



GROUP	1	HERBICIDE
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\*\*\*Container Label\*\*\*

## CIRRAY Herbicide

EMULSIFIABLE CONCENTRATE

COMMERCIAL (AGRICULTURAL)

Post emergence herbicide for control of grass weeds in Spring Wheat and Barley

FOR SALE FOR USE ONLY IN THE PRAIRIE PROVINCES AND PEACE RIVER, OKANAGAN AND CRESTON FLATS REGIONS OF BRITISH COLUMBIA

**ACTIVE INGREDIENTS:**

Pinoxaden.....50 g/L  
Fenoxaprop-p-ethyl.....50 g/L

Contains Cloquintocet-mexyl at 25 g/L as a safener

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

**DANGER: EYE AND SKIN IRRITANT  
POTENTIAL SKIN SENSITIZER**

REGISTRATION NO.: 34306 PEST CONTROL PRODUCTS ACT

NET CONTENTS: **1 L to bulk**

**Bayer CropScience Inc.**  
Suite 200, 160 Quarry Park Blvd. SE  
Calgary, AB T2C 3G3

Product Information: 1-888-283-6847

IN CASE OF SPILLS, POISONING OR FIRE, TELEPHONE EMERGENCY RESPONSE  
NUMBER 1-800-334-7577 (24 HOURS A DAY).

## 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 on skin or clothing**, take off contaminated clothing. Rinse skin **IMMEDIATELY** with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

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

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

## 3.0 TOXICOLOGICAL INFORMATION

Treat symptomatically for ingestion and/or skin and eye contact. THIS PRODUCT CONTAINS PETROLEUM DISTILLATES. VOMITING MAY CAUSE ASPIRATION PNEUMONIA.

## 4.0 PRECAUTIONS

KEEP OUT OF THE REACH OF CHILDREN.

Severely irritating to the skin. DO NOT get on skin. May irritate eyes. Avoid contact with eyes. Potential skin sensitizer. Do not wear contact lenses when using.

When tank-mixes are permitted, read and observe all label directions, including rates and restrictions 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.

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

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

If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact Bayer CropScience Canada Inc. at 1-888-283-6847 or [www.cropscience.bayer.ca](http://www.cropscience.bayer.ca).

## 5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Avoid contact with clothing. Wear chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, protective eye wear (goggles or face shield), socks and chemical-resistant footwear during mixing, loading, clean-up and repair. Wear coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, socks and chemical-resistant footwear during application. Gloves are not required during application within a closed cab and/or cockpit.

Remove contaminated clothing immediately after use. Store and wash contaminated clothing separately from household laundry before reuse. Wash thoroughly with soap and water after handling. Handle and apply only as recommended on this label. Wash gloves thoroughly with soap and water before removing them during any operation.

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

Wear freshly laundered clothes daily.

Wash hands thoroughly with soap and water after using this product and before eating, drinking or smoking.

Do not eat, drink or smoke while mixing, loading or during application.

## 6.0 ENVIRONMENTAL PRECAUTIONS

Toxic to non-target terrestrial plants. This product contains an active ingredient and aromatic petroleum distillates, which are toxic to aquatic organisms. Observe spray buffer zones specified under DIRECTIONS FOR USE.

Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland.

**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.**

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.

## **7.0 STORAGE**

Store this product away from food or feed. Keep in original container, tightly closed, during storage. Store in a cool, dry, well ventilated area away from feed and foodstuffs, and out of the reach of children and animals. Keep away from fire or open flame, or other sources of heat. If frozen, allow to thaw and agitate thoroughly prior to use.

## **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 cleanup 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 reuse this container for any other purpose.



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### ACTIVE INGREDIENTS:

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Avoid contact with clothing. Wear chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, protective eye wear (goggles or face shield), socks and chemical-resistant footwear during mixing, loading, clean-up and repair. Wear coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, socks and chemical-resistant footwear during application. Gloves are not required during application within a closed cab and/or cockpit.

Remove contaminated clothing immediately after use. Store and wash contaminated clothing separately from household laundry before reuse. Wash thoroughly with soap and water after handling. Handle and apply only as recommended on this label. Wash gloves thoroughly with soap and water before removing them during any operation.

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

Wear freshly laundered clothes daily.

Wash hands thoroughly with soap and water after using this product and before eating, drinking or smoking.

Do not eat, drink or smoke while mixing, loading or during application.

## 6.0 ENVIRONMENTAL PRECAUTIONS

Toxic to non-target terrestrial plants. This product contains an active ingredient and aromatic petroleum distillates, which are toxic to aquatic organisms. Observe spray buffer zones specified under DIRECTIONS FOR USE.

Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland.

**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.**

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.

## **7.0 STORAGE**

Store this product away from food or feed. Keep in original container, tightly closed, during storage. Store in a cool, dry, well ventilated area away from feed and foodstuffs, and out of the reach of children and animals. Keep away from fire or open flame, or other sources of heat. If frozen, allow to thaw and agitate thoroughly prior to use.

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### **For Refillable Containers:**

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

## **9.0 PRODUCT INFORMATION**

CIRRAY Herbicide is a systemic, post-emergence herbicide for the selective control of wild oats, green foxtail, yellow foxtail, barnyard grass and Persian Darnel in Spring Wheat and Barley in the Prairie Provinces and the Peace River, Okanagan, and Creston Flats Regions of British Columbia.

CIRRAY Herbicide is absorbed by the leaves and is rapidly translocated to the growing points of leaves and stems. Thorough coverage of the plants is essential for consistent control. Actively growing susceptible grasses stop growing within 48 hours of treatment. Depending on species, growing conditions and crop competition, leaves and growing points turn yellow within one to three weeks after application. Further colour changes and loss of vigour will be observed, followed by a browning and control three to five weeks after application.

## 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.

**CROPS:** Spring Wheat and Barley

CIRRAY Herbicide can be used on all varieties of Spring Wheat and Barley. One application per year is permitted.

Observe a minimum interval to harvest of 65 days after treatment for grain and straw and of 30 days after treatment for hay. Observe a minimum of 30 days before grazing livestock on crops treated with CIRRAY Herbicide.

Do not apply on any crop other than Spring Wheat or Barley, as crop damage will result. Do not allow spray to drift to adjacent fields seeded to crops other than Spring Wheat or Barley. Do not treat Spring Wheat or Barley under-seeded to forages.

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 CIRRAY Herbicide using a jar test with proportionate amounts of mix partners, and water, before mixing in the spray tank.

### 10.2 Ground Application

#### 10.2.1 General Precautions

**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.

#### 10.2.2 Mixing Instructions

1. Clean spray tank and half fill with clean water. Start agitation or bypass system.
2. If a broadleaf herbicide is to be used, add the product **FIRST** prior to adding CIRRAY Herbicide and agitate for 2-3 minutes.
3. Add correct amount of CIRRAY Herbicide.
4. Agitate for 2-3 minutes before adding remainder of water and then maintain constant agitation.
5. After any break in spraying operations, agitate thoroughly before spraying again.
6. **Use the spray suspension as soon as it is prepared.**

### 10.2.3 Spraying Instructions

1. Water Volume: 50 to 100 litres per hectare.
2. 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 nozzle screens. **DO NOT** use flood type nozzles, controlled droplet application equipment, spray foils or hollow cone nozzles.
3. Pressure: As recommended by the nozzle manufacturer to achieve ASAE medium sized droplets.
4. 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.

### 10.2.4 Equipment Clean-Up

#### Clean Up Before Spraying:

- Prior to using CIRRAY Herbicide, ensure that the spray tank, lines and filter are thoroughly clean.

#### Clean Up After Spraying:

- Thoroughly clean application equipment immediately after spraying. To avoid subsequent injury to other crops, immediately after spraying and before spraying other crops, thoroughly remove all traces of CIRRAY Herbicide from mixing and spraying equipment.
- When using tank mixes, consult the tank-mix partner label for additional cleanup 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 the sprayer 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.

## 10.3 Aerial Application

### 10.3.1 General Precautions

**Aerial application:** **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

### 10.3.2 Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual*, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

### 10.3.3 Operator Precautions

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

### 10.3.4 Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, contact Bayer CropScience Canada Inc. at 1-888-283-6847 or [www.cropscience.bayer.ca](http://www.cropscience.bayer.ca), or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

Apply in a minimum of 30 litres of water per hectare.

Avoid spraying when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

DO NOT overspray non-target terrestrial or aquatic habitats. DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches, and wetlands), estuaries or marine habitats. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

### 10.3.5 Mixing Instructions

Mixing this product directly in the aircraft hopper **IS NOT** recommended. The use of chemical handling or managing equipment to load the hopper **IS** recommended. This product **MAY BE** inducted into a hopper which is prefilled with water or when the product and water are mixed prior to entering the hopper. This product **MAY BE** batch mixed and pumped into the hopper. In all cases the chemical handling equipment and hopper interior must be clean prior to use.

**NOTE:** WG and DF formulations are preferentially batch mixed.

**NOTE:** SC, SN, and SL formulations may be inducted or batch mixed.

**NOTE:** EC formulations are preferentially batch mixed.

It is **NOT** recommended to combine solid (WG or DF) formulations with liquid tank mix partners within a single batch. Batch mix WG or DF formulations first, pump into the hopper, and then add liquid tank mix partners by induction or as an additional batch mix. When tank mixing multiple products, follow the mixing order outlined below:

1. Pump water into the hopper to at least  $\frac{1}{4}$  to  $\frac{1}{2}$  of the desired spray volume. Engage hopper circulation, if possible.
2. Thoroughly batch mix any WG or DF formulation mix partners and agitate to ensure complete mixing. Pump into the hopper.
3. Induct or thoroughly batch mix any additional SE or SC formulations.
4. Thoroughly batch mix CIRRAY Herbicide. CIRRAY Herbicide may be added to the batch from step 3, if desired.
5. Thoroughly batch mix any EC formulation mix partners. EC formulations may be added to the batch from Step 4, if desired.
6. Induct or thoroughly batch mix any solution (SN or SL) formulation mix partners. SN/SL formulations may be added to the batch from Step 3, 4 or 5, if desired.
7. Pump batch mixed SC, EC, and/or SN/SL products into the hopper.
8. Finish filling the hopper with water.
9. If it was not possible to engage hopper agitation in Step 1, do so as soon as possible once airborne.
10. Spray the pesticide suspension the same day as mixing.
11. Do not mix, load or clean equipment where there is a potential to contaminate wells or aquatic systems.

### 10.3.6 Spraying Instructions

1. Water Volume: Apply in a minimum spray volume of 30 L/ha for aerial application OR the volume given in the crop and pest specific instructions tabulated below, whichever is LARGER.
2. Spray Nozzles: Use only ASAE medium or coarse nozzles rated as delivering droplets of volume median diameter of 300 microns or greater.
3. Pressure: As recommended by the nozzle manufacturer to achieve ASAE medium or coarse sized droplets.
4. Ensure hopper agitation is engaged whenever possible during flight.

### 10.3.7 Equipment Clean-Up

#### Clean Up Before Spraying:

- Prior to using CIRRAY Herbicide, ensure that the spray tank, lines and filter are thoroughly clean.

#### Clean Up After Spraying:

- Thoroughly clean application equipment immediately after spraying. To avoid subsequent injury to other crops, immediately after spraying and before spraying other crops, thoroughly remove all traces of CIRRAY Herbicide from mixing and spraying equipment.
- When using tank mixes, consult the tank-mix partner label for additional cleanup 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 the sprayer 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.

## 10.4 Buffer zones

For ground sprayer applications:

A spray buffer zone is NOT required for low-clearance hooded or shielded sprayers that prevent spray contact with crop or foliage.

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 Habitat of Depths:		Terrestrial Habitat
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Spring wheat and Barley	1	0	1	0	1
Aerial (Fixed wing or Rotary wing)		1	0	1	0	25

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.

## 10.5 Rotational Crop Information

For fields treated with CIRRAY Herbicide, no crop may be seeded until the following year. There are no crop rotation limitations the year following application of CIRRAY Herbicide.

## 11.0 CROP USE DIRECTIONS

### 11.1 Weeds Controlled

Wild oats, green foxtail, yellow foxtail, barnyard grass and Persian dandelion. Perennial grasses such as quack grass will not be controlled.

### 11.2 Timing of Application

CROP / WEEDS*	GROWTH STAGE (ZADOKS or BBCH)
Spring Wheat Barley	1 leaf to 6 leaves on the main stem plus 3 tillers (11 to 23)
Green Foxtail Yellow Foxtail Barnyard Grass	1 to 6-leaves on main stem, plus 3 tillers
Wild Oats Persian Dandelion	1 to 6-leaves on main stem, plus 3 tillers

\* When tank-mixing with a broadleaf herbicide, always refer to the label of the broadleaf partner prior to use.

For optimum results, apply CIRRAY Herbicide to actively growing weeds. An early application will maximize crop yields by reducing weed competition. Weeds emerging after application of CIRRAY Herbicide will not be controlled.

Weed control following application of CIRRAY Herbicide alone, or in combination with broadleaf weed herbicides, can be reduced or delayed under stress conditions such as drought, heat, insufficient fertility, flooding or prolonged cool temperatures. Grass escapes or re-tillering may occur if application is made during prolonged stress conditions. Optimum weed control will be obtained if application of CIRRAY Herbicide is delayed until the stress conditions have ended and weeds are once again actively growing.

CIRRAY Herbicide alone can be used one hour before rainfall.

Do not apply to crop that is stressed by conditions such as frost, low fertility, drought, flooding, disease or insect damage as crop injury may result.

### 11.3 Rate of Use

Apply the recommended rate of CIRRAY Herbicide in 50 L to 100 L of water per hectare for ground application and in a minimum of 30 L of water per hectare for aerial application. When tank-mixing CIRRAY Herbicide with a tank-mix partner, ensure you read the tank-mix partner label for minimum water recommendations.

CROP	WEEDS CONTROLLED	USE RATES	
SPRING WHEAT BARLEY	WILD OATS GREEN and YELLOW FOXTAIL BARNYARD GRASS PERSIAN DARNEL	CIRRAY Herbicide	800 mL/ha

**NOTES: Do not tank mix with any other adjuvants, chemical additives, or fertilizers unless recommended on this label.**

### 11.4 Tank Mixes of CIRRAY Herbicide with Broadleaf Weed Herbicides – Ground Application

For broad spectrum control of wild oats, green and yellow foxtail, barnyard grass, Persian darnel and broadleaf weeds, CIRRAY Herbicide can be tank-mixed with broadleaf herbicides as described in the following table.

When tank-mixes are permitted, read and observe all label directions, including rates and restrictions 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.

When tank-mixing, always add the broadleaf herbicide(s) first, followed by CIRRAY Herbicide added last. For the appropriate rate of CIRRAY Herbicide, refer to the “Rate of Use” section of the label.

**Tank mixes for broad spectrum control of wild oat, green and yellow foxtail, barnyard grass, Persian darnel and broadleaf weeds:**

Tank-mix Partner	Product Rates	Crop Stage <sup>1</sup>
2,4-D Ester LV 700	600 mL/ha	
Ally <sup>®</sup>	7.5 g/ha	
Attain XC A + 2,4-D Ester OR Attain XC A + 2,4-D Ester	0.23 L/ha + 420 g ae/ha OR 0.31 L/ha + 560 g ae/ha	
Buctril <sup>®</sup> M <sup>2</sup>	1.0 L/ha	2 leaf to 6 leaf plus 1 to 3 tillers
Dyvel	1.25 L/ha	
Dyvel DSP Liquid <sup>5</sup>	0.85 - 1.1 L/ha	
Frontline <sup>®</sup> Herbicide Tank Mix	0.1 L/ha Frontline A + 0.7 L/ha Frontline B	
Frontline XL	1.25 L/ha	2 to 6 leaf stage
Infinity <sup>®</sup> Herbicide <sup>7</sup>	0.83 L/ha	1 leaf to 6 leaf plus 1 to 3 tillers
Lontrel 360	420 mL/ha	
Lontrel 360 + MCPA Ester 500 <sup>9</sup>	280-420 mL/ha + 0.84-1.12 L/ha	
MCPA Amine 500	0.7 or 1.1 L/ha	
MCPA Ester <sup>2</sup>	700 mL to 1.1 L/ha <sup>3</sup>	
Mecoprop <sup>®</sup> -P (150 g ae/L) <sup>5,8</sup>	5.5 – 7.0 L/ha	
Mextrol 450 <sup>2</sup>	1.25 L/ha	
Pixxaro <sup>™</sup> A Herbicide	308 mL/ha	
Pixxaro A Herbicide + MCPA	308 mL/ha + 583-700 mL/ha <sup>4</sup>	



Tank-mix Partner	Product Rates	Crop Stage <sup>1</sup>
Ester <sup>4</sup>		
Prestige XC Herbicide Tank Mix	0.31 L/ha of Prestige XC A + 1.5 L/ha of Prestige XC B OR 0.41 L/ha of Prestige XC A + 2.0 L/ha of Prestige XC B	
Refine <sup>®</sup> Extra	20 g/ha	
Refine Extra + MCPA Ester 500	20 g/ha + 0.7 - 1.1 L/ha	
Refine Extra + Buctril M	6.7 g/ha + 1.0 L/ha	
Refine Extra + Accord DF	20 g/ha + 67 g/ha	For use on spring barley grown for feed purposes only.
Refine SG Herbicide	30 g/ha	
Refine SG Herbicide + Buctril M	30 g/ha + 1.0 L/ha	
Refine SG Herbicide + MCPA Ester <sup>2,6</sup>	30 g/ha + 0.7 - 1.1 L/ha <sup>3</sup>	
Refine SG Toss-N-Go <sup>®</sup> Herbicide	30 g/ha	
Refine SG Toss-N-Go Herbicide + MCPA Ester <sup>2,6</sup>	30 g/ha + 0.7 – 1.1 L/ha <sup>3</sup>	
Spectrum <sup>™</sup> Herbicide Tank Mix <sup>2,6</sup>	0.1 L/ha of Spectrum A + 1.5 L/ha of Spectrum B	
Stellar <sup>™</sup> A Herbicide	1.0 L/ha	
Stellar A + Stellar B	1.0 L/ha + 0.6 L/ha	2 to 6 leaf stage
Thumper <sup>®</sup>	1.0 L/ha	
TILT <sup>®</sup> 250E Fungicide	250 – 500 mL/ha	
Triton C	97 g/ha	
Trophy <sup>®2</sup>	0.6 L/ha of Trophy A + 1.12 L/ha of Trophy B	
<sup>1</sup> Always consult the label of the broadleaf herbicide prior to use		
<sup>2</sup> A reduction in barnyard grass control may be observed when CIRRAY Herbicide is tank mixed with these broadleaf herbicides.		
<sup>3</sup> This rate is for MCPA Ester 500 therefore rates must be adjusted accordingly for other concentrations.		
<sup>4</sup> This rate is for MCPA Ester 600 (600 g a.e./L) therefore rates must be adjusted accordingly for other concentrations.		
<sup>5</sup> Refer to broadleaf tank-mix label for list of weeds controlled at low and high use rates		
<sup>6</sup> Suppression only of green foxtail.		
<sup>7</sup> For control of common ragweed and suppression of round-leaved mallow.		
<sup>8</sup> A reduction in Wild Oat control may be observed when applied in a tankmixture with Mecoprop		
<sup>9</sup> USE ONLY MCPA ESTER 500 in this tank mix and only at recommended rates. Failure to do so may result in reduced Wild Oat control. DO NOT USE MCPA AMINE		

## 12.0 RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, CIRRAY Herbicide is a Group 1 herbicide. Any weed population may contain or develop plants naturally resistant to CIRRAY Herbicide and other Group 1 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 CIRRAY Herbicide or other Group 1 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the sameweeds 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 Bayer CropScience Canada Inc. at 1-888-283-6847 or at [www.cropscience.bayer.ca](http://www.cropscience.bayer.ca).

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