

GROUP	<b>15</b>	HERBICIDE
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## DUAL II MAGNUM® Herbicide

AGRICULTURAL

Emulsifiable Concentrate for Selective Weed Control

**ACTIVE INGREDIENT:**

S-Metolachlor\* ..... 915 g/L

\* and R-enantiomer

**READ THE LABEL AND ATTACHED BOOKLET BEFORE USING**

**WARNING: EYE IRRITANT  
POTENTIAL SKIN SENSITIZER**

REGISTRATION NO.: **25729**  
PEST CONTROL PRODUCTS ACT

NET CONTENTS: **10 L - Bulk**

**Syngenta Canada Inc.**  
140 Research Lane, Research Park  
Guelph, Ontario N1G 4Z3  
Telephone: 1-877-964-3682

LABEL

## 1.0 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.

## 2.0 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. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

**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.

**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.

**NOTE:** This product may cause skin sensitization reactions in certain individuals.

## 3.0 TOXICOLOGICAL INFORMATION

If swallowed, there is no specific antidote. Treat symptomatically. If a large amount has been ingested and emesis has been inadequate, lavage stomach. The active ingredient in this product, S-Metolachlor, has a high affinity for activated charcoal. A suspension of activated charcoal in water can be given to absorb the remaining toxicant. Skin reactions have been treated with antihistamines and ointments containing an anti-inflammatory agent.

This product contains a petroleum distillate.

## 4.0 PRECAUTIONS

KEEP OUT OF THE REACH OF CHILDREN. Harmful if swallowed. Avoid contact with eyes or prolonged contact with skin. Avoid inhalation of vapours or spray mist. Do not contaminate food, feed, domestic or irrigation water supplies, lakes, streams and ponds.

**Restricted Entry Interval (REI): DO NOT** enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

Apply only when the potential for drift to areas of human habitation or 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.

When applied as a tank mix combination, read and observe all label directions, including rates, restrictions, and grazing limitations for each product used in the tank mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels.

**DO NOT apply BY AIR.**

If this pest control product is to be used on a commodity that may be exported to other countries in the world and you require information on acceptable residue levels in these countries, please contact Syngenta Canada Inc. at 1-87-SYNGENTA / 1-877-964-3682.

**CAUTION:** Do not graze treated immature crops or cut for hay. Sufficient data are not available to support such use. In the case of corn, immature means before ear emergence. Do not harvest sweet corn within 45 days of application. Do not harvest other corn within 80 days of making a post-emergent application. Make only one application per season.

## **5.0 PERSONAL PROTECTIVE EQUIPMENT**

Wear a long-sleeve shirt, long pants, a hat, enclosed boots, and chemical-resistant gloves during mixing, loading, cleanup, repair and application. Chemical-resistant gloves are not required for closed cab groundboom application. When handling the concentrate, wear the previously-mentioned clothing plus goggles or a face shield. Avoid breathing vapours or spray mist. If ventilation is not adequate, wear an appropriate pesticide respirator.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Wash splashes from skin IMMEDIATELY with plenty of water. Remove PPE immediately after handling this product. Wash the outside of gloves with soap and water before removing. As soon as possible, wash thoroughly and change into clean clothing. After spraying, wash hands and shower thoroughly with soap and water.

Heavily contaminated or drenched clothing and other absorbent materials contaminated with this product should be discarded. Do not reuse them.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Store and wash PPE separately from other laundry.

Wear freshly laundered clothes daily.

Do not wear contaminated shoes.

Do not eat, drink, smoke or apply cosmetics in areas where there is potential for exposure to this product. Wash hands and face before eating, drinking, smoking or using the toilet.

## 6.0 ENVIRONMENTAL PRECAUTIONS

TOXIC to aquatic plants 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. For the protection of aquatic plants, overspray or drift to important wildlife habitats such as wetlands, sloughs or dry slough borders and water bodies should be avoided. Leave a buffer zone of 29 metres between the last spray swath and the edge of any of these habitats. Drift to emerging vegetation or newly emerged vegetation in shelterbelts or woodlots should be avoided. For tank mixes, consult the label(s) of the tank mix partner(s), and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning equipment.

## 7.0 STORAGE

Keep in original container, tightly closed, during storage. Store in a cool, dry, well-ventilated and secure area out of the reach of children, unauthorized persons and animals. To prevent contamination store this product away from seed, foodstuffs, feed, fertilizer and beverages and tobacco. Keep away from fire or open flame, or other sources of heat. This product does not require heated storage.

## 8.0 DISPOSAL

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.

### **For 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 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 use this container for any other purpose.

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,  
CALL 1-800-327-8633 (FASTMED)***

DUAL II MAGNUM® is a trademark of a Syngenta Group Company.

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BOOKLET

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CALL 1-800-327-8633 (FASTMED)***

## **9.0 PRODUCT INFORMATION**

DUAL II MAGNUM® Herbicide provides selective weed control in corn, soybeans, dry common beans and other labelled crops.

DUAL II MAGNUM Herbicide contains benoxacor which has been shown to enhance S-Metolachlor metabolism in corn. This enhanced metabolism can reduce the potential of S-Metolachlor injury to corn seedlings when grown under unfavourable weather conditions such as cool temperature or water stress. Use of DUAL II MAGNUM Herbicide will not provide improved crop safety on other labelled crops.

### **9.1 Weeds Controlled**

American Nightshade <sup>1</sup>	Fall Panicum
Eastern Black Nightshade <sup>1</sup>	Foxtail (green, yellow, giant)
Crabgrass (smooth, hairy)	Old Witchgrass
Barnyard Grass	Yellow Nutsedge <sup>2</sup>
Redroot Pigweed <sup>3</sup> (suppression only)	

<sup>1</sup> Pre-emergent treatments sometimes give better control than pre-plant surface, pre-plant incorporated or post-emergent treatments.

<sup>2</sup> Pre-plant incorporated treatment only. Extended periods of dry hot weather following application may result in reduced nutsedge control.

<sup>3</sup> Pre-plant incorporated and pre-emergent treatments only.

## **10.0 DIRECTIONS FOR USE**

### **10.1 General Information**

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.

### **10.2 Application Information**

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) fine classification. Boom height must be 60 cm

or less above the crop or ground.

## DO NOT apply BY AIRAIR

### 10.2.1 Pre-Plant Surface Application

- For minimum tillage (reduced tillage), and no-till (zero-till) systems in corn and soybeans. Do not use for soybean, immature seed (edamame).
- Applications may be made up to 30 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.

### 10.2.2 Pre-Plant Incorporation Application

- Immediate incorporation is not necessary.
- Incorporation equipment should include rolling or western harrows.
- On sandy soils, heavy rainfall following an incorporated treatment may cause leaching of the herbicide.

INCORPORATION INSTRUCTIONS		
TYPE OF EQUIPMENT	MAXIMUM WORKING DEPTH	MINIMUM SPEED
"S"-Tine (Danish) cultivator	10 cm	10 km/hr
"C"-Tine cultivator with overlapping sweeps	10 cm	10 km/hr
Tandem disc (maximum 18 cm spacing between discs)	10 cm	6 km/hr
Power driven cultivator	5 cm	any
Mulch Master	5 cm	10 km/hr

DUAL II MAGNUM Herbicide may be applied as an overall spray or as a band treatment. For band treatment, a suitable press wheel mounted ahead of the nozzle should be used for levelling the band. For band application, use proportionately less material.

### 10.2.3 Pre-Emergent Application

- Apply evenly to a firm, lump-free seed bed.
- If an activating rain (>1.25 cm) is not received within 7-10 days after a pre-emergent application, cultivate or use other weed control measures if weeds develop.
- Pre-emergent applications may also be made in reduced tillage, ridge tillage, and no-till systems in corn and soybeans.
- Minimize exposure of untreated soil when cultivating or fertilizing.

### 10.2.4 Post-Emergent Application

- CORN ONLY.
- Apply when corn is in the spike to 6-leaf stage and **before weeds pass the 2-leaf stage**.
- Some leaf burn may occur but yield will not be affected.
- DO NOT tank-mix DUAL II MAGNUM Herbicide with fluid fertilizers, oils, oil concentrates or surfactants when applying post-emergent.
- Do not graze treated immature crops or cut for hay. Do not harvest sweet corn within 45

days of application. Do not harvest other corn within 80 days of making a post-emergent application.

**CAUTION:**

Do not apply to soils that contain less than 1% or more than 10% organic matter. Winter cereals may be planted 4 1/2 months following application. If drought conditions persist after either a pre-plant surface, pre-plant incorporated or pre-emergent application, annual grass control may not be adequate.

**10.2.5 Liquid Fertilizers**

Nitrogen solutions or complete liquid fertilizers may replace water as a carrier for pre-plant surface, pre-plant incorporated or pre-emergent application of DUAL II MAGNUM Herbicide alone or in tank mixes in corn. Do not use fertilizer solutions for post-emergent applications. Always predetermine the compatibility of DUAL II MAGNUM Herbicide or labelled DUAL II MAGNUM Herbicide tank mixes with your water or liquid fertilizer carrier by mixing small proportional quantities in advance using the WALES mixing order. Always consult the label of the tank mix partner if tank mixtures are to use liquid fertilizer as the carrier.

**10.2.6 Dry Bulk Granular Fertilizers**

Many dry bulk granular fertilizers may be impregnated with DUAL II MAGNUM Herbicide plus AATREX® Herbicide for pre-plant incorporated application to control weeds in corn. Prepare the herbicide/fertilizer mixtures by using any commonly used dry bulk fertilizer blender. Spray herbicide mixture uniformly onto fertilizer. If the herbicide/fertilizer mixture is too wet, the use of a highly absorptive powder (generally less than 2% by weight) such as Microcel E, diatomaceous earth or finely powdered clay is recommended.

For best results, apply DUAL II MAGNUM Herbicide/fertilizer mixtures or DUAL II MAGNUM Herbicide plus AATREX Herbicide/fertilizer mixtures uniformly to the soil with properly calibrated equipment immediately after blending and incorporate according to label directions.

**Note:** Apply a minimum of 225 kg per hectare of dry granular fertilizer impregnated with recommended rates of DUAL II MAGNUM Herbicide alone or DUAL II MAGNUM Herbicide tank mixtures.

**Do not impregnate DUAL II MAGNUM Herbicide alone or with AATREX Herbicide onto nitrate fertilizers, superphosphates, or limestone.**

**10.3 Mixing Instructions**

1. Ensure that the sprayer interior is clean, then fill the spray tank with ½ the required amount of carrier and engage gentle agitation. Good agitation is indicated by a rippling or rolling action on the surface of the water.
2. Add any WG or DF formulation mix partners and agitate to ensure complete mixing.
3. Add any SE or SC formulation mix partners and agitate to ensure complete mixing.
4. Add DUAL II MAGNUM Herbicide and agitate to ensure complete mixing
5. Add any EC formulation mix partners and agitate to ensure complete mixing.
6. Fill the tank to ¾ the required amount of water.
7. Add any solution (SN or SL) formulation mix partners and agitate to ensure complete

- mixing.
8. Finish filling the sprayer with carrier, maintaining good agitation.
  9. Always ensure that agitation is maintained until spraying is completed. After any break in spraying operations, agitate thoroughly before spraying again. Reduce agitation once tank volume is reduced to about one third of capacity.
  10. Do not mix, load or clean spray equipment where there is a potential to contaminate wells or aquatic systems.

When using chemical handling equipment to fill the sprayer, the following additional recommendations apply:

- WG and DF formulations are preferentially batch mixed.
- SC, SN, and SL formulations may be inducted or batch mixed.
- EC formulations are preferentially batch mixed.

It is important to check the physical compatibility of tank mixed pesticide products in a small volume prior to filling the sprayer. Check the compatibility of tank mixes containing DUAL II MAGNUM Herbicide using a jar test following the WALES mixing order with proportionate amounts of mix partners and carrier before mixing in the spray tank.

#### **10.4 Spraying Instructions**

1. Carrier Volume: Apply in a minimum spray volume of 150 L/ha OR the volume given in the crop and pest specific instructions tabulated below, whichever is LARGER.
2. Sprayer Agitation: Use a jet agitator or liquid sparge tube which recirculates 7-10% of the tank per minute. DO NOT use an air sparger.
3. Pump: Screens should be used to protect the pump and prevent clogging. Use 16 mesh or coarser screens on the suction side of the pump. DO NOT place a screen in the recirculation line. Use 50 mesh or coarser screens between the pump and boom unless directed otherwise by the sprayer manufacturer.
4. Spray Nozzles: 80° or 110° drift reducing flat fan (e.g. those with a pre-orifice or turbulence chamber) or air induction nozzles are recommended. Use 50 mesh or coarser nozzle screens or as recommended by the nozzle manufacturer. DO NOT use flood type nozzles, controlled droplet application equipment, spray foils or hollow cone nozzles.
5. Pressure: As recommended by the nozzle manufacturer to achieve no finer than ASABE 572.1 medium sized droplets.
6. Apply at uniform speed and avoid overlapping. Shut off spray boom while starting, turning, slowing or stopping to avoid potential crop injury from over application.

#### **10.5 Equipment Clean-Up**

To avoid subsequent injury to other crops, thoroughly clean application equipment immediately after spraying each day. Ensure that all traces of the product are removed. Do not allow residue to dry in spray tank. Do not allow solution to remain in lines or tank overnight.

When using tank mixes, consult the tank-mix partner label for additional clean-up instructions. The following recommendations are provided:

1. Drain and flush tank walls, boom and all hoses for ten minutes with a clean water/detergent mixture. Rinse with clean water. **DO NOT** clean application equipment near desirable vegetation, wells or other water sources.

2. Remove all nozzles and screens and wash separately.
3. Dispose of all rinsate in accordance with provincial regulations.

### 10.6 Buffer Zones

A buffer zone of 29 metres is 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.

Spot treatments using hand-held equipment **DO NOT** require a buffer zone. Use of low-clearance hooded or shielded sprayers that prevent spray contact with crop, fruit or foliage, and soil drench or soil incorporation **DO NOT** require a buffer zone.

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 Depths:		Estuarine/Marine Habitat of Depths:		Terrestrial Habitat:
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Caneberries	10	4	1	1	20

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.

The buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

### 10.7 Spray Drift Management and Application Requirements

Use good pesticide practices and apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and parks is minimal. Take into consideration wind speed, wind direction, temperature, application equipment and sprayer settings used for application.

For the protection of non-target habitats, over-spray or drift to any body of water or other environmentally sensitive habitat must be avoided. The interaction of equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.



## 10.8 Rotational Crop Restrictions

Crop, Crop Group, or Crop Subgroup	Plant-back Interval
Winter Cereals	4-1/2 months

## 11.0 CROP USE DIRECTIONS

### 11.1 Corn (Eastern Canada Only)

<b>TIMING</b>	<b>Pre-Plant Surface (up to 30 days before planting)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p> <p>Apply pre-plant surface applications of DUAL II MAGNUM Herbicide plus AATREX Liquid 480 Herbicide only when emerged annual weeds are less than 6 cm tall. If emerged annual weeds are taller than 6 cm, apply a glyphosate product prior to the tank mix application or make an application of a 3-way tank mix of DUAL II MAGNUM Herbicide plus AATREX plus a glyphosate product. Consult the tank mix partner label for specific instructions regarding precautions, restrictions, recommended rates and additives.</p>
<b>TIMING</b>	<b>Pre-Plant Surface (up to 30 days before planting)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses, Emerged Annual or Perennial Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	900 g ae/ha of a glyphosate product
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p> <p>Some perennial weeds may not be controlled with this rate of glyphosate. Consult the glyphosate product label regarding perennial weeds controlled. Refer to the glyphosate product label to determine the appropriate rate for the target weeds.</p>

<b>TIMING</b>	<b>Pre-Plant Surface (up to 30 days before planting)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds, Emerged Annual or Perennial Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide + 900 g ae/ha of a glyphosate product
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p> <p>Some perennial weeds may not be controlled with this rate of glyphosate. Consult the glyphosate product label regarding perennial weeds controlled. Refer to the glyphosate product label to determine the appropriate rate for the target weeds.</p> <p>It is recommended that liquid formulations of products be used when tank mixing with a glyphosate product. Consult the glyphosate product label for specific instructions regarding precautions, restrictions, recommended rates and additives.</p>
<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Nutsedge, Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.
<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Nutsedge, Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p>
<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p>
<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including triazine tolerant weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	<p>+ 1.25 L Banvel® II Herbicide</p> <p style="text-align: center;"><b>OR</b></p> <p>+ 3.7 L - 4.5 L Marksman® Herbicide</p> <p style="text-align: center;"><b>OR</b></p> <p>+ 2.1 L - 3.1 L AATREX Liquid 480 Herbicide + 1.25 L Banvel II Herbicide</p> <p style="text-align: center;"><b>OR</b></p> <p>+ 0.3 L CALLISTO® 480SC Herbicide</p> <p style="text-align: center;"><b>OR</b></p> <p>+ 0.3 L CALLISTO 480SC Herbicide + 2.1 L - 3.1 L AATREX Liquid 480 Herbicide</p>
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p> <p><b>DO NOT USE THESE TANK MIXES (BANVEL II HERBICIDE OR MARKSMAN HERBICIDE), OR THESE TIMINGS ON SEED CORN, SWEET CORN OR POPCORN.</b></p> <p>Use the lower rate of Marksman Herbicide on sand or sandy loam soil and the higher rate on loam or clay soils.</p>

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses, Emerged Annual or Perennial Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L - 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 900 g ae/ha of a glyphosate product
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p> <p>Some perennial weeds may not be controlled with this rate of glyphosate. Consult the glyphosate product label regarding perennial weeds controlled. Refer to the glyphosate product label to determine the appropriate rate for the target weeds.</p>
<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and the following annual Broadleaf Weeds including triazine tolerant weeds: Redroot Pigweed, Lamb's Quarters, Velvetleaf, Common Ragweed, Mustard (wild, wormseed), Eastern Black Nightshade, and other labelled weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.5 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 70 g Converge® 75WDG + 1.1 L Converge 480
<b>NOTES</b>	<p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p> <p><b>DO NOT USE THESE TIMINGS OR TANK MIXES ON SEED CORN, SWEET CORN OR POPCORN.</b></p> <p>Follow all soil type restrictions on the Converge 75WDG label.</p>

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds, Emerged Annual or Perennial Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide + 900 g ae/ha of a glyphosate product
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p> <p>Some perennial weeds may not be controlled with this rate of glyphosate. Consult the glyphosate product label regarding perennial weeds controlled. Refer to the glyphosate product label to determine the appropriate rate for the target weeds.</p> <p>It is recommended that liquid formulations of products be used when tank mixing with a glyphosate product. Consult the glyphosate product label for specific instructions regarding precautions, restrictions, recommended rates and additives.</p>
<b>TIMING</b>	<b>Early Post-Emergent (spike to 2-leaf stage)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.
<b>TIMING</b>	<b>Early Post-Emergent (spike to 2-leaf stage)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.</p>

<b>TIMING</b>	<b>Early Post-Emergent (spike to 2-leaf stage)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including triazine tolerant weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 600 mL – 1.25 L Banvel II Herbicide <b>OR</b> + 3.7 L - 4.5 L Marksman Herbicide <b>OR</b> + 2.3 L AATREX Liquid 480 Herbicide + 600 mL - 1.25 L Banvel II Herbicide <b>OR</b> + 0.3 L CALLISTO 480SC Herbicide <b>OR</b> + 0.3 L CALLISTO 480SC Herbicide + 2.1 L - 3.1 L AATREX Liquid 480 Herbicide
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems  Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.  <b>DO NOT USE THESE TANK MIXES (BANVEL II HERBICIDE OR MARKSMAN HERBICIDE), OR THESE TIMINGS ON SEED CORN, SWEET CORN OR POPCORN.</b>  <b>THE TANK MIX WITH CALLISTO 480SC HERBICIDE, OR CALLISTO 480SC HERBICIDE WITH AATREX LIQUID 480 HERBICIDE IS FOR USE ON FIELD CORN ONLY.</b>  Use the lower rate of Marksman Herbicide on sand or sandy loam soil and the higher rate on loam or clay soils.
<b>TIMING</b>	<b>Post-Emergent (3 to 6-leaf stage) (hybrid and silage corn only)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.  <b>DO NOT USE THESE TIMINGS OR TANK MIXES ON SEED CORN, SWEET CORN OR POPCORN.</b>

<b>TIMING</b>	<b>Post-Emergent (3 to 6-leaf stage) (hybrid and silage corn only)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including triazine tolerant weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 600 mL – 1.25 L Banvel II Herbicide <b>OR</b> + 3.7 L - 4.5 L Marksman Herbicide <b>OR</b> + 2.3 L AATREX Liquid 480 Herbicide + 600 mL - 1.25 L Banvel II Herbicide
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.  Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.  <b>DO NOT USE THESE TANK MIXES OR THESE TIMINGS ON SEED CORN, SWEET CORN OR POPCORN.</b>  Use the lower rate of Marksman Herbicide on sand or sandy loam soil and the higher rate on loam or clay soils.  Do not apply tank mixes containing Marksman Herbicide or Banvel II Herbicide beyond the 5-leaf stage of corn.
<b>TIMING</b>	<b>Post- Emergent (3 to 6-leaf stage) (hybrid, silage and sweet corn only)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.  Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations, and rotational crop, grazing or other restrictions.  <b>DO NOT USE THIS TANK MIX ON SEED CORN OR POPCORN.</b>

**NOTES for Pre-plant Surface and Pre-emergent Applications Only:**

For improved burndown of **small** emerged annual weeds, the following additives may be applied in mixtures of DUAL II MAGNUM Herbicide with AATREX Liquid 480 Herbicide:

- Crop Oil, 28-0-0 or 10-34-0 at 5% v/v
- Crop oil concentrate at 1% v/v
- Non-ionic surfactant at 0.1% v/v

If annual weeds are larger or perennial weeds are present, use a glyphosate product in the tank mix (See preceding table).

### 11.2 Corn (Western Canada Only)

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Green and Yellow Foxtail, Barnyard Grass and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide
<b>TIMING</b>	<b>Pre-emergent with irrigation</b>
<b>WEEDS CONTROLLED</b>	Green and Yellow Foxtail, Barnyard Grass and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding soil-type variations and other restrictions.</p>

### 11.3 Soybeans

<b>TIMING</b>	<b>Pre-Plant Surface (up to 30 days before planting)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 1.0 L - 2.2 L Sencor <sup>®</sup> 480F Flowable Herbicide <b>OR</b> + 670 g - 1.45 kg Sencor 75DF Herbicide
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations and rotational crop, grazing or other restrictions.</p> <p>Apply pre-plant surface applications of DUAL II MAGNUM Herbicide plus Sencor 480F Flowable Herbicide or Sencor 75DF Herbicide only when emerged annual weeds are less than 6 cm tall. If emerged annual weeds are taller than 6 cm, apply a glyphosate product prior to the tank mix application or make an application of a 3-way tank mix of DUAL II MAGNUM Herbicide plus a glyphosate product plus Sencor 480F Flowable Herbicide or Sencor 75DF Herbicide. Consult the tank mix partner label for specific instructions regarding precautions, restrictions, recommended rates and additives.</p>



<b>TIMING</b>	<b>Pre-Plant Surface (up to 30 days before planting)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses, Nightshade, Emerged Annual or Perennial Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 900 g ae/ha of a glyphosate product
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations and rotational crop, grazing or other restrictions.</p> <p>Some perennial weeds may not be controlled with these rates of a glyphosate product. Consult the glyphosate product label regarding perennial weeds controlled. For glyphosate formulations that are not 540 g ae/L, refer to the product label to determine the appropriate rate for the target weeds.</p>
<b>TIMING</b>	<b>Pre-Plant Surface (up to 30 days before planting)</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including Nightshade, Emerged Annual or Perennial Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 900 g ae/ha of a glyphosate products + 1.0 L – 2.2 L Sencor 480F Flowable Herbicide <b>OR</b> 670 g – 1.45 kg Sencor 75DF Herbicide
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations and rotational crop, grazing or other restrictions.</p> <p>Some perennial weeds may not be controlled with these rates of a glyphosate product. Consult the glyphosate product label regarding perennial weeds controlled. Refer to the glyphosate product label to determine the appropriate rate for the target weeds.</p> <p>It is recommended that liquid formulations of products be used when tank mixing with a glyphosate product. Consult the glyphosate product label for specific instructions regarding precautions, restrictions, recommended rates and additives.</p>

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Nutsedge, Annual Grasses and Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.75 L
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p>
<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Nutsedge, Annual Grasses and Broadleaf Weeds including Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	<p>+ 550 g - 750 g Sencor 75DF Herbicide</p> <p style="text-align: center;"><b>OR</b></p> <p>+ 850 mL - 1.1 L Sencor 480F Flowable Herbicide</p> <p style="text-align: center;"><b>OR</b></p> <p>+ 312 mL Pursuit® Herbicide</p>
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations and rotational crop, grazing or other restrictions.</p> <p>Do not apply Pursuit Herbicide as a pre-plant incorporated application more than one year in sequence. Only soybeans, field corn, spring barley, spring wheat and winter wheat may be planted the season following application of Pursuit herbicide. Winter wheat should not be planted within 120 days of the application of Pursuit Herbicide.</p>
<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.75 L
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p>

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 850 mL - 2.25 L Sencor 480F Flowable Herbicide <b>OR</b> + 550 g - 1.5 kg Sencor 75DF Herbicide <b>OR</b> + 1.9 L - 2.3 L Lorox L Herbicide <b>OR</b> + 312 mL - 420 mL Pursuit Herbicide <b>OR</b> + 465 g - 665 g Sencor 75DF Herbicide + 1.5 L - 2.0 L Lorox L Herbicide <b>OR</b> + 750 mL - 1.0 L Sencor 480F Flowable Herbicide or + 1.5 L - 2.0 L Lorox L Herbicide
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations and rotational crop, grazing or other restrictions.</p> <p>Do not apply Pursuit Herbicide as a pre-plant incorporated application more than one year in sequence. Only soybeans, field corn, spring barley, spring wheat and winter wheat may be planted the season following application of Pursuit herbicide. Winter wheat should not be planted within 120 days of the application of Pursuit Herbicide.</p>

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses, Nightshade, Emerged Annual or Perennial Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 900 g ae/ha of a glyphosate product
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations and rotational crop, grazing or other restrictions.</p> <p>Some perennial weeds may not be controlled with these rates of a glyphosate product. Consult the glyphosate product label regarding perennial weeds controlled. Refer to the glyphosate product label to determine the appropriate rate for the target weeds.</p>

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including Nightshade, Emerged Annual or Perennial Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 900 g ae/ha of a glyphosate product + 850 mL – 2.25 L Sencor 480F Flowable Herbicide <b>OR</b> 550 g – 1.5 kg Sencor 75DF Herbicide <b>OR</b> 312 mL – 420 mL Pursuit Herbicide
<b>NOTES</b>	<p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide applied pre-emergently and choose a tank-mix partner which is also registered for the control of nightshade.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>Consult the label of the product(s) to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding broadleaf weeds, soil-type variations and rotational crop, grazing or other restrictions.</p> <p>Some perennial weeds may not be controlled with these rates of a glyphosate product. Consult the glyphosate product label regarding perennial weeds controlled. Refer to the glyphosate product label to determine the appropriate rate for the target weeds.</p> <p>It is recommended that liquid formulations of products be used when tank mixing with a glyphosate product. Consult the glyphosate product label for specific instructions regarding precautions, restrictions, recommended rates and additives.</p> <p>Do not apply Pursuit Herbicide as a pre-plant incorporated application more than one year in sequence. Only soybeans, field corn, spring barley, spring wheat and winter wheat may be planted the season following application of Pursuit herbicide. Winter wheat should not be planted within 120 days of the application of Pursuit Herbicide.</p>

**CAUTION:** Soybeans should be seeded at least 4 cm deep or crop injury may result. Do not apply DUAL II MAGNUM Herbicide if soybeans have emerged.

**Notes for Pre-plant Surface and Pre-emergent Applications ONLY:**

For improved burndown of **small** emerged annual weeds, the following additives may be applied in mixtures of DUAL II MAGNUM Herbicide with Sencor 480F Flowable Herbicide, Sencor 75DF Herbicide, or Pursuit Herbicide:

- Crop oil, 28-0-0, or 10-34-0 at 5% v/v
- Crop oil concentrate at 1% v/v
- Non-ionic surfactant at 0.1% v/v

If annual weeds are larger or perennial weeds are present use a glyphosate product in the tank mix (See preceding table).

### 11.4 Snap Common Beans (Yellow and Green Only) and Lima Beans - Eastern Canada and B.C.

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Nutsedge
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.75 L
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p><b>CAUTION:</b> Beans should be seeded at least 4 cm deep or crop injury may result.</p>

### 11.5 Potatoes

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Nutsedge, Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	<p>+ 750 g - 1.5 kg Sencor 75DF Herbicide <b>OR</b> + 1.1 L - 2.25 L Sencor 480F Flowable Herbicide</p>
<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	<p>+ 750 g - 1.5 kg Sencor 75DF Herbicide <b>OR</b> + 1.1 L - 2.25 L Sencor 480F Flowable Herbicide <b>OR</b> + 1.9 L - 2.3 L Lorox L Herbicide</p>
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding soil-type variations and special instructions.</p> <p><b>CAUTION:</b> Do not apply DUAL II MAGNUM Herbicide at ground crack or if potatoes have emerged. Do not use on the variety Superior.</p>

### 11.6 First-Year (Non-Bearing) Apple, Apricot, Sweet and Sour Cherry, Peach, Pear, and Plum Trees

<b>TIMING</b>	<b>Post Planting, Pre-Emergent to Weeds</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds (Late-season emerging fall panicum and crabgrass may not be controlled by this treatment)
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 1.1 kg – 2.2 kg PRINCEP NINE-T® Herbicide
<b>NOTES</b>	<p>Apply once per year. Avoid contact with trunk and leaves of trees. Do not use on sandy soils with less than 2% organic matter. Best results are obtained with applications made after rain has settled the soil around trees. Use only a tractor-mounted boom sprayer to apply.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide and PRINCEP NINE-T Herbicide for heavier weed problems.</p>

### 11.7 Established (Bearing) Apple, Apricot, Sweet and Sour Cherry, Peach, Pear, and Plum Trees

<b>TIMING</b>	<b>Post Planting, Pre-Emergent to Weeds</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.75 L
<b>NOTES</b>	Apply once per year as a band under the trees. Avoid contact with trunk and leaves of trees. Do not use on sandy soils with less than 2% organic matter. Use only a tractor-mounted boom sprayer to apply.
<b>TIMING</b>	<b>Post Planting, Pre-Emergent to Weeds</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds (Late-season emerging fall panicum and crabgrass may not be controlled by this treatment)
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.5 kg PRINCEP NINE-T Herbicide
<b>NOTES</b>	Apply once per year as a band treatment under the trees. Avoid contact with trunk and leaves of trees. Do not use on sandy soils with less than 2% organic matter. Use only a tractor-mounted boom sprayer to apply.

### 11.8 Processing Peas (Eastern Canada Only)

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Eastern Black Nightshade, Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L - 1.75 L
<b>NOTES</b>	<p>Make one application per year. Apply in 150 - 250 L water/ha. Apply by ground application equipment only.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p>

**11.9 Rutabagas (Eastern Canada Only)**

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Nutsedge
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.  To control nutsedge, DUAL II MAGNUM Herbicide must be applied as a pre-planted incorporated spray.
<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.

**11.10 Second-Year or Older White Spruce, Norway Spruce, Black Spruce, White Pine, Jack Pine and Red Pine Transplant or Seedling Stock and Poplar Stoolbeds**

<b>TIMING</b>	<b>Pre-Emergent or Early Post-Emergent to Weeds</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L - 1.75 L
<b>NOTES</b>	Apply to spruce and pine in forest tree nurseries prior to budbreak. DO NOT APPLY DUAL II MAGNUM HERBICIDE WITHIN 4 WEEKS AFTER BURST OR UNTIL THE NEEDLES HAVE HARDENED. May be applied as a pre-emergent or early post-emergent application to weeds before they pass the 2 leaf stage. For Poplar Stoolbeds, apply to dormant and flushing stoolbeds.  Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.

**11.11 Sugar Beets**

<b>TIMING</b>	<b>Pre-Plant Incorporated or Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 8.25 L - 10.25 L Pyramin® FL (430 g/L) Herbicide
<b>NOTES</b>	Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.  Consult the Pyramin FL Herbicide label for specific instructions regarding soil type variations and other restrictions.  DUAL II MAGNUM Herbicide can be applied as: 1. a pre-plant incorporated spray in tank mix combination with Pyramin® herbicide or, 2. a pre-emergent spray in tank mix combination with Pyramin herbicide or, 3. a pre-plant incorporated spray, followed by a pre-emergent spray of Pyramin Herbicide.



### 11.12 Sweet White Lupins

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.10 L – 1.75 L
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>Make one treatment per year with ground application equipment. Apply in 200 - 300 L of total volume per hectare.</p>

#### 11.12.1 Sweet White Lupins – Tank Mixtures (Maritimes Only)

<b>TIMING</b>	<b>At Planting or Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.10 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 670 g Sencor 75DF Herbicide
<b>NOTES</b>	<p>Consult the label of the product to be tank mixed with DUAL II MAGNUM Herbicide for additional specific instructions regarding broadleaf weeds, soil-type variations and rotational crop, grazing or other restrictions.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems. For redroot pigweed suppression apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>For optimum nightshade control, use the higher rate of DUAL II MAGNUM Herbicide.</p> <p>Make one application per year. Apply as a broadcast spray during planting or as a separate operation after planting but before the crop has emerged. Lupin seed must be planted at least 4 cm below the soil surface. Do not apply to sandy or light soils with less than 2% organic matter or to muck soils. Better weed control will be obtained if light rainfall or irrigation follows application.</p> <p>Rotational crops such as onions, celery, peppers, cole crops, lettuce, spinach, sugar beets, table beets, turnips, pumpkins, squash, melons, tobacco and non-triazine tolerant canola are sensitive to Sencor 75DF Herbicide and may be injured if planted into soil treated with Sencor 75DF Herbicide during the year of application and the following year. After-harvest tillage practices which provide thorough mixing of the soil may be helpful in reducing the possibility of injury to succeeding crops. Do not use treated vines for feed and forage.</p>

### 11.13 Transplanted Tomatoes Grown for Processing – Tank Mixtures

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Annual Nightshades (American Nightshade, Eastern Black Nightshade), Nutsedge, Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 0.5 L - 1.4 L Sencor 480F Flowable Herbicide
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding weeds, rates, soil-type and organic matter variations and other restrictions.</p> <p><b>CAUTION:</b> DO NOT APPLY DUAL II MAGNUM HERBICIDE ON DIRECT-SEEDED TOMATOES.</p> <p><b>NOTE:</b> DUAL II MAGNUM HERBICIDE MAY DAMAGE TRANSPLANTS THAT HAVE BEEN WEAKENED BY ANY CAUSE RESULTING IN REDUCED CROP YIELD. TO PREVENT DAMAGE, PLANT ONLY HEALTHY TRANSPLANTS. DO NOT PLANT WHEN WET, COOL OR UNFAVOURABLE GROWING CONDITIONS EXIST. FOLLOW ALL APPLICATION AND INCORPORATION DIRECTIONS EXACTLY.</p>

### 12.0 MINOR USES

#### READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS

#### NOTE TO USER:

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

## 12.1 Asian Radish

<b>TIMING</b>	<b>Pre-Plant Incorporated OR Pre-Emergent</b> (to both crop and weeds)
<b>WEEDS CONTROLLED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass, Yellow Nutsedge
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Mineral Soils: 1.2 L – 1.5 L
<b>WEEDS SUPPRESSED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass, Yellow Nutsedge and Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Muck Soils (organic matter > 20%): 1.5 L – 1.75 L
<b>NOTES</b>	<p>Make only one application per year.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Apply in 150-300 L water/ha. Ground application only.</p> <p>Do not harvest within 40 days of application.</p> <p>Reduced levels of weed control may be observed when weed densities are high.</p> <p><b>On muck soils:</b> Irrigate immediately after application with 0.5 inches of water.</p> <p><b>CAUTION: Use in soils with high organic matter will result in reduced efficacy.</b></p> <p>A representative bioassay of the field must be conducted with rotational crops to evaluate potential crop sensitivity.</p> <p><b>NOTE: LEVEL AND DURATION OF WEED SUPPRESSION MAY BE REDUCED IN MUCK SOILS WITH HIGHER ORGANIC MATTER CONTENT.</b></p> <p><b>For American Nightshade and Eastern Black Nightshade,</b> pre-emergent treatments sometimes give better control than pre-plant incorporated treatments.</p> <p><b>For Yellow Nutsedge,</b> pre-plant incorporated treatment only. Extended periods of dry hot weather following application may result in reduced nutsedge control.</p>

**12.2 Asparagus (Established Beds)**

**WARNING:** Application of DUAL II MAGNUM Herbicide may result in injury to the asparagus crop, which may include potential stand loss, delayed maturity, and even loss of yield.

<b>TIMING</b>	<b>In the spring, apply to dormant asparagus beds prior to emergence OR Post-harvest</b>
<b>WEEDS CONTROLLED</b>	American Nightshade, Eastern Black Nightshade, Crabgrass (smooth, hairy), Barnyard Grass, Fall Panicum, Foxtail (green, yellow, giant), Old Witchgrass
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.55 L - 1.75 L
<b>NOTES</b>	Make only one application per year.  Apply by ground application equipment only.  PHI is 16 days.

## 12.3 Carrots

<b>TIMING</b>	<b>Pre-Emergent</b> (after planting, prior to carrot and weed emergence)
<b>WEEDS CONTROLLED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, and Barnyard Grass
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Mineral Soils: 1.2 L – 1.5 L
<b>WEEDS SUPPRESSED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass and Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Muck Soils (organic matter > 20%): 1.5 L – 1.75 L
<b>TIMING</b>	<b>Post-Emergent</b> (crop at 3 – 5-leaf stage and weeds prior to 2-leaf stage)
<b>WEEDS CONTROLLED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, and Barnyard Grass
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.2 L – 1.5 L
<b>NOTES</b>	<p><b>Make only one application per year. Do not follow a pre-emergent application with a post-emergent spray later in the season.</b></p> <p>Apply by ground (broadcast) application (pre- or post-emergent application). Pre-emergent application can also be made by banded spray. Make pre-emergent applications to clean-tilled soils.</p> <p>Use lower rates on medium-textured soils and higher rates on fine-textured soils. Do not apply more than 1.5 L/ha of DUAL II MAGNUM Herbicide to mineral soils. Do not apply more than 1.75 L/ha of DUAL II MAGNUM Herbicide to muck soils (organic matter &gt; 20%).</p> <p>To help avoid crop injury, do not apply DUAL II MAGNUM Herbicide in areas where water is likely to pool.</p> <p>Apply in 150 – 300 L water/ha.</p> <p>Reduced levels of weed control may be observed when weed densities are high.</p> <p>Do not harvest carrots within 30 days of application.</p> <p><b>NOTE: LEVEL AND DURATION OF WEED SUPPRESSION MAY BE REDUCED IN MUCK SOILS WITH HIGHER ORGANIC MATTER CONTENT.</b></p> <p><b>NOTE: APPLICATIONS OF DUAL II MAGNUM MAY CAUSE SIGNIFICANT INJURY TO CARROTS, RESULTING IN REDUCED YIELDS.</b></p>

## 12.4 Celery

<b>TIMING</b>	<b>After Transplanting Celery and Prior to Weed Emergence</b>
<b>WEEDS CONTROLLED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, and Barnyard Grass
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Mineral Soils: 1.2 L – 1.5 L
<b>WEEDS SUPPRESSED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass and Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Muck Soils (organic matter > 20%): 1.5 L – 1.75 L
<b>NOTES</b>	<p>Apply in 150-200 L water/ha. Directed or broadcast spray. Ground application only.</p> <p>Do not harvest the crop within 62 days of application.</p> <p>In general, the risk of crop injury is less with post-directed than from post over-the-top post-transplanting applications. The use of a spray adjuvant or the addition of another registered herbicide as a tank mixture with DUAL II MAGNUM will increase the risk of crop injury from post-emergence applications.</p> <p>DUAL II MAGNUM may also be used to treat row-middles in bedded crops, as long as the total amount of DUAL II MAGNUM applied does not exceed 1.75 L/ha in that crop.</p> <p>Use lower rates of DUAL II MAGNUM on coarse-textured soils and higher rates on fine-textured soils.</p> <p><b>On muck soils:</b> Apply prior to weed emergence. Use the higher rate of application. Irrigate immediately after application with 0.5 inches of water. Apply prior to weed emergence. <b>CAUTION: Use in soils with high organic matter will result in reduced efficacy.</b> A representative bioassay of the field must be conducted with rotational crops to evaluate potential crop sensitivity.</p> <p><b>NOTE:</b> DUAL II MAGNUM HERBICIDE MAY DAMAGE TRANSPLANTS THAT HAVE BEEN WEAKENED BY ANY CAUSE RESULTING IN REDUCED CROP YIELD. TO PREVENT DAMAGE, PLANT ONLY HEALTHY TRANSPLANTS. DO NOT PLANT WHEN WET, COOL OR UNFAVOURABLE GROWING CONDITIONS EXIST. FOLLOW ALL APPLICATION AND INCORPORATION DIRECTIONS EXACTLY.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p>

## 12.5 Conifers (Established for Field Production)

DUAL II MAGNUM Herbicide has been tested on Balsam fir, Fraser fir, White pine, and White spruce. DUAL II MAGNUM Herbicide may be applied to other non-listed conifer species; however, non-listed conifer species may vary in tolerance to herbicides, including DUAL II MAGNUM Herbicide. First use of DUAL II MAGNUM Herbicide to any non-listed conifer species should be limited to a small number of plants to confirm tolerance prior to adoption as a large scale practice.

<b>TIMING</b>	<b>Pre-Emergent to Weeds</b> as per label directions
<b>WEEDS CONTROLLED</b>	Annual Broadleaf and Grass Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	<p>Make only one ground application per year, banded over top of trees.</p> <p>Apply in a minimum of 300 L water/ha.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p>
<b>TIMING</b>	<b>Pre-Emergent or Early Post-Emergent (before 2-leaf stage) to Weeds</b>
<b>WEEDS CONTROLLED</b>	Labelled Weeds – See Simazine 480 Herbicide label for further information
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 4.7 L – 7.0 L Simazine 480 Herbicide
<b>NOTES</b>	<p>Make only one ground application per year.</p> <p>Apply in a minimum of 150 L water/ha.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Use the lowest rate of Simazine 480 in sandy or low organic matter soils; use highest rate in clay or high organic matter soils</p>

### 12.6 Cranberry Beans Eastern Canada Only

<b>TIMING</b>	<b>Pre-Plant Incorporated or Pre-Emergent Soil Application</b>
<b>WEEDS CONTROLLED</b>	American Nightshade, Eastern Black Nightshade, Fall Panicum, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass, Yellow Nutsedge
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 0.312 L Pursuit Herbicide
<b>NOTES</b>	<p>Make only one application per year. Apply by ground application equipment only.</p> <p><b>CAUTION:</b> Beans should be seeded at least 4 cm deep or crop injury may result.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding soil-type variations and other restrictions.</p> <p><b>For American Nightshade and Eastern Black Nightshade,</b> pre-emergent treatments sometimes give better control than pre-plant incorporated treatments.</p> <p><b>For Yellow Nutsedge,</b> pre-plant incorporated treatment only. Extended periods of dry hot weather following application may result in reduced nutsedge control.</p>



## 12.7 Cucurbit Vegetables - Crop Group 9

<b>CROP</b>	<b>Cucurbit Vegetables - Crop Group 9:</b> Citron melon ( <i>Citrullus lanatus</i> var. <i>citroides</i> ), Muskmelon (hybrids and/or cultivars of <i>Cucumis melo</i> ) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon and snake melon), Watermelon (includes hybrids and/or varieties of <i>Citrullus lanatus</i> ), Chayote (fruit) ( <i>Sechium edule</i> ), Chinese waxgourd (Chinese preserving melon) ( <i>Benincasa hispida</i> ), Gherkin ( <i>Cucumis anguria</i> ), Gourd, edible ( <i>Lagenaria</i> spp.) (includes hyotan, cucuzza), Gourd, edible ( <i>Luffa acutangula</i> , <i>L. cylindrica</i> ) (includes hechima, Chinese okra), <i>Momordica</i> spp. (includes balsam apple, balsam pear, bitter melon, Pumpkin ( <i>Cucurbita</i> spp.), Squash, summer ( <i>Cucurbita pepo</i> var. <i>melopepo</i> ) (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini), Squash, winter ( <i>Cucurbita maxima</i> , <i>C. moschata</i> ) (includes butternut squash, calabaza, hubbard squash); ( <i>C. mixta</i> , <i>C. pepo</i> ) (includes acorn squash, spaghetti squash), excluding Cucumber ( <i>Cucumis sativus</i> )
<b>TIMING</b>	<b>Transplanted:</b> Prior to transplanting or within 48 hours after transplanting.  <b>Direct seeded:</b> Pre-emergence or early post-emergent to crop (1 to 2 leaf stage).  <b>All applications should be pre-emergent to labeled weeds.</b>
<b>WEEDS CONTROLLED</b>	Nightshade and Annual Grasses
<b>WEEDS SUPPRESSED</b>	Redroot Piqweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Banded to row middles after plastic mulch has been laid: 1.15 L – 1.56 L  Broadcast: 1.15 L
<b>NOTES</b>	Ground application; Banded to row middles or broadcast.  Make only 1 application per year.  PHI is 30 days.  Apply in a minimum of 150 L water/ha.  Application of DUAL II MAGNUM Herbicide may result in injury to the crop which may include stand loss, delayed maturity and even loss of yield.  Risk of crop injury increases with cool and wet conditions. Care should be taken to minimize foliar contact with DUAL II MAGNUM Herbicide as this can increase potential to cause crop injury. Avoid overspray.  Reduced control in heavy weed populations may occur.  Do not use on sandy soils with less than 2% organic matter.  <b>The use of another registered herbicide as a tank mixture with DUAL II MAGNUM will increase the risk of crop injury.</b>

### 12.8 Dry Common Beans (*Phaseolus vulgaris* species only)

<b>TIMING</b>	<b>Pre-Plant Incorporated or Pre-Emergent Soil Application</b>
<b>WEEDS CONTROLLED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass, Yellow Nutsedge
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.75 L
<b>NOTES</b>	<p>Make only one application per year. Apply in 150 L water/ha. Apply by ground application equipment only.</p> <p><b>NOTE:</b> Dry common bean varieties may vary in their tolerance to herbicides, including to DUAL II MAGNUM Herbicide. Since not all dry common bean varieties have been tested for tolerance to DUAL II MAGNUM Herbicide, first use of DUAL II MAGNUM Herbicide 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 varieties of dry common beans to DUAL II MAGNUM Herbicide.</p> <p><b>CAUTION:</b> Beans should be seeded at least 4 cm deep or crop injury may result.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p><b>For American Nightshade and Eastern Black Nightshade,</b> Pre-emergent treatments sometimes give better control than pre-plant incorporated.</p> <p><b>For Yellow Nutsedge,</b> pre-plant incorporated treatment only. Extended periods of dry hot weather following application may result in reduced nutsedge control.</p>

### 12.9 Dry Common Beans (*Phaseolus vulgaris* species only)–Eastern Canada Only

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	American Nightshade, Eastern Black Nightshade, Fall Panicum, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass, Yellow Nutsedge
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 0.312 L Pursuit Herbicide
<b>NOTES</b>	<p>Make only one application per year. Apply in 150 L – 400 L water/ha. Apply by ground application equipment only.</p> <p>DO NOT harvest within 100 days of treatment.</p> <p><b>NOTE:</b> Dry common bean varieties may vary in their tolerance to herbicides, including to DUAL II MAGNUM Herbicide. Since not all dry common bean varieties have been tested for tolerance to the tank mix of Pursuit plus DUAL II MAGNUM Herbicide, first use of this tank mix 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 varieties of dry common beans to the tank mix of Pursuit plus DUAL II MAGNUM Herbicide.</p> <p><b>CAUTION:</b> Beans should be seeded at least 4 cm deep or crop injury may result.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Refer to the Pursuit Herbicide label for additional recommendations, precautions and restrictions not specified on this label.</p> <p><b>For Yellow Nutsedge</b>, extended periods of dry hot weather following application may result in reduced nutsedge control.</p>

**12.10 Eggplant (Transplants Only)**

<b>TIMING</b>	<b>Post-Emergent:</b> apply within 48 hours of transplanting, but before weed emergence
<b>WEEDS CONTROLLED</b>	Nightshade, Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.25 L
<b>NOTES</b>	<p>Use lower rate of DUAL II MAGNUM on coarse-textured soil and higher rates on fine-textured soil or for heavier weed infestations. In general, the risk of crop injury is greater on lighter textured soils and with higher application rates.</p> <p>Risk of crop injury increases with early transplanting and soil temperatures below 10°C.</p> <p>Applications made more than 48 hours after transplanting may increase the risk of foliar injury.</p> <p>One application per year only.</p> <p>Ground application only. Apply in a minimum of 150 L of water.</p> <p>Do not apply more than 1.25 L of DUAL II MAGNUM Herbicide on eggplant per year.</p> <p>Do not harvest eggplant within 60 days of application.</p>

**12.11 Field Peppers**

<b>TIMING</b>	<b>Post-Emergent:</b> apply within 48 hours of transplanting, but before weed emergence
<b>WEEDS CONTROLLED</b>	Nightshade, Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.25 L
<b>NOTES</b>	<p>Apply in a minimum of 150 L water/ha. Apply by ground application equipment only.</p> <p>Do not harvest within <b>80</b> days of treatment.</p> <p>Risk of crop injury increases with early transplanting and soil temperatures below 10°C.</p> <p>Applications made more than 48 hours after transplanting may increase the risk of foliar injury.</p> <p>Using the lower application rate for field peppers may result in reduced control in heavy weed populations.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p><b>NOTE:</b> DO NOT tank-mix DUAL II MAGNUM Herbicide with fluid fertilizers, oils, oil concentrates or surfactants when applying post-emergent.</p>

### 12.12 Highbush Blueberries (New and Established Plantings)

<b>TIMING</b>	<b>Pre-Emergent to Weeds</b>
<b>WEEDS CONTROLLED</b>	Nightshade (American and Eastern black), Crabgrass (smooth, hairy), Barnyard Grass, Fall Panicum, Foxtail (green, yellow, giant), Old Witchgrass
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L - 1.75 L
<b>NOTES</b>	<p>Make only one application per year.</p> <p>Apply in 150 - 300 L water/ha.</p> <p>DO NOT apply BY AIR, ground application only.</p> <p>DO NOT harvest within 30 days of treatment.</p> <p>Apply to the soil as a banded application, directed to the base of the highbush blueberry plants.</p> <p>Avoid contact with the highbush blueberry trunk and foliage.</p> <p>Crop injury and yield reduction may occur if any part of the highbush blueberry plants are contacted through spray or drift.</p>

### 12.13 Kidney Beans – Eastern Canada Only

<b>TIMING</b>	<b>Pre-Plant Incorporated or Pre-Emergent Soil Application</b>
<b>WEEDS CONTROLLED</b>	American Nightshade, Eastern Black Nightshade, Fall Panicum, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass, Yellow Nutsedge
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 0.312 L Pursuit Herbicide
<b>NOTES</b>	<p>Make only one application per year. Apply by ground application equipment only.</p> <p><b>CAUTION:</b> Beans should be seeded at least 4 cm deep or crop injury may result.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Consult the label of the product to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding soil-type variations and other restrictions.</p> <p><b>For American Nightshade and Eastern Black Nightshade</b>, pre-emergent treatments sometimes give better control than pre-plant incorporated treatments.</p> <p><b>For Yellow Nutsedge</b>, pre-plant incorporated treatment only. Extended periods of dry hot weather following application may result in reduced nutsedge control.</p>

**12.14 Mustard Greens – Transplanted Only (DO NOT apply to direct seeded crop)**

<b>TIMING</b>	<b>Pre-Emergent or Post-Emergent</b> (Weeds at 2-leaf stage or less)
<b>WEEDS CONTROLLED</b>	Annual Broadleaf and Grass Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.2 L – 1.5 L
<b>NOTES</b>	<p>Make only one ground application per year. Apply in a minimum of 150-300 L/ha water.</p> <p>PHI is 30 days.</p> <p><b>Yield losses may be observed when this product is applied to transplanted mustard greens.</b></p> <p>Reduced levels of weed control may be observed when weed densities are high.</p>

**12.15 Outdoor Ornamentals****OUTDOOR ORNAMENTALS (Woody and Herbaceous): Container-, Field- and Liner\*-Grown Plants and Plants in Landscape Plantings**

\*Plants transplanted normally in rows in a nursery or similar area for further growth before transplanting to final growing location (place of establishment).

The following plant species have been tested results indicated that they are tolerant to Dual II MAGNUM Herbicide when the product is applied according to the label.

**Tolerance Plant Species**

<b>Plant Category</b>	<b>Common name</b>	<b>Scientific name</b>
Broadleaf	Burning bush	<i>Euonymous</i> spp.
	Rhododendron	<i>Rhododendron</i> spp.
Herbaceous	Daylily	<i>Hemerocallis</i> spp.
	Hosta	<i>Hosta</i> spp.
Conifer	Juniper	<i>Juniperus</i> spp.
	Eastern white-cedar	<i>Thuja</i> spp.

DUAL II MAGNUM Herbicide may be applied to other non-listed plant species. However, non-listed plant species may vary in their tolerance to herbicides, including DUAL II MAGNUM Herbicide. First use of DUAL II MAGNUM Herbicide to any non-listed plant species should be limited to a small number of plants to confirm tolerance prior to adoption as a large scale practice.

<b>TIMING</b>	<b>Pre-emergence</b> (prior to weed emergence) <b>OR Early Post-emergent</b> (1-2 leaf weed stage)
<b>WEEDS CONTROLLED</b>	Nightshade and Annual Grasses
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L - 1.75 L
<b>NOTES</b>	<p>Make only one application per year. Apply in a minimum of 150 – 200 L water/ha. Apply by ground application equipment only.</p> <p>To avoid plant injury, do not apply to seedbeds, cutting beds, or uprooted cuttings before transplanting and to plants until the soil has firmly settled around roots.</p> <p>When applied broadcast over-the-top of plant foliage, follow with sufficient overhead irrigation to wash DUAL II MAGNUM Herbicide from the foliage to reduce the chance of injury. Do not apply to trees or plants that will bear harvestable fruit within 12 months, or illegal residues may result.</p> <p>Do not use this product in residential areas where bystanders including children, may be potentially exposed during or after spraying.</p>

## 12.16 Parsnips

<b>TIMING</b>	<b>Pre-Emergent</b> (after planting, prior to parsnip and weed emergence)
<b>WEEDS CONTROLLED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, and Barnyard Grass
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Mineral Soils: 1.2 L – 1.5 L
<b>WEEDS SUPPRESSED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, Barnyard Grass and Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Muck Soils (organic matter > 20%): 1.5 L – 1.75 L
<b>TIMING</b>	<b>Post-Emergent</b> (crop at 3 – 5-leaf stage and weeds prior to the 2-leaf stage)
<b>WEEDS CONTROLLED</b>	American Nightshade, Fall Panicum, Eastern Black Nightshade, Foxtail (green, yellow, giant), Crabgrass (smooth, hairy), Old Witchgrass, and Barnyard Grass
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	Mineral Soils: 1.2 L – 1.5 L
<b>NOTES</b>	<p><b>Make only one application per year. Do not follow a pre-emergent application with a post-emergent spray later in the season.</b></p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Apply in 150-300 L water/ha. Ground application only.</p> <p>Do not harvest within 60 days of application.</p> <p>Reduced levels of weed control may be observed when weed densities are high.</p> <p><b>On muck soils:</b> Apply prior to weed emergence. Irrigate immediately after application with 0.5 inches of water.</p> <p><b>CAUTION: Use in soils with high organic matter will result in reduced efficacy.</b> A representative bioassay of the field must be conducted with rotational crops to evaluate potential crop sensitivity.</p> <p><b>Application of DUAL II MAGNUM may result in injury to the crop which may include stand loss, delayed maturity, and even loss of yield.</b></p> <p><b>For American Nightshade and Easter Black Nightshade,</b> pre-emergent treatments sometimes give better control than post-emergent treatments.</p>



### 12.17 Peanuts (Ontario Only)

<b>TIMING</b>	<b>Pre-Plant Incorporated OR Pre-Emergent to Peanut Germination and Labelled Weeds</b>
<b>WEEDS CONTROLLED</b>	Nutsedge, Annual Grasses and Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L – 1.55 L
<b>NOTES</b>	<p>Make only one application per year.</p> <p>Apply in 150 L water/ha.</p> <p><b>DO NOT apply BY AIR.</b> Ground application only.</p> <p>Do not graze or feed peanut forage or fodder to livestock for 30 days following application. Do not harvest crop within 90 days of application.</p> <p>For use in Ontario only.</p> <p>Application of DUAL II MAGNUM may result in injury to the peanut crop which may include stand loss, delayed maturity and even loss of yield.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Pre-emergent treatments sometimes give better control than pre-plant incorporated treatments.</p> <p>To control nutsedge, DUAL II MAGNUM Herbicide must be applied as a pre-plant incorporated spray.</p>

### 12.18 Pearl Millet Grown for Animal Feed (Grain or Forage) (Eastern Canada Only)

<b>TIMING</b>	<b>Early Post-Emergent to Crop (1-2 leaf stage) OR Pre to Early Post-Emergent to Weeds (up to 1-leaf stage)</b>
<b>WEEDS SUPPRESSED</b>	Smooth Crabgrass, Green Foxtail, Barnyard Grass
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	0.625 L
<b>NOTES</b>	<p>Make only one application per year. Apply by ground application only. <b>DO NOT apply BY AIR.</b></p> <p>Apply in 200 L water/ha.</p> <p>Do not harvest pearl millet for forage within 45 days of application. Do not harvest pearl millet for grain within 130 days of application.</p> <p>For use in pearl millet for animal feed only. Treated grain millet is not intended for human consumption. <b>Application of DUAL II MAGNUM will result in injury to the pearl millet crop which may include stand loss, delayed maturity and even loss of yield. AVOID SPRAY OVERLAP.</b> Millet should be seeded at least 2.5 cm deep or crop injury may result. Use on soil that has a minimum of 2.5% organic matter.</p>

**12.19 Red Beets**

<b>TIMING</b>	<b>Pre-Emergent to Weeds and Crop</b>
<b>WEEDS CONTROLLED</b>	Nightshade (American and Eastern Black), Crabgrass (Smooth, Hairy), Barnyard Grass, Fall Panicum, Foxtail (Green, Yellow, Giant), Old Witchgrass
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L
<b>NOTES</b>	<p>Make only one application per year. Apply in 150 L water/ha minimum. Apply by ground application equipment only.</p> <p>Do not use more than 1 application per year.</p> <p><b>DO NOT apply BY AIR.</b></p> <p>Application of DUAL II MAGNUM Herbicide may result in injury to the red beet crop which may include stand loss, delayed maturity and even loss of yield.</p> <p>Irrigate after application to activate the herbicide if rainfall is not expected, but use only 0.5 inches of water to incorporate the herbicide. Excessive irrigation will increase the risk of crop injury. Mechanical incorporation of DUAL II MAGNUM Herbicide will increase the risk of crop injury.</p> <p>DO NOT use DUAL II MAGNUM Herbicide if the planting operation creates a furrow or trough over the seed-row into which rain or irrigation water will collect and thus concentrate the herbicide over the row.</p> <p>Do not enter or allow worker entry into the treated areas during the restricted entry interval (REI) of 12 hours.</p>

**12.20 Soybeans**

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS SUPPRESSED</b>	Tall Waterhemp
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.75 L
<b>NOTES</b>	Make only one application per year. Apply in a minimum of 150 L water/ha. Apply by ground application equipment only.

### 12.21 Soybeans, Immature Seed (Edamame)

<b>TIMING</b>	<b>Pre-Plant Incorporated</b> (application and incorporation within 14 days of planting)
<b>WEEDS CONTROLLED</b>	Nutsedge, Annual Grasses and Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.75 L
<b>NOTES</b>	<p>Make only one application per year (either pre-plant or pre-emergence).</p> <p>Apply in 150 L water/ha.</p> <p><b>DO NOT apply BY AIR.</b> Ground application only.</p> <p>Use lower rate of DUAL II MAGNUM on coarse-textured soil and higher rates on fine-textured and muck soils, or for heavier weed infestations. In general, the risk of crop injury is greater on lighter textured soils and with higher application rates.</p> <p><b>Pre-plant incorporated-</b> Follow incorporation instructions listed for soybeans in the main section of this label. Application and incorporation must occur within 14 days of planting. Use this application method if furrow irrigation is used or when a period of dry weather after application is expected. If crops are to be planted in beds, apply and incorporate after bed formation.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems and for higher organic matter soils. For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>DUAL II MAGNUM Herbicide will not control emerged weeds.</p>

<b>TIMING</b>	<b>Pre-Emergent</b> (before weed and crop emergence)
<b>WEEDS CONTROLLED</b>	Annual Grasses and Nightshade
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 L - 1.75 L
<b>NOTES</b>	<p>Make only one application per year (either pre-plant or pre-emergence).</p> <p>Apply in 150 L water/ha.</p> <p><b>DO NOT apply BY AIR.</b> Ground application only.</p> <p>Use lower rate of DUAL II MAGNUM on coarse-textured soil and higher rates on fine-textured and muck soils, or for heavier weed infestations. In general, the risk of crop injury is greater on lighter textured soils and with higher application rates.</p> <p><b>Pre-emergent-</b> Apply during planting (behind planter) or after planting but before weed and crop emergence.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems and for higher organic matter soils.</p> <p>For redroot pigweed suppression, apply a minimum of 1.25 L of DUAL II MAGNUM Herbicide per hectare.</p> <p>DUAL II MAGNUM Herbicide will not control emerged weeds.</p>

### 12.22 Strawberries

Strawberry cultivars may vary in their tolerance to herbicides, including DUAL II Magnum Herbicide. Since not all strawberry cultivars have been tested for tolerance to DUAL II Magnum Herbicide, first use of DUAL II Magnum Herbicide should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your supplier for information on the tolerance of specific cultivars of strawberry to DUAL II Magnum Herbicide.

**Do not apply to the cultivar Joliette.**

<b>TIMING</b>	<b>Bearing years:</b> After mulch removal but before weed emergence
<b>WEEDS CONTROLLED</b>	Annual Broadleaf and Grass Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L - 1.75 L
<b>NOTES</b>	<p>Make only one application per year. Apply as either a pre-plant incorporated or pre-emergent (post-transplanting) treatment.</p> <p>Some initial injury may occur but will be outgrown with no reduction in yield.</p> <p>Apply by ground application equipment only. Apply in 150 L/ha of water.</p> <p>Do not harvest berries within 30 days of application.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p>
<b>TIMING</b>	<b>Newly planted: Pre-Plant Incorporated or Pre-Emergent</b> (post transplanting)
<b>WEEDS CONTROLLED</b>	Annual Grasses and Nutsedge
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L - 1.75 L
<b>NOTES</b>	<p>Make only one application per year. Apply as either a pre-plant incorporated or pre-emergent (post-transplanting) treatment.</p> <p>Some initial injury may occur but will be outgrown with no reduction in yield.</p> <p>Apply by ground application equipment only. Apply in 150 L/ha of water.</p> <p>Do not harvest berries within 30 days of application.</p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p><b>For Yellow Nutsedge</b>, pre-plant incorporated treatment only. Extended periods of dry hot weather following application may result in reduced nutsedge control</p>

### 12.23 Sugar Beets

<b>TIMING</b>	<b>Post-Emergent:</b> apply within the period from cotyledon to 4 leaf stage of sugar beets, but before weed emergence
<b>WEEDS CONTROLLED</b>	Nightshade, Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	<p>Make only one application per year. Apply in 150 L – 300 L water/ha. Apply by ground application equipment only.</p> <p>Do not use more than 1 application per year.</p> <p>Do not harvest within <b>120</b> days of treatment.</p> <p><b>DO NOT USE SUGAR BEET TOPS FOR FEEDING TO LIVESTOCK.</b></p> <p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p><b>NOTE:</b> DO NOT tank-mix DUAL II MAGNUM Herbicide with fluid fertilizers, oils, oil concentrates or surfactants when applying post-emergent.</p>

**12.24 Sweet Corn**

<b>TIMING</b>	<b>Pre-Emergent</b>
<b>WEEDS CONTROLLED</b>	Annual Grasses and Broadleaf Weeds including triazine tolerant weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 2.1 L – 3.1 L AATREX Liquid 480 Herbicide + 790 mL – 1.56 L Lorox L Herbicide
<b>NOTES</b>	Make only one application per year. Apply as pre-emergent treatment. Apply in 150 L water/ha minimum. Do not harvest sweet corn within 45 days of treatment. Apply by ground equipment only.

**12.25 Sweet Potatoes**

<b>TIMING</b>	<b>Early Post-Emergent</b> (2 – 5 days after transplanting)
<b>WEEDS CONTROLLED</b>	Annual Broadleaf and Grass Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>NOTES</b>	Make only one application per year. Apply foliar by ground application only. Apply using a spray volume of 200 - 400 L water/ha.  PHI is 105 days.

**12.26 Transplanted Cabbage, Transplanted Cauliflower, Transplanted Broccoli**

<b>TIMING</b>	<b>Post-Transplant</b> - Apply within 2 days after transplanting and prior to weed emergence. Do not incorporate.
<b>WEEDS CONTROLLED</b>	Nightshade and Annual Grasses
<b>WEEDS SUPPRESSED</b>	Redroot Pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L - 1.75 L
<b>NOTES</b>	Make one application per year. Apply in 300 L water/ha. Apply by ground application equipment only.  Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems.

### 12.27 Transplanted Tomatoes Grown for Processing

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Annual Nightshades (American Nightshade, Eastern Black Nightshade), Nutsedge, Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.0 L - 1.25 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 330 g - 660 g Sencor 75DF Herbicide +1.0 L – 2.0 L Treflan™ EC Herbicide <b>OR</b> + 500 mL - 1 L Sencor 480F Flowable Herbicide + 1.0 L – 2.0 L Treflan EC Herbicide
<b>NOTES</b>	<p>Use the higher rate of DUAL II MAGNUM Herbicide for heavier weed problems and for control of nightshade.</p> <p>Consult the label of the product to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding weeds, rates, soil-type and organic matter variations and other restrictions.</p> <p>Use lower rates on light textured soils, higher rates on heavier soils.</p> <p>Make Only One Application Per Year. Do Not Apply Within 60 Days Of Harvest.</p> <p><b>CAUTION:</b> DO NOT APPLY ON DIRECT-SEEDED TOMATOES.</p> <p><b>NOTE:</b> DUAL II MAGNUM Herbicide MAY DAMAGE TRANSPLANTS THAT HAVE BEEN WEAKENED BY ANY CAUSE RESULTING IN REDUCED CROP YIELD. TO PREVENT DAMAGE, PLANT ONLY HEALTHY TRANSPLANTS; DO NOT PLANT WHEN WET, COOL OR UNFAVOURABLE GROWING CONDITIONS EXIST. FOLLOW ALL APPLICATION AND INCORPORATION DIRECTIONS EXACTLY.</p>

### 12.28 Transplanted Tomatoes – Field Tomatoes Grown for Fresh Market

<b>TIMING</b>	<b>Pre-Plant Incorporated</b>
<b>WEEDS CONTROLLED</b>	Annual Nightshades (American Nightshade, Eastern Black Nightshade), Nutsedge, and Annual Grasses
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>WEEDS CONTROLLED</b>	Annual Nightshades (American Nightshade, Eastern Black Nightshade), Nutsedge, Annual Grasses and Broadleaf Weeds
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.25 L – 1.75 L
<b>RATE/HA TANK MIX PARTNER</b>	+ 0.5 L – 1.4 L Sencor 480F Flowable Herbicide
<b>NOTES</b>	<p>Apply in 150 - 300 L water/ha. Make only one application per year. Do not harvest within 60 days after application.</p> <p>Use the higher rate of DUAL II Magnum herbicide for heavier weed problems.</p> <p>Consult the label of the product to be tank mixed with DUAL II MAGNUM Herbicide for specific instructions regarding weeds, rates, soil-type and organic matter variations and other restrictions.</p> <p><b>CAUTION: DO NOT APPLY DUAL II MAGNUM HERBICIDE ON DIRECT-SEEDED TOMATOES.</b></p> <p><b>NOTE: DUAL II MAGNUM Herbicide MAY DAMAGE TRANSPLANTS THAT HAVE BEEN WEAKENED BY ANY CAUSE RESULTING IN REDUCED CROP YIELD. TO PREVENT DAMAGE, PLANT ONLY HEALTHY TRANSPLANTS. DO NOT PLANT WHEN WET, COOL OR UNFAVOURABLE GROWING CONDITIONS EXIST. FOLLOW ALL APPLICATION AND INCORPORATION DIRECTIONS EXACTLY. Tomato varieties differ in tolerance to DUAL II MAGNUM Herbicide. Since not all tomato varieties have been tested for tolerance to DUAL II MAGNUM Herbicide, first use of DUAL II MAGNUM Herbicide should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your plant supplier for information on the tolerance of specific tomato varieties to DUAL II MAGNUM Herbicide.</b></p>



### 12.29 Transplanted Field Tomatoes – For Fresh Market or Processing

<b>TIMING</b>	Pre-plant Incorporated <i>followed by</i> <b>Post-transplant</b>
<b>WEEDS CONTROLLED</b>	Smooth crabgrass, green foxtail, barnyard grass
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	0.87 L [pre-plant incorporation] + 0.44 L – 0.87 L [post-transplant]
<b>NOTES</b>	<p>Apply in 150 – 300 L water/ha.</p> <p>Make the post-transplant application within 7 to 14 days after transplanting. The interval between pre-plant incorporation and post-transplant applications should be no longer than 14 days.</p> <p><b>Do not apply</b> DUAL II MAGNUM Herbicide within 7 days of transplanting.</p> <p>Use the higher rates of DUAL II MAGNUM Herbicide for heavier weed problems.</p> <p>Do not exceed 1.75 L of DUAL II MAGNUM on tomatoes per year.</p> <p>Do not harvest within 30 days after application.</p> <p>DO NOT APPLY DUAL II MAGNUM HERBICIDE ON DIRECT-SEEDED TOMATOES.</p> <p>Use the higher rate of DUAL II Magnum herbicide for heavier weed problems.</p> <p><b>NOTE:</b> DUAL II MAGNUM Herbicide MAY DAMAGE TRANSPLANTS THAT HAVE BEEN WEAKENED BY ANY CAUSE RESULTING IN REDUCED CROP YIELD. TO PREVENT DAMAGE, PLANT ONLY HEALTHY TRANSPLANTS. DO NOT PLANT WHEN WET, COOL OR UNFAVOURABLE GROWING CONDITIONS EXIST. FOLLOW ALL APPLICATION AND INCORPORATION DIRECTIONS EXACTLY. Tomato varieties differ in tolerance to DUAL II MAGNUM Herbicide. <b>Since not all tomato varieties have been tested for tolerance to DUAL II MAGNUM Herbicide, first use of DUAL II MAGNUM Herbicide should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your plant supplier for information on the tolerance of specific tomato varieties to DUAL II MAGNUM Herbicide.</b></p>

**12.30 Crop Subgroup 13-07A – Caneberries (new and established plantings)**

<b>TIMING</b>	Pre-emergent to labelled weeds
<b>WEEDS CONTROLLED</b>	Control of nightshade (American and Eastern black), crabgrass (smooth, hairy), barnyard grass, fall panicum, foxtail (green, yellow, giant), old witchgrass, suppression of redroot pigweed
<b>RATE/HA DUAL II MAGNUM HERBICIDE</b>	1.15 – 1.75 L/ha
<b>NOTES</b>	<p>Make only one application per year. Apply in a 150 L water/ha minimum. Apply by ground application equipment only. <b>DO NOT APPLY BY AIR</b> DO NOT harvest within 28 days of treatment.</p> <p>Apply to the soil in the early spring as a banded application to both sides of the plant row prior to weed emergence.</p> <p>The application should be directed to the soil surface to avoid direct contact with the crop foliage.</p> <p>Application of DUAL II MAGNUM Herbicide to crop foliage may result in crop injury and illegal residues.</p> <p>Not all caneberry types, cultivars or hybrids have been tested so injury from DUAL II MAGNUM Herbicide may occur on some crops. First use should be limited to treatment of a few plants to confirm tolerance prior to adoption as a general field practice. The risk of crop injury from DUAL II MAGNUM Herbicide is greater at the higher use rates.</p> <p>Caneberry plants that have been established for less than one year may be more sensitive to applications of DUAL II MAGNUM Herbicide than those plants established for more than one year. For this reason, the lower rates are suggested on newer plantings.</p> <p>Use the lower end of the DUAL II MAGNUM Herbicide rate range for soils that are relatively coarse textured and the higher rates on fine textured soils.</p>

**13.0 RESISTANCE MANAGEMENT**

For resistance management, DUAL II MAGNUM Herbicide is a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to DUAL II MAGNUM Herbicide and other Group 15 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 DUAL II MAGNUM Herbicide or other Group 15 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 Syngenta Canada Inc. company representatives at 1-877-SYNGENTA (1-877-964-3682) or at [www.syngenta.ca](http://www.syngenta.ca).

**13.1 Pre-Harvest Intervals (PHIs)**

<b>Crop</b>	<b>Pre-Harvest Interval (days)</b>
Corn, hybrid, silage, field, seed	80
Corn, sweet	45
Dry Common Beans	100
Asian Radish	40
Asparagus	16
Crop Subgroup 13-07A – Caneberries (new and established plantings)	28
Carrots	30
Celery	62
Cucurbit Vegetables (Crop Group 9, excluding cucumber)	30
Eggplant	60
Highbush Blueberries (new and established plantings)	30
Mustard Greens	30
Outdoor Ornamentals (Woody and Herbaceous): Container-, Field- and Liner-Grown Plants and Plants in Landscape Plantings, Burning bush, Rhododendron, Daylily, Hosta, Juniper, Eastern white-cedar	Do not apply to trees or plants that will bear harvestable fruit within 12 months
Parsnip	60
Peanut	90
Pearl Millet for Animal Feed (grain)	130
Pearl Millet for Animal Feed (forage)	45
Peppers (field)	80
Strawberries, bearing years	30
Sugarbeets (post-emergent timing only)	120
Sweet Lupins	80
Sweet Potatoes	105
Tomatoes (transplanted and grown for processing)	60
Tomatoes (transplanted and grown for fresh market)	60

Consult the label of products to be tank mixed or split applied with DUAL II MAGNUM Herbicide for specific crop recommendations.

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.

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