not specifically recommended on this label.

# **DIRECTIONS FOR USE**

Broadstrike RC is for use on hybrid field corn and soybeans.

Crop	Rate (g/ha)	Application Method	Weeds Controlled	Weeds Suppressed <sup>†</sup>
Field corn	62.5 g/ha	SPRE, PRE, PPI, early POST	velvetleaf, redroot pigweed, common lamb's-quarters wild mustard	common ragweed
		SPRE, PRE, PPI	Eastern black nightshade, wormseed mustard	
		SPRE, PRE	Canada fleabane, common chickweed	
Soybeans	87.5 g/ha	SPRE, PRE, PPI	velvetleaf, redroot pigweed, common lamb's-quarters, Eastern black nightshade wild mustard lady's thumb wormseed mustard	common ragweed wild carrot
		SPRE, PRE	Canada fleabane, common chickweed	
		PRE, PPI		cocklebur, green foxtail
		PPI		lady's-thumb horsetail

#### **Application Rates for Broadstrike RC**

<sup>†</sup>Weed suppression is a visual reduction in weed competition (reduced population, size and/or vigour) as compared to an untreated area.

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 habitat by cleaning of equipment or disposal of wastes.

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.

# CORN APPLICATION METHODS

# Surface Preplant Application (SPRE)

Broadstrike RC in a tank-mix with Dual II Magnum Herbicide may be applied in minimum or no tillage systems up to 15 days before planting. To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting or weed control will be diminished. Annual broadleaved weeds beyond the 2 leaf stage of growth will not be controlled by surface preplant applications.

## **Preplant Incorporated Application (PPI)**

Apply Broadstrike RC in a tank-mix with Dual II Magnum up to 15 days before planting. Incorporate Broadstrike RC in a uniform manner with equipment set to work at a depth of 5 to 8 cm. Use a C or S shank field cultivator equipped with a levelling device such as harrows or rolling basket attachment. The cultivator must have a minimum of 4 rows of sweeps spaced at 18 cm or less intervals and staggered so that no soil is left unturned. Tandem discs may also be used providing the blades are less than 50 cm in diameter and spaced 18 cm or less apart. Equipment design including any drag attachments must be adequate to avoid soil ridging which may result in streaked or reduced weed control. Operate disc implements at 6 to 10 km/hr and cultivators at 10 to 13 km/hr.

# **Preemergence Application (PRE)**

Preemergence applications may be made in conventional tillage as well as reduced tillage, ridge tillage and no-till systems. Apply Broadstrike RC in a tank-mix with Dual II Magnum during (behind the planter) or after planting, but prior to crop or weed emergence. Adequate soil moisture is required for optimum herbicidal activity. Rainfall is necessary to move Broadstrike RC into the weed germination zone. Sufficient rainfall to moisten the soil to a depth of 5 cm is generally adequate. If adequate rainfall is not received within 7 to 10 days after a surface application, a shallow cultivation or use of a rotary hoe is recommended to control established weeds and move the herbicide into the weed germination zone. When adequate rainfall is received following dry conditions, activity on established weeds will depend on the weed species and the location of its root system in the soil.

# Early Postemergence Application (Early POST)

Apply Broadstrike RC as a broadcast application when corn is at the spike to 8 leaf stage of growth. Apply when broadleaved weeds are at the cotyledon to 2 leaf stage of growth. Application to larger weeds will result in reduced weed control. Adequate soil moisture is required for optimum herbicidal activity. Rainfall is necessary to move Broadstrike RC into the weed germination zone for control of weeds not emerged at the time of application. Sufficient rainfall to moisten the soil to a depth of 5 cm is generally adequate. If adequate rainfall is not received within 7 to 10 days after an early postemergence application, a shallow cultivation is recommended to control established weeds and move the herbicide into the weed germination zone. When adequate rainfall is received following dry conditions, activity on established weeds will depend on the weed species and the location of its root system in the soil. **Do not apply Broadstrike RC in liquid fertilizer solutions for early postemergence applications. Serious crop injury may occur.** 

# SOYBEAN APPLICATION METHODS

#### Surface Preplant Application (SPRE)

Broadstrike RC in a tank-mix with Dual II Magnum and/or a glyphosate product such as the Maverick<sup>™</sup> III, Roundup or Touchdown brands may be applied in minimum or no tillage systems up to 21 days before planting. To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting or weed control will be diminished. Annual broadleaved weeds beyond the two leaf stage of growth will not be controlled by surface preplant applications.

#### **Preplant Incorporated Application (PPI)**

Apply Broadstrike RC in a tank-mix with Dual II Magnum or Treflan<sup>™</sup> E.C. up to 21 days before planting. Broadstrike RC tank-mixed with Treflan E.C. must be incorporated within 24 hours of application. Incorporate Broadstrike RC in a uniform manner with equipment set to work at a depth of 5 to 8 cm. Use a C or S shank field cultivator equipped with a levelling device such as harrows or rolling basket attachment. The cultivator must have a minimum of 4 rows of sweeps spaced at 18 cm or less intervals and staggered so that no soil is left unturned. Tandem discs may also be used providing the blades are less than 50 cm in diameter and spaced 18 cm or less apart. Equipment design including any drag attachments must be adequate to avoid soil ridging which may result in streaked or reduced weed control. Operate disc implements at 6 to 10 km/hr and cultivators at 10 to 13 km/hr.

# **Preemergence Application (PRE)**

Preemergence applications may be made in conventional tillage as well as reduced tillage, ridge tillage and no-till systems. Apply Broadstrike RC in a tank-mix with Dual II Magnum during (behind the planter)

or after planting, but prior to crop or weed emergence. Adequate soil moisture is required for optimum herbicidal activity. Rainfall is necessary to move Broadstrike RC into the weed germination zone. Sufficient rainfall to moisten the soil to a depth of 5 cm is generally adequate. If adequate rainfall is not received within 7 to 10 days after a surface application, a shallow cultivation or use of a rotary hoe is recommended to control established weeds and move the herbicide into the weed germination zone. When adequate rainfall is received following dry conditions, activity on established weeds will depend on the weed species and the location of its root system in the soil.

The Pre-Harvest Interval (PHI) for soybean is 90 days.

# **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, wood lots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands).

Method of Application	Сгор	Spray Buffer Zones (Metres) Required for the Protection of:			
		Freshwater Habitat of Depths:		Terrestrial Habitat	
		Less than 1 m	Greater than 1 m	Tastat	
Field sprayer	Hybrid field corn	1	1	15	
Field sprayer	Soybean	1	1	20	

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.

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.

#### **RESISTANCE MANAGEMENT RECOMMENDATIONS**

For resistance management, please not that Broadstrike RC Herbicide is a Group 2 herbicide. Any weed population may contain or develop plants naturally resistant to Broadstrike RC Herbicide and other Group 2 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 Broadstrike RC Herbicide or other Group 2 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 or to report suspected resistance, contact Corteva Agriscience Canada Company at 1-800-667-3852 or at <u>www.corteva.ca</u>

**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. The user assumes the risk to persons or property that arises from any such use of this product.

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Label Code: CN-27004-010-E Replaces: CN-27004-009-E

Specimen Notes: Update tank mix statement and address