

## FRONTIER® MAX HERBICIDE

For weed control in field corn, sweet corn, seed corn (inbred lines grown in Southern Ontario only), soybeans, dry common beans, potatoes, horseradish, onions (dry bulb and green), dry bulb shallots, transplanted leeks, transplanted cabbage, Brussels sprouts, peanuts grown in Ontario, non-bearing and bearing grape vines and commercial ornamental production

### EMULSIFIABLE CONCENTRATE

### COMMERCIAL (AGRICULTURAL)

**ACTIVE INGREDIENT:** Dimethenamid-P ..... 720 g/L

Warning, contains the allergen soy

**REG. NO. 29194**

**PCP Act**

**IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY  
INVOLVING THIS PRODUCT, CALL DAY OR NIGHT  
1-800-454-2673**



**WARNING**

**POISON**

**EYE IRRITANT AND  
POTENTIAL SKIN SENSITIZER**

**READ THE LABEL AND BOOKLET BEFORE USING**

**KEEP OUT OF REACH OF CHILDREN**

**NET CONTENTS:** 3 L to 1000 L, Bulk

BASF Canada Inc.  
5025 Creekbank Road  
Building A, 2nd Floor  
Mississauga, ON L4W 0B6  
1-877-371-2273

FRONTIER is a registered trade-mark of BASF Corporation, used under license by BASF Canada Inc.

## PRECAUTIONS

### KEEP OUT OF REACH OF CHILDREN.

Harmful or fatal if swallowed. Causes eye irritation. DO NOT get in eyes. Potential skin sensitizer. May cause skin sensitization reactions in certain individuals. DO NOT get in eyes, on skin, or on clothing. Avoid breathing spray mist. Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing and loading. Gloves are not required during application within a closed cab.

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

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

DO NOT apply by air. Reduce spray drift to areas adjacent to the treated crop by using correct spray pressure, water volume and boom height recommended for nozzles used. DO NOT spray under conditions of high wind. Refer to grazing restrictions under each crop section on this label.

## FIRST AID

**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 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 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 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.

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

## TOXICOLOGICAL INFORMATION

Treat symptomatically. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia.

## **ENVIRONMENTAL PRECAUTIONS**

Toxic to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.

Toxic to small wild mammals.

This product contains aromatic petroleum distillates which are toxic to aquatic organisms.

To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.

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

## **STORAGE**

Store this product away from food or feed.

## **DISPOSAL**

### **Recyclable Containers**

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

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

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

### **Refillable Containers**

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

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

**NOTICE TO USER**

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

**FRONTIER® MAX HERBICIDE**

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## 1.0 GENERAL INFORMATION

FRONTIER MAX herbicide will control most annual grass weeds and certain broadleaf weeds in field corn, sweet corn, seed corn (inbred lines grown in Southern Ontario only), soybeans, dry common beans, potatoes, horseradish, green onions, dry bulb shallots, transplanted leeks, transplanted cabbage, Brussels sprouts, peanuts grown in Ontario, non-bearing and bearing grape vines and commercial ornamental production. FRONTIER MAX herbicide will also suppress yellow nutsedge (*Cyperus esculentus*) in dry bulb onions, green onions, dry bulb shallots and transplanted leeks grown on muck soils.

FRONTIER MAX herbicide will provide most effective weed control when applied and subsequently incorporated into soil by rainfall or mechanical tillage prior to weed seedling emergence from soil.

FRONTIER MAX herbicide can be mixed with other herbicides for additional weed control in field corn, soybeans and dry common beans. FRONTIER MAX herbicide tank mixes are also effective in minimum, reduced, or no-till systems in field corn and soybeans.

## 2.0 PRECAUTIONS

### KEEP OUT OF REACH OF CHILDREN.

Harmful or fatal if swallowed. Causes eye irritation. DO NOT get in eyes. Potential skin sensitizer. May cause skin sensitization reactions in certain individuals. DO NOT get in eyes, on skin, or on clothing. Avoid breathing spray mist. Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing and loading. Gloves are not required during application within a closed cab.

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

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

DO NOT apply by air. Reduce spray drift to areas adjacent to the treated crop by using correct spray pressure, water volume and boom height recommended for nozzles used. DO NOT spray under conditions of high wind. Refer to grazing restrictions under each crop section on this label.

## 2.1 FIRST AID

**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 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 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 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.

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

## **2.2 TOXICOLOGICAL INFORMATION**

Treat symptomatically. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia.

## **2.3 ENVIRONMENTAL PRECAUTIONS**

Toxic to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE.

Toxic to small wild mammals.

This product contains aromatic petroleum distillates which are toxic to aquatic organisms.

To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body.

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

## **2.4 STORAGE**

Store this product away from food or feed.

## 2.5 DISPOSAL

### Recyclable Containers

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### Refillable Containers

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

For information on the 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.

## 2.6 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.

## DIRECTIONS FOR USE

### 3.0 GENERAL APPLICATION INFORMATION

FRONTIER MAX herbicide will control most annual grass weeds and certain broadleaf weeds in field corn, sweet corn, seed corn (inbred lines grown in Southern Ontario only), soybeans, dry common beans, potatoes, horseradish, green onions, dry bulb shallots, transplanted leeks, transplanted cabbage, Brussels sprouts, peanuts grown in Ontario, non-bearing and bearing grape vines and commercial ornamental production. FRONTIER MAX herbicide will also suppress yellow nutsedge (*Cyperus esculentus*) in dry bulb onions, dry bulb shallots, green onions and transplanted leeks grown on muck soils.

As this pesticide is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.

DO NOT contaminate irrigation/drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

**DO NOT** apply by air.



### Field sprayer application

**DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.

### TANK MIXING

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

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact BASF Canada Inc. at 1-877-371-2273 for information before mixing any pesticide that is not specifically recommended on this label.

### Tank Mix Compatibility Determination

To determine compatibility, mix all components of the finished spray in proportionate quantities in a small jar. Add components to the test jar in the following order: wettable powders and water dispersible granules, liquid flowables and suspensions, emulsifiable concentrate formulations, and solutions. If the mixture does not ball-up or form flakes, sludge, jelly, oily films or layers, or other precipitates within 2 hours after mixing and can easily be resuspended with agitation, then the tested spray-mix is compatible. Always follow the most restrictive label regarding any precautions when tank mixing. Consult a BASF representative for more information concerning additives.

### 3.1 SPRAY BUFFER ZONES

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

Method of application	Crop	Spray Buffer Zones (metres) Required for the Protection of:				
		Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		Terrestrial Habitat
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Corn, soybean, beans, onion, dry bulb shallots, potatoes, horseradish, leeks, cabbage, Brussels sprouts, peanuts, grapes and ornamentals	1	1	1	0	3

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

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

### 3.2 MIXING AND SPRAYING INSTRUCTIONS

- Spray pressure -- 200 - 300 kPa
- Spray volume -- minimum of 170 L/ha for Eastern Canada and minimum of 100 L/ha for Prairie Provinces. A minimum of 100 L/ha in sufficient water to ensure thorough coverage for application to potatoes.
- Keep bypass line on or near bottom of tank to minimize foaming.
- Use 16 mesh suction screen, 50 mesh elsewhere on sprayer.
- Select proper nozzle and pressure to avoid spraying fine mist. For best results, use flat fan or flood jet nozzle.

#### **Mix FRONTIER MAX herbicide or labeled tank mixes as follows:**

1. Clean spray tank following sprayer clean-up recommendations on the previous product label.
2. Place a 20 to 35 mesh screen or wetting basket over filling port.
3. Through the screen fill sprayer tank one-half full with water. Start gentle agitation.
4. If wettable powder or water dispersible granule tank mix partner is used, make a slurry, and add it slowly through the screen into the tank. Continue agitation.
5. If liquid flowable tank mix partner is used, pre-mix one part liquid flowable with one part water. Add diluted mixture slowly through the screen into the tank.
6. Fill tank 9/10 full with water and add FRONTIER MAX herbicide and other emulsifiable concentrate or solution tank mix partners.
7. Top off tank mix with water, maintain agitation and spray. If spray mixture is allowed to settle at any time, thorough gentle agitation is required to re-suspend the mixture before spraying is resumed.
8. Do not let stand without agitation.
9. Thoroughly clean the spray tank immediately after use. Refer to specific tank mix partner label for clean-up instructions.

### 3.3 WEEDS CONTROLLED

For Eastern Canada, FRONTIER MAX herbicide alone applied as directed will control the following weeds:

Foxtail (green, yellow, giant)  
Crabgrass (smooth, large)  
Old witchgrass  
Barnyard grass

Fall panicum  
Redroot pigweed\*  
Eastern black nightshade\*\*  
Nutsedge, yellow\*\*\*

\* pre-plant incorporated (860 – 963 mL/ha) or pre-emergence (963 mL/ha) only.

\*\* pre-plant incorporated or pre-emergence only (963 mL/ha).

\*\*\* pre-plant incorporated only (963 mL/ha. Lower rates provide suppression only.)

For soybeans grown in Eastern Canada, FRONTIER MAX herbicide can be applied as a single pre-emergence application at a rate of 963 mL/ha for suppression of tall waterhemp.

For Prairie Provinces, FRONTIER MAX herbicide alone applied as directed will control green foxtail.

For application to potatoes and horseradish, FRONTIER MAX herbicide alone applied as directed will control the following weeds:

Foxtail (green, yellow, giant)

Crabgrass (smooth, large)

Old witchgrass

Barnyard grass

Fall panicum

Redroot pigweed\*

Eastern black nightshade\*

Nutsedge, yellow\*\*

\* High rate of 963 mL/ha. Lower rates provide suppression only

\*\* Suppression only

#### **4.0 FACTORS AFFECTING FRONTIER MAX HERBICIDE PERFORMANCE**

If drought conditions persist after a pre-plant incorporated or pre-emergent application, annual grass control may not be adequate.

Rainfall is required within 7 to 10 days of treatment to activate and move FRONTIER MAX herbicide into the soil zone. If dry conditions persist a shallow cultivation or the use of a rotary hoe is necessary to move the chemical into moist soil and control weed escapes. If cultivation is necessary because of soil crusting or compaction, tillage should be shallow to minimize dilution of the herbicide.

In cold and wet growing conditions, FRONTIER MAX herbicide application may result in delayed emergence or early season stunting of potatoes.

#### **5.0 CORN (Eastern Canada Only)**

##### **Notes**

- DO NOT apply to popcorn or field corn grown for seed (except inbred lines grown in southern Ontario).
- Refer to section 4.0 Factors Affecting FRONTIER MAX Herbicide Performance.
- Consult the label of the product to be tank mixed with FRONTIER MAX herbicide for specific instructions regarding application rate for specific soil type, precautions and other restrictions.
- DO NOT graze or feed the treated immature corn to livestock prior to 40 days after application of FRONTIER MAX herbicide.

## 5.1 CONSERVATION TILLAGE SYSTEMS

The application of FRONTIER MAX herbicide tank mixes is recommended for use in minimum, reduced or no-till systems for control of annual grasses, broadleaf weeds and perennial weeds. These tank mixes can be applied pre-plant, or after seeding but before crop emergence (pre-emergence). No incorporation of these tank mixes is recommended.

Apply FRONTIER MAX herbicide at 756 to 963 mL/ha in tank mix with the appropriate tank mix partner. Use the higher label rate of FRONTIER MAX herbicide on fine-textured or high-organic soils for heavier weed problems.

### Timing: Pre-Plant

Weeds controlled	Tank mix partner	Rate per hectare
Annual grasses and Annual broadleaf weeds	Aatrex Liquid 480 Herbicide <sup>1</sup>	2.1 – 3.1 L
Annual grasses, emerged annual and perennial weeds	Roundup Transorb Liquid Herbicide <sup>2</sup>	2.5 L
Annual grasses, broadleaf weeds, emerged annual or perennial weeds	Roundup Transorb Liquid Herbicide <sup>2</sup> + BANVEL II Herbicide <b>OR</b> Roundup Transorb Liquid Herbicide <sup>2</sup> + MARKSMAN Herbicide <b>OR</b> Roundup Transorb Liquid Herbicide <sup>2</sup> + Aatrex Liquid 480 Herbicide <sup>1</sup>	2.5 L + 1.25 L 2.5 L + 4.5 L 2.5 L + 2.1 – 3.1 L

<sup>1</sup> Other atrazine formulations may require rate calculation adjustment according to percentage active ingredient.

<sup>2</sup> The following glyphosate formulations may be substituted for Roundup Transorb Liquid Herbicide: Roundup WeatherMax with Transorb 2 Technology Liquid Herbicide and Roundup Ultra 2 Liquid Herbicide. Adjust product application rate based on active ingredient concentration.

### Timing: Pre-emergence

Weeds controlled	Tank mix partner	Rate per hectare
Annual grasses and broadleaf weeds	BANVEL II Herbicide <b>OR</b> MARKSMAN Herbicide <b>OR</b> Aatrex Liquid 480 Herbicide <sup>1</sup>	1.25 L 4.5 L 2.1 – 3.1 L
Annual grasses, emerged annual or perennial weeds	Roundup Transorb Liquid Herbicide <sup>2</sup>	2.5 L
Annual grasses, broadleaf weeds, emerged annual or perennial weeds	Roundup Transorb Liquid Herbicide <sup>2</sup> + BANVEL II Herbicide <b>OR</b> Roundup Transorb Liquid Herbicide <sup>2</sup> + MARKSMAN Herbicide <b>OR</b> Roundup Transorb Liquid Herbicide <sup>2</sup> + Aatrex Liquid 480 Herbicide <sup>1</sup>	2.5 L + 1.25 L 2.5 L + 4.5 L 2.5 L + 2.1 – 3.1 L

<sup>1</sup> Other atrazine formulations may require rate calculation adjustment according to percentage active ingredient.

<sup>2</sup> The following glyphosate formulations may be substituted for Roundup Transorb Liquid Herbicide: Roundup WeatherMax with Transorb 2 Technology Liquid Herbicide and Roundup Ultra 2 Liquid Herbicide. Adjust product application rate based on active ingredient concentration.

## Notes

1. When a tank mixture containing glyphosate is used, the glyphosate susceptible weeds must be emerged at time of application.
2. The tank mix FRONTIER MAX herbicide + Roundup Transorb Liquid Herbicide<sup>2</sup>, applied pre-plant or pre-emergence, can be followed by a sequential early post-emergence application of BANVEL II herbicide at 1.25 L/ha to improve broadleaf weed control.
3. Use the higher label rate of FRONTIER MAX herbicide on fine-textured or high-organic soils and for heavier weed problems.
4. Consult labels of all tank mix components. Follow the most restrictive precautions, directions and recropping/rotating limitations that appear on all product labels.

## 5.2 FIELD CORN

FRONTIER MAX herbicide can be used alone or in tank mixes listed for general weed control in field corn when applied in pre-plant incorporated, pre-emergence or early post-emergence treatments.

### 5.2.1 PRE-PLANT INCORPORATED TREATMENT

Apply FRONTIER MAX herbicide at the higher label rate on fine textured or high organic soils and for heavier weed problems.

#### **RATE PER HECTARE** **860 to 963 mL**

Apply FRONTIER MAX herbicide as a broadcast treatment and incorporate using a harrow, rolling cultivator or other implement capable of giving uniform shallow incorporation into the top 5 cm of soil within 7 days of planting. Avoid deeper incorporation or reduced weed control and/or crop injury may result. Immediate incorporation after application is not necessary.

FRONTIER MAX herbicide can be used with the following tank mix partner.

<b>Tank mix partner</b>	<b>Rate per hectare</b>
Aatrex Liquid 480 Herbicide <sup>1</sup>	2.1 – 3.1 L

<sup>1</sup> Other atrazine formulations may require rate calculation adjustment according to percentage active ingredient.

### 5.2.2 PRE-EMERGENCE TREATMENT

Apply FRONTIER MAX herbicide at the higher rates illustrated in the Table below on fine textured or high organic soils and for heavier weed problems.

Soil Type	Rate per hectare in millilitres (mL) Organic Matter		
	Less than 3 %	3 to 6 %	7 to 10 %
Coarse Textured Soils	756	756	860
Medium Textured Soils	756	860	963
Fine Textured Soils	756	860	963

## TANK MIXES

Tank mix partner	Rate per hectare
Aatrex Liquid 480 Herbicide <sup>1</sup>	2.1 – 3.1 L
BANVEL II herbicide	1.25 L
MARKSMAN herbicide	4.5 L

<sup>1</sup> Other atrazine formulations may require rate calculation adjustment according to percentage active ingredient.

### 5.2.3 EARLY POST-EMERGENCE TREATMENT

Except when tank mixing with ARMEZON Herbicide and atrazine or ARMEZON Herbicide with atrazine and glyphosate, do not apply beyond the 2-leaf stage of weeds. Apply from corn emergence up to and including the 3-leaf stage of corn.

Do not apply within 100 days of harvest.

#### Notes

- Some leaf burn may occur, but yield will not be affected.
- Unless otherwise specified, DO NOT mix FRONTIER MAX herbicide with fluid fertilizers, oils, oil concentrates or surfactants when applying post-emergent as severe crop injury may occur.

Apply FRONTIER MAX herbicide at higher rates on fine textured or high organic soils as illustrated in the Table below and for heavier weed problems.

Soil Type	Rate per hectare in millilitres (mL) Organic Matter		
	Less than 3 %	3 to 6 %	7 to 10 %
Coarse Textured Soils	756	860	860
Medium Textured Soils	756	860	963
Fine Textured Soils	756	860	963

## TANK MIXES

Tank mix partner	Rate per hectare	Corn stage
Aatrex Liquid 480 Herbicide <sup>1</sup>	3.1 L	emergence to 3-leaf
BANVEL II herbicide	1.25 L	emergence to 3-leaf
MARKSMAN herbicide	3.7 – 4.5 L	emergence to 3-leaf

<sup>1</sup> Other atrazine formulations may require rate calculation adjustment according to percentage active ingredient.

### Tank mix with ARMEZON Herbicide plus Atrazine

Apply when the corn is at the 1 to 3 leaf stage, broadleaf weeds are at the 1 to 8 leaf stage and grass weeds are at the 1 to 4 leaf stage. MERGE® Adjuvant or ASSIST® Oil Concentrate plus liquid fertilizer (UAN 28%) must be added to this tank mix.

Refer to the ARMEZON Herbicide and atrazine labels for precautions, restrictions and limitations. Always use in accordance with the more restrictive label restrictions and precautions.

Herbicide	Rate per hectare	Weeds controlled	Weeds suppressed
ARMEZON + atrazine + FRONTIER MAX herbicide + MERGE <sup>1</sup> <b>OR</b> ASSIST <sup>2</sup> + UAN <sup>3</sup>	37 mL + 500 g a.i. + 756 mL - 963 mL <sup>4</sup>	Common lamb's-quarters Lady's thumb Common ragweed Eastern black nightshade Wild mustard Redroot pigweed Green pigweed Green foxtail Yellow foxtail Large crabgrass Barnyard grass Fall panicum <sup>5</sup> Old witchgrass	Velvetleaf Common chickweed

<sup>1</sup> Use MERGE Adjuvant at 0.25% v/v, i.e. 2.5 litres per 1000 L spray solution.

<sup>2</sup> Use at 1.25% v/v, i.e. 12.5 litres per 1000 L spray solution.

<sup>3</sup> Use at 1.25% v/v, i.e. 12.5 litres per 1000 L spray solution.

<sup>4</sup> Apply FRONTIER MAX herbicide at the higher label rates on fine textured or high organic soils and for heavier weed problems.

<sup>5</sup> Apply before fall panicum exceeds the 2-leaf growth stage. If applied later, this weed will only be suppressed.

### Tank mix with ARMEZON Herbicide plus Atrazine plus glyphosate

Apply when the corn is at the 1 to 3 leaf stage, broadleaf weeds are at the 1 to 8 leaf stage and grass weeds are at the 1 to 4 leaf stage. Refer to glyphosate label for additional flexibility in weed stages at the time of application.

## WARNING

Apply glyphosate on glyphosate tolerant field corn varieties only, i.e. varieties with the Roundup Ready gene. **CORN VARIETIES WHICH ARE NOT DESIGNATED AS GLYPHOSATE TOLERANT WILL BE DAMAGED OR DESTROYED BY THIS TREATMENT.**

Refer to the ARMEZON Herbicide, atrazine and glyphosate labels for precautions, restrictions and limitations. Always use in accordance with the more restrictive label restrictions and precautions.

Herbicide <sup>1</sup>	Rate per hectare	Weeds controlled	Weeds suppressed
ARMEZON + atrazine + FRONTIER MAX herbicide + glyphosate <sup>2</sup>	37 mL + 500 g a.i. + 756 mL - 963 mL <sup>3</sup> + 900 g a.e.	Common lamb's-quarters Lady's thumb Common ragweed Eastern black nightshade Wild mustard Redroot pigweed Green pigweed Green foxtail Yellow foxtail Large crabgrass Barnyard grass Fall panicum <sup>4</sup> Old witchgrass	Velvetleaf Common chickweed
Refer to the glyphosate label for additional weed species controlled or suppressed.			

<sup>1</sup> Spray additives are not required.

<sup>2</sup> Only use glyphosate products registered for post-emergence application on glyphosate-tolerant corn, where glyphosate is present as isopropylamine salt or potassium salt. A rate of 900 g ae/ha is equivalent to 1.67 L/ha of Roundup WeatherMax or 2.5 L/ha of Roundup Transorb.

<sup>3</sup> Apply FRONTIER MAX herbicide at the higher label rates on fine textured or high organic soils and for heavier weed problems.

<sup>4</sup> Apply before fall panicum exceeds the 2-leaf growth stage. If applied later, this weed will only be suppressed.

## 5.3 SWEET CORN - Eastern Canada only

FRONTIER MAX herbicide can only be used alone in pre-plant incorporated or pre-emergence treatments.

### 5.3.1 PRE-PLANT INCORPORATED TREATMENT

Apply FRONTIER MAX herbicide at the higher label rate on fine textured or high organic soils and for heavier weed problems.



**RATE PER HECTARE  
860 to 963 mL**

Apply FRONTIER MAX herbicide as a broadcast treatment and incorporate using a harrow, rolling cultivator or other implement capable of giving uniform shallow incorporation into the top 5 cm of soil within 7 days of planting. Avoid deeper incorporation or reduced weed control and/or crop injury may result. Immediate incorporation after application is not necessary.

### **5.3.2 PRE-EMERGENCE TREATMENT**

Apply FRONTIER MAX herbicide at the higher rates illustrated in the Table below on fine textured or high organic soils and for heavier weed problems.

Soil Type	Rate per hectare in millilitres (mL) Organic Matter		
	Less than 3 %	3 to 6 %	7 to 10 %
Coarse Textured Soils	756	756	860
Medium Textured Soils	756	860	963
Fine Textured Soils	756	860	963

### **5.4 SEED CORN – Inbred Lines Grown in Southern Ontario only**

FRONTIER MAX herbicide can only be applied once a year by ground and pre-emergent at the rate of 756 mL/ha on soils of lower organic matter and at the rate of 860 mL/ha on medium and fine texture soils.

Consult the seed company for information on the tolerance of seed corn inbred lines prior to the use of FRONTIER MAX herbicide.

## **6.0 CORN - Prairie Provinces of Western Canada only**

### **Notes**

- DO NOT apply to sweet corn, popcorn or field corn grown for seed.
- Refer to section 4.0 Factors Affecting FRONTIER MAX Herbicide Performance.
- Consult the label of the product to be tank mixed with FRONTIER MAX herbicide for specific instructions regarding application rate for specific soil type, precautions and other restrictions.
- DO NOT graze or feed the treated immature corn to livestock prior to 40 days after application of FRONTIER MAX herbicide.

### **6.1 FIELD CORN**

FRONTIER MAX herbicide can be used alone when applied in the spring in pre-plant incorporated treatments.

### **6.1.1 PRE-PLANT INCORPORATED TREATMENT**

Apply FRONTIER MAX herbicide at the higher label rate on fine textured or high organic soils and for heavier weed problems.

#### **RATE PER HECTARE**

**860 to 963 mL**

Apply FRONTIER MAX herbicide as a broadcast treatment and incorporate using a harrow, rolling cultivator or other implement capable of giving uniform shallow incorporation into the top 5 cm of soil within 7 days of planting. Avoid deeper incorporation or reduced weed control and/or crop injury may result. Immediate incorporation after application is not necessary.

### **7.0 LIQUID FERTILIZER - CORN**

FRONTIER MAX herbicide may be applied in a nitrogen solution or complete liquid fertilizer carrier as a replacement for water for pre-plant incorporated or pre-emergence application. DO NOT use fertilizer carriers for post emergence application. Follow the tank mix partner product label for instructions regarding application in liquid fertilizers. Compatibility of FRONTIER MAX herbicide with the liquid fertilizer should be determined by mixing a small quantity of herbicide with a proportional quantity of liquid fertilizer in a jar test prior to loading the spray tank.

### **8.0 DRY BULK FERTILIZER - CORN**

For pre-plant incorporated application, dry bulk fertilizers may be impregnated with FRONTIER MAX herbicide or FRONTIER MAX herbicide plus atrazine. The herbicide should be sprayed directly onto the fertilizer using a common dry bulk fertilizer blend. A highly absorptive powder such as a diatomaceous earth or finely powdered clay may be applied if the herbicide/fertilizer mixture is excessively wet. A minimum of 225 kg per hectare of dry bulk fertilizer should be applied.

The herbicide/fertilizer mixture should be incorporated immediately after application. DO NOT impregnate FRONTIER MAX herbicide on nitrate fertilizers, superphosphates or limestone.

### **9.0 SOYBEANS - Eastern Canada only**

#### **Notes**

- Soybeans should be seeded at least 4 cm deep or crop injury may result.
- DO NOT apply FRONTIER MAX herbicide if soybeans have emerged.
- Refer to section 4.0 Factors Affecting FRONTIER MAX Herbicide Performance.
- Consult the label of the product to be tank mixed with FRONTIER MAX herbicide for specific instructions regarding soil type and other restrictions.
- DO NOT graze the treated crop or feed soybean forage, hay or straw to livestock; sufficient data are not available to support such use.

## **9.1 CONSERVATION TILLAGE SYSTEMS**

The application of FRONTIER MAX herbicide + Roundup Transorb Liquid Herbicide<sup>1</sup> tank mix is recommended for use in minimum, reduced or no-till systems for control of annual grasses, broadleaf weeds and perennial weeds. This tank mix can be applied pre-plant or after seeding but before crop emergence. The Roundup Transorb Liquid Herbicide<sup>1</sup> susceptible weeds must be emerged at time of application. No incorporation of this tank mix is recommended.

Apply FRONTIER MAX herbicide at 756 to 963 mL/ha with 2.5 L/ha Roundup Transorb Liquid Herbicide<sup>1</sup>. Use the higher label rate of FRONTIER MAX herbicide on fine-textured or high-organic soils and for heavier weed problems.

For broad spectrum weed control in minimum or no-till soybeans, apply a preplant application of a tank mix of Sencor 480 F Herbicide at a rate of 1.1 – 1.75 L/ha on medium textured soils or 1.75 – 2.25 L/ha on fine textured soils plus 2.5 L/ha Roundup Transorb Liquid Herbicide<sup>1</sup> plus 756 to 963 mL/ha of FRONTIER MAX herbicide. Use the higher label rate of FRONTIER MAX herbicide on fine-textured or high-organic soils and for heavier weed problems. Sencor 75 DF can be substituted for Sencor 480 F herbicide at a rate of 750 – 1100 g/ha on medium textured soils or 1100 – 1500 g/ha on fine textured soils. Do not apply this tank mix on coarse textured soils.

<sup>1</sup> The following glyphosate formulations may be substituted for Roundup Transorb Liquid Herbicide: Roundup WeatherMax with Transorb 2 Technology Liquid Herbicide and Roundup Ultra 2 Liquid Herbicide. Adjust product application rate based on active ingredient concentration.

## **9.2 GENERAL WEED CONTROL**

FRONTIER MAX herbicide can be used alone or in tank mixes listed for general weed control in soybeans when applied in pre-plant incorporated and pre-emergence treatments.

### **9.2.1 PRE-PLANT INCORPORATED TREATMENT**

Apply FRONTIER MAX herbicide at the higher label rate on fine textured or high organic soils and for heavier weed problems.

#### **RATE PER HECTARE 860 to 963 mL**

Apply FRONTIER MAX herbicide as a broadcast treatment and incorporate using a harrow, rolling cultivator or other implement capable of giving uniform shallow incorporation into the top 5 cm of soil within 7 days of planting. Avoid deeper incorporation or reduced weed control and/or crop injury may result. Immediate incorporation after application is not necessary.

## TANK MIXES

Tank mix partner	Rate per hectare
Sencor 480 F	850 mL – 1.1 L
Sencor 75 DF	550 - 750 g

The 756 - 860 mL/ha rate of FRONTIER MAX herbicide can be tank mixed with 312 mL/ha of PURSUIT herbicide on medium and coarse textured soils only.

### 9.2.2 PRE-EMERGENCE TREATMENT

Apply FRONTIER MAX herbicide at the higher label rate on fine textured or high organic soils as illustrated in the Table below and on fields with heavier weed problems.

Soil Type	Rate per hectare in millilitres (mL) Organic Matter		
	Less than 3 %	3 to 6 %	7 to 10 %
Coarse Textured Soils	756	756	860
Medium Textured Soils	756	860	963
Fine Textured Soils	756	860	963

## TANK MIXES

Tank mix partner	Rate per hectare
PURSUIT herbicide	312 - 420 mL
Sencor 480 F	850 mL – 1.1 L
Sencor 75 DF	550 - 750 g

## 10.0 DRY COMMON BEANS

Apply FRONTIER MAX herbicide alone or in tank mix with PURSUIT herbicide (in Eastern Canada only) as a pre-plant incorporated treatment in dry common beans (*Phaseolus vulgaris* only).

Dry common bean varieties may vary in their tolerance to herbicides, including FRONTIER MAX herbicide and the tankmix of PURSUIT herbicide plus FRONTIER MAX herbicide. Since not all dry common bean varieties have been tested for tolerance to FRONTIER MAX herbicide or the tankmix of PURSUIT herbicide plus FRONTIER MAX herbicide, first use of FRONTIER MAX herbicide or the tankmix 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 FRONTIER MAX herbicide or to the tankmix of PURSUIT herbicide plus FRONTIER MAX herbicide.

## Notes

- Early crop injury may be observed, but yield should not be reduced.
- Beans should be seeded at least 4 cm deep or crop injury may occur.
- DO NOT apply FRONTIER MAX herbicide pre-emergence to dry common beans as crop injury may occur.
- Do not apply FRONTIER MAX herbicide if beans have emerged.
- Refer to section 4.0 Factors Affecting FRONTIER MAX Herbicide Performance.
- Consult the label of the product to be tank mixed with FRONTIER MAX herbicide for further precautions, restrictions and limitations.
- Do not graze the treated crop or feed bean forage, hay or straw to livestock; sufficient data are not available to support such use.

### 10.1 PRE-PLANT INCORPORATED

Apply FRONTIER MAX herbicide at the higher label rate on fine textured or high organic soils and for heavier weed problems.

#### **RATE PER HECTARE** **860 to 963 mL**

Apply FRONTIER MAX herbicide as a broadcast treatment and incorporate using a harrow, rolling cultivator or other implement capable of giving uniform shallow incorporation into the top 5 cm of soil within 7 days of planting. Avoid deeper incorporation or reduced weed control and/or crop injury may result. Immediate incorporation after application is not necessary.

#### **For use in Eastern Canada only**

FRONTIER MAX herbicide can be used with the following tank mix partner.

<b>Tank mix partner</b>	<b>Rate per hectare</b>
PURSUIT herbicide	312 mL

### 11.0 TRANSPLANTED CABBAGE

FRONTIER MAX herbicide can be applied as a single pre-transplant treatment at the rate of 756 - 963 mL/ha to control annual grass weeds and certain broadleaf weeds in transplanted cabbage. Apply FRONTIER MAX herbicide as a soil application prior to transplanting of cabbage and before weed emergence.

Do not apply within 60 days of harvest.

## 12.0 BRUSSELS SPROUTS

FRONTIER MAX herbicide can be applied as a single treatment prior to transplanting or within 7 days of transplanting at the rate of 756 - 963 mL/ha in transplanted Brussels sprouts. Apply FRONTIER MAX herbicide before weed emergence.

**Pre-harvest Interval:** **DO NOT** harvest Brussels sprouts within 60 days of application.

For spray volume, use a minimum of 170 L/ha for Eastern Canada and British Columbia and minimum of 100 L/ha for Prairie Provinces. Refer to section **3.2 MIXING AND SPRAYING INSTRUCTIONS** for further instructions.

FRONTIER MAX herbicide applied as directed will control the following weeds for Eastern Canada and British Columbia:

Foxtail (green, yellow, giant)  
Fall panicum  
Crabgrass (smooth, large)  
Redroot pigweed\*  
Old witchgrass  
Eastern black nightshade\*  
Barnyard grass

\*At 963 mL/ha rate only

FRONTIER MAX herbicide applied as directed will control the following weeds for Prairie Provinces:

Foxtail (green)

## 13.0 PEANUTS GROWN IN ONTARIO

Apply FRONTIER MAX herbicide alone as a single pre-plant incorporated treatment at the rate of 860 mL/ha or as a single pre-emergence treatment at the rate of 756 to 860 mL/ha to control labelled annual grass weeds and certain broadleaf weeds in peanuts grown in Ontario.

Do not apply within 80 days of harvest.

### Notes

- Peanuts should be seeded at least 4 cm deep or crop injury may occur.
- **DO NOT** apply FRONTIER MAX herbicide if peanuts have emerged.
- Refer to Section 4.0 Factors Affecting FRONTIER MAX Herbicide Performance.

## 14.0 NON-BEARING AND BEARING GRAPE VINES

FRONTIER MAX herbicide can be applied as a single pre-emergent (before weeds emerge) application directed to the base of vines at a rate of 963 mL/ha. **DO NOT** apply during bud swell, bud break or at time of first flush of new growth.

Do not apply within 30 days of harvest.

For spray volume, use a minimum of 170 L/ha for Eastern Canada and British Columbia and minimum of 100 L/ha for Prairie Provinces. Refer to section **3.2 MIXING AND SPRAYING INSTRUCTIONS** for further instructions.

FRONTIER MAX herbicide applied as directed will control the following weeds:

Foxtail (green, yellow, giant)  
Fall panicum  
Crabgrass (smooth, large)  
Redroot pigweed  
Old witchgrass  
Eastern black nightshade  
Barnyard grass

## **15.0 DRY BULB ONIONS**

FRONTIER MAX herbicide will suppress yellow nutsedge (*Cyperus esculentus*) when applied to dry bulb onions grown on muck soils only. Apply as a single application at the rate of 1.29 L product/ha (930 g a.i./ha) to dry bulb onions at the loop stage and before yellow nutsedge emerges.

Pre-harvest interval (PHI) of 60 days.

**DO NOT** apply more than one application of 1.29 L FRONTIER MAX herbicide/ha per season.

**DO NOT** apply during periods of dead calm or when winds are gusty.

## **16.0 GREEN ONIONS AND TRANSPLANTED LEEKS**

Apply FRONTIER MAX herbicide alone as a single application to green onions at the loop stage and before weed emergence. FRONTIER MAX herbicide will not control emerged weeds. Application made prior to the loop stage of green onion may result in significant crop injury, including possible stand reduction. Avoid application under cool conditions as stunting may result.

For transplanted leeks, apply a few days after transplanting when plants are established and soil has settled around plants.

Pre-harvest interval (PHI) of 30 days.

### **Mineral Soil**

Application Rate: 963 mL/ha

FRONTIER MAX herbicide applied as directed will control redroot pigweed and eastern black nightshade in green onions and transplanted leeks grown on mineral soils.

## Muck Soil

Application Rate: 1.29 L/ha

FRONTIER MAX herbicide applied as directed will reduce competition from redroot pigweed and suppress yellow nutsedge in green onions and transplanted leeks grown on muck soils.

## 17.0 POTATOES

### Ground application

FRONTIER MAX is applied as a pre-emergent application to potatoes before weeds emerge. The pre-emergent application may occur after potatoes are planted or after hilling provided plants are not emerged. Do not apply FRONTIER MAX before planting or onto emerged potatoes.

### Notes

- Consult the label of the product to be tank mixed with FRONTIER MAX for specific instructions regarding application rate for specific soil type, precautions and other restrictions.
- Apply FRONTIER MAX with ground equipment as specified. Equipment should be checked frequently for proper calibration.
- DO NOT apply FRONTIER MAX before planting or onto emerged potatoes as injury may result.
- FRONTIER MAX may only be applied in a single application in potato.
- DO NOT exceed the specified rate by soil type in a single application.
- DO NOT apply within 40 days prior to harvest.
- DO NOT graze or feed treated crop to livestock prior to 40 days after application of FRONTIER MAX.

**Timing: Pre-emergence (after planting of potatoes or after hilling provided plants are not emerged)**

Apply FRONTIER MAX at the higher rates illustrated in the Table below on fine textured or high organic soils and for heavier weed problems.

Soil Type	Rate per hectare in millilitres (mL) Organic Matter		
	Less than 3 %	3 to 6 %	7 to 10 %
Coarse Textured Soils	756	756	860
Medium Textured Soils	756	860	963
Fine Textured Soils	756	860	963



## 18.0 HORSERADISH

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

### Ground application

FRONTIER MAX is applied as a post-emergent application to horseradish from the 2-leaf stage to the 8-leaf stage and before weeds emerge.

### Notes

- For spray volume, use a minimum of 170 L/ha for Eastern Canada and British Columbia and minimum of 100 L/ha for Prairie Provinces.
- FRONTIER MAX may only be applied in a single application in horseradish.
- DO NOT exceed the specified rate by soil type in a single application.
- DO NOT apply within 40 days prior to harvest.
- DO NOT graze or feed treated crop to livestock.

### Timing: Post-emergence (2-leaf to 8-leaf stage of plant development)

Apply FRONTIER MAX at the higher rates illustrated in the Table below on fine textured or high organic soils and for heavier weed problems.

Soil Type	Rate per hectare in millilitres (mL) Organic Matter		
	Less than 3 %	3 to 6 %	7 to 10 %
Coarse Textured Soils	756	756	860
Medium Textured Soils	756	860	963
Fine Textured Soils	756	860	963

## 19.0 DRY BULB SHALLOTS

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

For spray volume, use a minimum of 170 L/ha for Eastern Canada and British Columbia and minimum of 100 L/ha for Prairie Provinces. Refer to section **3.2 MIXING AND SPRAYING INSTRUCTIONS** for further instructions.

### Mineral Soil

On direct seeded shallots, apply FRONTIER MAX herbicide after the plants have reached the 2 true-leaf stage and before weed emergence.

On transplants, apply FRONTIER MAX herbicide several days after transplanting when soil has settled around the plants and growth has recovered.

Application Rate: 963 mL/ha

FRONTIER MAX applied as directed will control redroot pigweed, Eastern black nightshade and suppress yellow nutsedge (*Cyperus esculentus*) in dry bulb shallots grown on mineral soils.

Pre-harvest interval (PHI) of 60 days.

**DO NOT** apply more than one application of 963 mL/ha per season.

### Muck Soil

On direct seeded shallots, apply FRONTIER MAX herbicide after the plants have reached the loop stage and before weed emergence.

On transplants, apply FRONTIER MAX herbicide several days after transplanting when soil has settled around the plants and growth has recovered.

Application Rate: 1.29 L/ha

FRONTIER MAX applied as directed will suppress yellow nutsedge (*Cyperus esculentus*) in dry bulb shallots grown on muck soils.

Pre-harvest interval (PHI) of 60 days.

**DO NOT** apply more than one application of 1.29 L/ha per season.

## **20.0 COMMERCIAL ORNAMENTAL PRODUCTION**

### **20.1 RESTRICTIONS AND LIMITATIONS**

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

Not all varieties or strains of the ornamental plants listed below have been tested for phytotoxicity. Unintentional consequences such as ornamental injury may result because of certain environmental or growing conditions, manner of use, or application. Therefore, before treating a large number of plants, spray a few plants and observe for plant damage for at least 2 months prior to full-scale application.

Applied according to label directions and under normal growing conditions, FRONTIER MAX herbicide will not cause plant injury. Over-application can result in plant injury or soil residues. Uneven application can decrease weed control or cause plant injury.

Seedling diseases, cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought can weaken seedlings and plants and increase the possibility of plant damage from FRONTIER MAX herbicide.

Plant only those desirable plant species listed on this label into soil treated the previous season with FRONTIER MAX herbicide or injury may occur.

**DO NOT** apply FRONTIER MAX herbicide during spring growth of conifers or injury to terminals may occur.

**DO NOT** treat plants grown for food or feed. **DO NOT** use treated plants for food or feed.

**DO NOT** apply more than one application of FRONTIER MAX herbicide per season.

## 20.2 APPLICATION DIRECTIONS FOR PRODUCTION OF ORNAMENTALS

FRONTIER MAX herbicide will control labeled annual grass weeds and certain broadleaf weeds in and around field, liner and container nurseries of commercial ornamental production. Uniformly apply the recommended rate of FRONTIER MAX herbicide with properly calibrated ground equipment before weed emergence. FRONTIER MAX herbicide will not control emerged weeds. Destroy existing weeds before applying FRONTIER MAX herbicide. FRONTIER MAX herbicide treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received. If FRONTIER MAX herbicide is not activated by rainfall or irrigation within 30 days, erratic weed control may result.

Uniformly apply with properly calibrated ground equipment using a minimum of 100 L water per hectare with a spray pressure of 100 - 500 kPa. Applications can be made to ornamental plant species listed in the table of Ornamental Species. It is recommended that before treating a large number of plants, spray a few plants and observe for 1 to 2 months for plant damage prior to full-scale application.

**Application Rate:** 756 to 963 mL/ha Apply FRONTIER MAX herbicide at the higher label rate on fine textured or high organic soils and for heavier weed problems

### **Established Container or Field Grown Nursery Stock**

Apply as a directed spray. **DO NOT** make over-the-top applications. **DO NOT** apply during bud swell, bud break or at time of first flush of new growth. If newly budded or grafted rootstock, make an application using a shielded sprayer. Care must be taken to ensure there are no cracks in the soil where FRONTIER MAX herbicide could come in contact with the roots.

### **Newly Transplanted Container or Field Grown Nursery Stock**

Apply as a directed spray. **DO NOT** make over-the-top applications. Use shielded sprayer until plantings have been established for one (1) year or more in the field. **DO NOT** apply until transplants have been watered and soil has been thoroughly packed and settled around transplants. Care must be taken to ensure there are no cracks in the soil where FRONTIER MAX herbicide could come in contact with the roots. For container grown ornamentals, delay first application of the product to bareroot liners or young seedlings (e.g. plugs) for two weeks after transplanting. **DO NOT** apply during bud swell, bud break or at time of first flush of new growth. Direct sprays away from grafted or budded tissue on transplants at all times.

### **Weeds Controlled**

FRONTIER MAX herbicide applied pre-emergence as directed will control the following weeds:

Barnyard grass	Foxtail (green, yellow, giant)
Crabgrass (smooth, large)	Old witchgrass
Eastern black nightshade*	Redroot pigweed*
Fall panicum	

\*Use the 963 mL/ha of FRONTIER MAX herbicide for control of Eastern black nightshade and redroot pigweed.

## Ornamental Species

Common Name	Scientific name
<b>TREES</b>	
Ash, red	<i>Fraxinus pennsylvanica</i>
Cedar, white	<i>Thuja occidentalis</i>
Myrtle, crape	<i>Lagerstroemia indica</i>
Fir, douglas	<i>Pseudotsuga menziesii</i>
Fir, fraser	<i>Abies fraseri</i>
Magnolia, southern	<i>Magnolia grandiflora</i>
Maple, red	<i>Acer rubrum</i>
Red cedar, western	<i>Thuja plicata</i>
<b>SHRUBS</b>	
Azalea	<i>Rhododendron sp.</i>
Boxwood, common	<i>Buxus sempervirens</i>
Holly, Chinese	<i>Ilex cornuta</i>
Holly, Japanese	<i>Ilex crenata</i>
Hydrangea	<i>Hydrangea macrophylla</i>
Juniper	<i>Juniperus sp.</i>
Rose	<i>Rosa spp.</i>
Spirea	<i>Spiraea vanhouttei</i>
Yew*	<i>Taxus media</i>

\*Applications of FRONTIER MAX herbicide should not be made during spring growth or injury to terminals may occur.

## 21.0 ROTATIONAL CROP RESTRICTIONS

See below the interval required between the application of FRONTIER MAX herbicide and seeding of rotational crops.

### Re-Cropping Restriction

In situations where FRONTIER MAX has been applied and crop failure occurs due to adverse weather or other reasons, the replanting (re-cropping) of potato, dry bulb shallots or onions (dry bulb or green onions) is not recommended until the following year.

### **In the mineral soil**

100 days for cereals other than corn

11 months for all other crops not listed as host crops on the label

### **On the muck soil**

11 months for carrot, celery (transplanted), and onion

Field bio-assay must be conducted for all other crops

**Warning:** Early crop development may be delayed for carrots and celery, however, this should not have a negative effect on yield.

## **22.0 RESISTANCE-MANAGEMENT RECOMMENDATIONS**

For resistance management, FRONTIER MAX herbicide is a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to FRONTIER MAX 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 FRONTIER MAX 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 or to report suspected resistance, contact BASF at 1-877-371-2273.

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