

GROUP

1

HERBICIDE

CO-OP AVANT Herbicide

Emulsifiable Concentrate

COMMERCIAL - AGRICULTURAL

A post emergence herbicide for control of wild oats, green foxtail, yellow foxtail, Persian dandelion, volunteer oats, volunteer canary seed, proso millet and barnyard grass in Spring Wheat, Durum Wheat and Barley.

FOR SALE FOR USE ONLY IN THE PRAIRIE PROVINCES AND INTERIOR OF BRITISH COLUMBIA

ACTIVE INGREDIENT:

Pinoxaden..... 100 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**

CAUTION



POISON

WARNING: EYE AND SKIN IRRITANT

REGISTRATION NO.: **34378**
PEST CONTROL PRODUCTS ACT

NET CONTENTS: **1L - Bulk**

Interprovincial Cooperative Limited,
P.O. Box 1050, Saskatoon,
Saskatchewan S7K 3M9
1-204-233-3461

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 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

CO-OP AVANT Herbicide contains materials that may cause severe pneumonitis if aspirated. 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.

Harmful if swallowed. May irritate eyes. Do not wear contact lenses when using. DO NOT get in eyes or on skin. Avoid contact with clothing. Do not allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system.

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.

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

RESTRICTED ENTRY INTERVAL: 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 to other countries in the world and you require information on acceptable residue levels in these countries, please contact Interprovincial Cooperative Limited at 1-204-233-3461.

5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

Wash gloves thoroughly with soap and water before removing them during any operation.

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.

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 thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

6.0 ENVIRONMENTAL PRECAUTIONS

TOXIC to non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE.

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.

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.

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.

7.0 STORAGE

Store the product in closed original container in a well-ventilated room. Keep out of reach of children, unauthorised persons and animals. Store separate from food, feed, and fertilizer.

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 empty 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.

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,
CALL 1-888-CAN-UTEC (226-8832)***

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PAMPHLET

TABLE OF CONTENTS

	<u>Section Number</u>
NOTICE TO USER	1.0
FIRST AID	2.0
TOXICOLOGICAL INFORMATION.....	3.0
PRECAUTIONS.....	4.0
PERSONAL PROTECTIVE EQUIPMENT (PPE).....	5.0
ENVIRONMENTAL PRECAUTIONS	6.0
STORAGE.....	7.0
DISPOSAL	8.0
PRODUCT INFORMATION	9.0
DIRECTIONS FOR USE.....	10.0
General Information	10.1
Ground Application.....	10.2
General Information	10.2.1
Mixing Instructions	10.2.2
Spraying Instructions	10.2.3
Equipment Clean-Up.....	10.2.4
Aerial Application	10.3
General Information	10.3.1
Use Precautions.....	10.3.2
Product Specific Precautions.....	10.3.3
Mixing Instructions	10.3.4
Spraying Instructions	10.3.5
Equipment Clean-Up.....	10.3.6
Buffer Zones	10.4
Rotational Crop Information	10.5
CROP USE DIRECTIONS	11.0
General Information	11.1
Rate of Use.....	11.2
Tank Mixes with Broadleaf Herbicides.....	11.3
RESISTANCE MANAGEMENT RECOMMENDATIONS.....	12.0

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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.

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

RESTRICTED ENTRY INTERVAL: 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.

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Wash gloves thoroughly with soap and water before removing them during any operation.

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.

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 thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

6.0 ENVIRONMENTAL PRECAUTIONS

TOXIC to non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE.

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow.

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.

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.

7.0 STORAGE

Store the product in closed original container in a well-ventilated room. Keep out of reach of children, unauthorised persons and animals. Store separate from food, feed, and fertilizer.

8.0 DISPOSAL

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For disposal, this empty 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.

IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING, 1-888-CAN-UTEC (226-8832)

9.0 PRODUCT INFORMATION

CO-OP AVANT Herbicide is a systemic, post-emergence herbicide for the selective control of wild oats, green foxtail, yellow foxtail, Persian darnel, volunteer oats, volunteer canary seed, proso millet and barnyard grass in Spring Wheat, Durum Wheat and Barley in the prairie provinces and the Interior of British Columbia.

CO-OP AVANT 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.

Although CO-OP AVANT Herbicide does not control broadleaf weeds, CO-OP AVANT Herbicide can be tank-mixed with a range of broadleaf herbicides to provide broad spectrum weed control in Spring Wheat, Durum Wheat and Barley. See section entitled "TANK MIXES of CO-OP AVANT

HERBICIDE WITH BROADLEAF WEED HERBICIDES” and refer to the appropriate Tank Mix section.

10.0 DIRECTIONS FOR USE

10.1 General Information

CROPS: Spring Wheat, Durum Wheat and Barley.

CO-OP AVANT Herbicide can be used on all varieties of Spring Wheat, Durum Wheat and Barley. One application per year is permitted.

Observe a minimum interval to harvest of 60 days after treatment for grain and straw and of 30 days after treatment for hay. Observe a minimum of 7 days before grazing livestock on crops treated with CO-OP AVANT Herbicide.

Do not apply on any crop other than Spring Wheat or Durum 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 Durum Wheat or Barley. Do not treat Spring Wheat or Durum Wheat or Barley under-seeded to forages. Do not apply CO-OP AVANT Herbicide on highly sensitive crops such as: Tame Oats, Proso Millet, Red Millet, Crown Millet or Canary Seed.

To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to: heavy rain, moderate to steep slope, bare soil, poorly draining soil (e.g. soils that are compacted or fine textured such as clay).

Avoid application of this product when heavy rain is forecast.

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

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 Interprovincial Cooperative Ltd. at 1-204-233-3461 for information before applying any tank mix that is not specifically recommended on this label.

Interprovincial Cooperative Ltd. has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) of all potential tank-mixes under all environmental conditions or for all crop varieties. Tank mixes that are not specifically listed on this label should be tested on a small area first, under local conditions and using standard practices, to confirm the tank mix is suitable for widespread application.

To determine the physical compatibility of this product with other products, use a jar test.

Always read and follow label directions including WALES mixing order.

10.2 Ground Application

10.2.1 General 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 and Biological Engineers (ASABE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.

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 CO-OP AVANT Herbicide and agitate for 2-3 minutes.
3. Add correct amount of CO-OP AVANT Herbicide.
4. Agitate for 2-3 minutes.
5. Add correct amount of ADIGOR[®] Adjuvant, Merge[®] Adjuvant, Carrier or Destinaire[™] High Surfactant Oil Concentrate.
6. Agitate for 1-2 minutes before adding remainder of water and then maintain constant agitation.
7. After any break in spraying operations, agitate thoroughly before spraying again.
8. **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° flat fan nozzles are recommended for optimal spray coverage. Use 50 mesh nozzle screens. Do not use flood type nozzles, controlled droplet application equipment, spray foils or hollow cone nozzles.
3. Pressure: 275 - 310 kPa.
4. Apply uniformly at 6 - 8 km/hr and avoid overlapping. Shut off spray boom while starting, turning, slowing or stopping to avoid potential crop injury from an over application.

10.2.4 Sprayer Clean-Up for Ground Application

Clean Up Before Spraying:

- Prior to using CO-OP AVANT 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 CO-OP AVANT 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 rinsings in accordance with provincial regulations.

10.3 Aerial Application

10.3.1 General Information

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 and Biological Engineers (ASABE S572.1) medium classification. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

Apply CO-OP AVANT Herbicide alone or in tank mixes (ONLY with the recommended tank mix partners that are registered for aerial use) in no less than 30 litres of water per hectare.

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.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particules (mist). Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

10.3.3 Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-204-233-3461 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 at least 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.

10.3.4 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 WG or DF formulations with tank mix partners within a single batch. Batch mix WG or DF formulations first, pump into the hopper, and then add tank mix partners by induction or as an additional batch mix.

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 SC formulations.
4. Thoroughly batch mix CO-OP AVANT Herbicide and any other EC formulation mix partners. EC formulations may be added to the batch from Step 2, if desired.
5. Induct or thoroughly batch mix any solution (SN or SL) formulation mix partners. SN/SL formulations may be added to the batch from Step 2, if desired.
6. Pump batch mixed SC, EC, and/or SN/SL products into the hopper.
7. Finish filling the hopper with water.
8. If it was not possible to engage hopper agitation in Step 1, do so as soon as possible once airborne.
9. Spray the pesticide suspension the same day as mixing.
10. Do not mix, load or clean equipment where there is a potential to contaminate wells or aquatic systems.

10.3.5 Spraying Instructions

1. Water Volume: Apply in a spray volume of 40 L/ha. Appropriate water volumes aid good coverage.
2. Spray Nozzles: Use only ASABE medium or coarse nozzles rated as delivering droplets of volume median diameter of 340 microns or greater.
3. Pressure: As recommended by the nozzle manufacturer to achieve ASABE coarse or medium sized droplets.
4. Ensure hopper agitation is engaged whenever possible during flight.

10.3.6 Equipment Clean-Up

Before Spraying:

- Prior to using CO-OP AVANT Herbicide, ensure that the hopper, chemical handling equipment, lines and filter are thoroughly cleaned.

After Spraying:

- Thoroughly clean application equipment immediately after spraying. Do not allow CO-OP AVANT Herbicide residue to dry within application 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 application equipment near desirable vegetation, flowering crops or weeds, 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

Use of the following spray methods or equipment DO NOT require a buffer zone: hand-held or backpack sprayer and spot treatment.

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).

Method of application	Crop		Buffer zones (metres) required for the protection of:
			Terrestrial habitat
Field sprayer	Durum Wheat, Spring Wheat and Barley		1
Aerial	Durum Wheat, Spring Wheat and Barley	Fixed or rotary wing	25

* For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labelled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labelled buffer zone can be reduced by 30%.

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 (ASABE) category indicated on the labels for those tank mix

partners.

10.5 Rotational Crop Information

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

11.0 CROPS USE DIRECTIONS

11.1 General Information

Weeds Controlled: Wild Oats, Green Foxtail, Yellow Foxtail, Persian Darnel, Volunteer Oats, Volunteer Canary Seed, Proso Millet and Barnyard Grass

Perennial grasses such as quack grass will not be controlled.

Timing of Application:

CROP / WEEDS*	GROWTH STAGE** (ZADOKS or BBCH)
SPRING WHEAT DURUM WHEAT BARLEY	1 leaf to flag leaf stage (11, 20 to 37)
WILD OATS GREEN and YELLOW FOXTAIL VOLUNTEER OATS VOLUNTEER CANARY SEED PROSO MILLET BARNYARD GRASS	1 – 6 leaf, prior to 4 th tiller (11, 20 to 16, 23)

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

** Do not apply past flag leaf stage.

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

Weed control following application of CO-OP AVANT 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 CO-OP AVANT Herbicide is delayed until the stress conditions have ended and weeds are once again actively growing.

CO-OP AVANT 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.

11.2 Rate of Use

Apply the recommended rate of CO-OP AVANT Herbicide and ADIGOR Adjuvant, Merge Adjuvant, Carrier or Destinaire High Surfactant Oil Concentrate 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. Add the adjuvant as the last ingredient and consult each product label for use information. When tank-mixing CO-OP AVANT 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 DURUM WHEAT BARLEY	PERSIAN DARNEL	CO-OP AVANT Herbicide ADIGOR Adjuvant or Merge Adjuvant OR Carrier OR Destinaire High Surfactant Oil Concentrate.	400 mL/ha 700 mL/ha 0.5% v/v 500 – 700 mL/ha
	WILD OATS GREEN and YELLOW FOXTAIL VOLUNTEER OATS VOLUNTEER CANARY SEED PROSO MILLET BARNYARD GRASS	CO-OP AVANT Herbicide ADIGOR Adjuvant or Merge Adjuvant OR Carrier OR Destinaire High Surfactant Oil Concentrate.	600 mL/ha 700 mL/ha 0.5% v/v 500 – 700 mL/ha

11.3 Tank Mixes with Broadleaf Herbicides

For broad spectrum weed control of annual grasses and broadleaf weeds, CO-OP AVANT Herbicide can be tank-mixed with broadleaf herbicides as described in the following table. Consult the label of the tank-mix partner for a list of broadleaf weeds controlled, rates, timing, recropping restrictions, grazing interval restrictions, recommendations for specific weeds, directions for use and precautions.

Tank-Mix Partner¹	Product Rates
Refine [®] SG Herbicide ²	30 g/ha
Refine SG Herbicide + MCPA Ester ³ 500	30 g/ha + 560 - 700 mL/ha
Refine SG Toss-N-Go Herbicide ^{®2}	30 g/ha
Refine SG Toss-N-Go Herbicide + MCPA Ester ³ 500	30 g/ha + 560 - 700 mL/ha
Buctril [®] M	1.0 L/ha
Curtail [®] M Herbicide	1.5 to 2.0 L/ha
Prestige [™] XC Herbicide Tank Mix	310 - 410 mL/ha of Prestige XC A Herbicide + 1.5 - 2.0 L/ha of Prestige XC B Herbicide
Prestige XL Herbicide	1.75 L/ha – 2.34 L/ha
Spectrum [™] Herbicide Tank Mix ³	100 mL/ha of Spectrum A Herbicide + 1.5 L/ha of Spectrum B Herbicide
Trophy [®] Herbicide Tank Mix	0.6 L/ha of Trophy A Herbicide + 1.12 L/ha of Trophy B Herbicide
Nufarm Estaprop [®] XT Liquid Herbicide	1.2 L/ha
Thumper [®] Emulsifiable Selective Weedkiller ³	1.0 L/ha
Mextrol 450 Liquid Herbicide	1.25 L/ha
Express SG Herbicide + 2,4-D Ester ³	15 g/ha + 0.6 L/ha (420 g/ha acid equivalent)
2,4 D Ester (assume 600 series)	990 mL/ha
TILT [®] 250E Fungicide	250 to 500 mL
MCPA Amine (assume 500 series)	840 mL to 1.1 L/ha
MCPA Ester (assume 500 series)	840 mL to 1.1 L/ha
MCPA Ester (assume 600 series)	700 – 920 mL/ha
Infinity [®] Herbicide ⁴	0.83 L/ha
Frontline XL Herbicide	1.25 L/ha
GF-184 Herbicide	1.0 L/ha
¹ Always consult the label of the broadleaf herbicide prior to use.	
² Addition of surfactants other than ADIGOR Adjuvant, Merge Adjuvant, Carrier or Destinaire High Surfactant Oil Concentrate are not required.	
³ Suppression only of green foxtail.	
⁴ For control of common ragweed and suppression of round-leaved mallow.	

A reduction in barnyard grass control may be observed when CO-OP AVANT Herbicide is tank mixed with these broadleaf herbicides.

When tank-mixing, always add the broadleaf herbicide(s) to the spray tank first; followed by CO-OP AVANT Herbicide with ADIGOR Adjuvant, Merge Adjuvant, Carrier or Destinaire High Surfactant Oil Concentrate added last.

For the appropriate rate of CO-OP AVANT Herbicide with ADIGOR Adjuvant, Merge Adjuvant, Carrier or Destinaire High Surfactant Oil Concentrate refer to the 'Rate of Use' section of the label.

Temporary crop injury may occur with tank-mixes under extreme weather conditions or when the crop is suffering from stress due to inadequate or abnormally high moisture levels or extreme temperatures.

12.0 RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, CO-OP AVANT Herbicide is a Group 1 herbicide. Any weed population may contain or develop plants naturally resistant to CO-OP AVANT 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 CO-OP AVANT Herbicide or other Group 1 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 company representatives at 1-204-233-3461

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