

2017-11-14  
2017-6580

GROUP

4

HERBICIDE

ADAMA Clopyralid 360

Liquid Herbicide

For control of perennial and annual broadleaved weeds in field crops and non-cropland.

AGRICULTURAL

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

GUARANTEE: clopyralid: 360 g/L (present as the monoethanolamine salt)

REGISTRATION NO. 32898 PEST CONTROL PRODUCTS ACT

CAUTION



POISON

**DANGER - EYE IRRITANT**  
**HARMFUL IF ABSORBED THROUGH SKIN**  
**MAY CAUSE SKIN IRRITATION**

NET CONTENTS: 3.4 L - bulk

For emergency medical help and health/safety inquiries call ProPharma Group at 1.877.250.9291 (24 hours a day)

For spill, leak or fire call INFOTRAC at 1.800.535.5053 (24 hours a day)

**ADAMA Agricultural Solutions Canada Ltd.**

300 – 191 Lombard Avenue

Winnipeg, Manitoba

R3B 0X1

1-855-264-6262

**PRECAUTIONS**  
**KEEP OUT OF REACH OF CHILDREN**  
**DANGER - EYE IRRITANT**  
**HARMFUL IF ABSORBED THROUGH SKIN**  
**MAY CAUSE SKIN IRRITATION**

**COMBUSTIBLE**

Avoid contact with eyes, skin and clothing. Avoid breathing vapours or spray mist.

Workers must wear long pants, a long-sleeved shirt and chemical-resistant gloves. Goggles or a face shield are required during mixing and loading. Gloves are not required to be worn during groundboom applications but are required for mixing/loading, clean-up and repair.

Do not enter or allow workers entry into treated areas for 12 hours following application to all crops.

**AT COMPLETION OF SPRAYING OR END OF THE DAY:** Take a shower immediately. Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing at the end of the work session and store and wash separately from household laundry using detergents and hot water before reuse.

**FIRST AID**

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

**If swallowed:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

**If 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.

**TOXICOLOGICAL INFORMATION**

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

**AGRICULTURAL CHEMICAL**

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

**ENVIRONMENTAL HAZARDS**

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 (for example, sandy soil) and/or the depth to the water table is shallow.

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 rainfall, moderate to steep slope, bare soil, poorly draining soil (for example, 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.

### **STORAGE**

Store away from food, feedstuff, fertilizer, seeds, insecticides, fungicides or other pesticides or herbicides intended to be used on crops sensitive to ADAMA Clopyralid 360. Store in heated storage; if product is frozen, bring to room temperature and agitate before use.

### **DISPOSAL**

#### **Recyclable Containers:**

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

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

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

#### **Returnable Containers:**

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

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial 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 any way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

Booklet

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**COMBUSTIBLE**

Avoid contact with eyes, skin and clothing. Avoid breathing vapours or spray mist.

Workers must wear long pants, a long-sleeved shirt and chemical-resistant gloves. Goggles or a face shield are required during mixing and loading. Gloves are not required to be worn during groundboom applications but are required for mixing/loading, clean-up and repair.

Do not enter or allow workers entry into treated areas for 12 hours following application to all crops.

**AT COMPLETION OF SPRAYING OR END OF THE DAY:** Take a shower immediately. Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing at the end of the work session and store and wash separately from household laundry using detergents and hot water before reuse.

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**TOXICOLOGICAL INFORMATION**

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**AGRICULTURAL CHEMICAL**

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

**ENVIRONMENTAL HAZARDS**

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 (for example, sandy soil) and/or the depth to the water table is shallow.

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 rainfall, moderate to steep slope, bare soil, poorly draining soil (for example, 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.

## **STORAGE**

Store away from food, feedstuff, fertilizer, seeds, insecticides, fungicides or other pesticides or herbicides intended to be used on crops sensitive to ADAMA Clopyralid 360. Store in heated storage; if product is frozen, bring to room temperature and agitate before use.

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## **GENERAL INFORMATION**

ADAMA Clopyralid 360 is a liquid concentrate intended for dilution with water and for use on canola, sugar beets, summerfallow, flax (including low linolenic acid varieties), wheat (spring), barley (spring), oats, seedling and established grasses grown for forage and seed production and non-crop farmland. It is readily absorbed by both foliage and roots and translocates both upwards and downwards in plants. The product controls Canada thistle, wild buckwheat, scentless chamomile, common groundsel and volunteer alfalfa. It suppresses growth of perennial sow-thistle through control of top growth.

## **DIRECTIONS FOR USE**

### **VEGETATION AND CROP PRECAUTIONS**

Do not use in greenhouses.

#### **Sensitive Plants**

Do not apply ADAMA Clopyralid 360 directly to, or otherwise permit it to come into contact with sunflowers, legumes (such as peas, beans, lentils or alfalfa), fruit or vegetable crops, flowers or other desirable broadleaved plants. Take precautions to prevent spray mists containing it to drift onto them. Residues of ADAMA Clopyralid 360 can remain in the soil following the year of use, thereby affecting growth of sensitive crops.

Special precautions should be taken during application to non cropland areas such as roadsides, pipelines and railways where sensitive desirable vegetation may be present. Do not apply to or allow drift to come into contact with sensitive desirable vegetation such as vetch or clover which may be found on embankments.

### **Non-Target Sites**

Avoid contamination of non-target land, water or irrigation ditches. Do not use ADAMA Clopyralid 360 in the following areas: standing or flowing water; the inner banks or bottoms of irrigation ditches; in areas where surface water can run off to adjacent croplands either planted or to be planted to sensitive crops.

### **Crop Rotation**

Fields previously treated with ADAMA Clopyralid 360 can be seeded the following year to wheat, oats, barley, rye (not underseeded with legumes, clover or alfalfa), forage grasses, flax, canola, mustard or it can be summerfallowed.

Do not seed to crops other than those listed above in the calendar year following treatment.

### **Tank Mixtures**

In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 or <http://www.adama.com/canada/en/crop-protection> for information before mixing any pesticide or fertilizer that is not specifically recommended on this label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by ADAMA Agricultural Solutions Canada Ltd.

### **Grazing and Harvesting for Feed**

There are no restrictions on the grazing of crops or forages treated with ADAMA Clopyralid 360. If necessary, treated areas may be grazed immediately following application.

### **Manure and Straw**

Residues of the herbicide occurring in the straw may be harmful to susceptible plants; therefore, do not use straw or crop residue from treated crops for composting or mulching susceptible broadleaved crops. If the straw or crop residue is used for animal bedding or feed, return the manure to fields to be planted to clopyralid tolerant crops such as wheat, barley, oats, rye, forage grasses, canola or flax. Do not grow susceptible crops such as peas, beans, lentils, potatoes, sunflowers or other sensitive crops on land which has been mulched with straw containing ADAMA Clopyralid 360 residues within the last 12 months.

### **SPRAY EQUIPMENT AND CONTAINER PRECAUTIONS**

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

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) medium classification. Boom height must be 60 cm or less above the crop or ground.

### **DO NOT APPLY BY AIR.**

#### **To Reduce Spray Drift**

- Use nozzles that deliver higher volumes and coarser droplets.
- Use low pressures (200 to 275 kPa).
- Use 100 to 200 L/ha of spray solution.
- Spray when the wind velocity is 15 km/hr or less.

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

Equipment used to apply ADAMA Clopyralid 360 should not be used to apply other pesticides to sensitive crops without thorough cleaning. Contact your ADAMA Clopyralid 360 dealer for a detailed equipment cleaning procedure.

## APPLICATION DIRECTIONS

### Spray Preparation

To prepare the spray solution add about half the desired amount of water to the spray tank, then with mechanical or bypass agitation, add the recommended amount of ADAMA Clopyralid 360. Mix thoroughly in the tank. Second, add the recommended tank-mix herbicide. Finally with continued agitation, add the rest of the water.

### Spray Application Volume

Apply ADAMA Clopyralid 360 at 0.28 to 0.83 L/ha plus any other herbicide approved as a tank-mix at the recommended rate in sufficient water to ensure thorough coverage (100 to 200 L/ha of spray solution) by ground equipment only at pressures of 200 to 275 kPa. Treat when weeds are young and actively growing, when the Canada thistle is in the rosette to pre-bud stage and before the purple bud stage and volunteer alfalfa is 5-50 cm in height.

For spot spraying of weed patches, mix the required volume of ADAMA Clopyralid 360 in 200 L of water and apply to 1000 m<sup>2</sup> of weeds. Refer to the following table for the correct amount of ADAMA Clopyralid 360 to use:

Recommended Rate of ADAMA Clopyralid 360 Required Per Hectare	Volume of ADAMA Clopyralid 360 Required To Treat 1000 m <sup>2</sup>
0.28 L	28 mL
0.42 L	42 mL
0.56 L	56 mL
0.83 L	83 mL

### Approximate Conversions:

200 to 275 kPa = 30 to 40 PSI

100 to 200 L/ha = 10 to 20 gallons/acre

1 sq. metre = 1.2 sq. yards

1 L/ha = 14 fl. oz./acre

## DIRECTIONS FOR USE – ADAMA Clopyralid 360 Applied Alone

### CROPLAND AND NON-CROP FARMLAND AREAS

Weeds Controlled	Rate <sup>♦</sup>
Canada thistle (top growth) vetch ( <i>Vicia</i> spp.) alsike clover	0.42 L/ha
Canada thistle scentless chamomile wild buckwheat perennial sow-thistle (top growth) common groundsel volunteer alfalfa common ragweed sheep sorrel (suppression) ox-eye daisy (suppression) kudzu (for short term suppression of top growth)	0.56 L/ha
Canada thistle (season-long control of top growth with a reduction in population in the following year) kudzu (for up to season long suppression of top growth)	0.83 L/ha

<sup>♦</sup> Refer to individual crop sections below for appropriate use rate.



### **Weed Stages at Application**

Applications of ADAMA Clopyralid 360 should be made when Canada thistle, perennial sow-thistle and scentless chamomile are in the rosette to pre-bud stage of growth. Best results are obtained when Canada thistle is actively growing and soil moisture is adequate for rapid growth. Under dry soil conditions and poor growing conditions, control of Canada thistle may be severely reduced. Applications of ADAMA Clopyralid 360 made after the Canada thistle flower has reached the purple bud stage will not provide satisfactory control.

### **Control of Canada Thistle**

For in crop control of top growth of Canada thistle apply ADAMA Clopyralid 360 at the rate of 0.42 L/ha. This will suppress top growth of Canada thistle for 6 to 8 weeks. Some regrowth may occur by the end of the season but this will not interfere with the harvesting of the crop.

For season long control of top growth of Canada thistle apply ADAMA Clopyralid 360 at the rate of 0.56 L/ha. This rate will generally provide season long control of Canada thistle. Not all rhizomes will be killed and some regrowth may occur by the end of the growing season.

For season long control of top growth, with a reduction of Canada thistle population in the following year, apply ADAMA Clopyralid 360 at the rate of 0.83 L/ha. This rate will provide season long control of Canada thistle and suppression into the following season, resulting in a reduction of the total number of Canada thistle shoots in the treated area.

### **Kudzu**

In farmland non-crop areas, e.g., storage areas, farm buildings, fence rows, repeat annual applications in a minimum spray volume of 200 L/ha are required to suppress this vine due to regrowth from tubers and crowns and new growth from dormant seed in response to soil disturbance. Repeat annual applications in a minimum of 100 L water/ha may be required in cultivated fields, including summerfallow, where kudzu seed is known to be present. Application may be made by means of a backpack or hand held sprayer for small infestations.

### **CANOLA (Western Canada Only)**

For use on Polish and Argentine varieties, including canola. ADAMA Clopyralid 360 should be diluted with water and applied at the 2 to 6 leaf stage of the crop to effectively control Canada thistle, scentless chamomile, common groundsel, wild buckwheat, the top growth of perennial sow-thistle and volunteer alfalfa. For specific directions for control of Canada thistle only refer to the section: Control of Canada thistle.

### **Tank-mix Combinations in Canola**

REFER TO THE PRODUCT LABELS OF THESE HERBICIDES FOR A LIST OF OTHER WEEDS CONTROLLED, RATES (IF NOT LISTED IN THE TABLE BELOW) AND TIMINGS OF APPLICATION, WATER VOLUMES AND USE PRECAUTIONS.

<b>Herbicide Tank-Mix Partner</b>	<b>Rate ADAMA Clopyralid 360</b>	<b>Rate Tank-Mix Partner</b>	<b>Additional Weeds Controlled</b>
Poast Ultra	0.42 - 0.83 L/ha	0.32 - 0.47 L/ha plus Merge Adjuvant 0.75-1.0 L/ha	annual grass weeds, Canada thistle
Venture L Herbicide	0.42 – 0.83 L/ha	0.6 - 2.0 L/ha	annual grass weeds, Canada thistle

Select	0.42 - 0.83 L/ha	0.19 L/ha plus Amigo at 0.5% v/v	Canada thistle <sup>***</sup> , wild buckwheat <sup>****</sup> , wild oats, green foxtail, volunteer barley, volunteer wheat, and volunteer oats
Odyssey <sup>®</sup> WDG <sup>*</sup>	0.42 - 0.56 L/ha	29 - 43 g/ha	Canada thistle (ADAMA Clopyralid 360 at 0.42 L/ha will provide top growth control of Canada thistle for 6-8 weeks, while the 0.56 L/ha rate will provide season long control of top growth)
Vantage <sup>™</sup> Plus Max II <sup>**</sup> Roundup Transorb HC Liquid <sup>**</sup> Roundup WeatherMAX With Transorb 2 Technology <sup>**</sup>	0.28 L/ha	0.94 L/ha 0.83 L/ha 0.83 L/ha	For rates and timing of application for annual grass and broadleaf weeds please see tank-mix partner label.  Weeds controlled season long: Canada thistle (season-long top growth), dandelions <15 cm diameter (season-long top growth), dandelions >15 cm diameter (suppression), perennial sowthistle (season-long top growth), perennial sowthistle (season-long top growth), wild buck wheat

<sup>\*</sup> Clearfield canola varieties only – apply to Clearfield canola when in the 2 to 6 leaf stage and Canada thistle is actively growing.

<sup>\*\*</sup> Glyphosate-tolerant canola varieties only – apply to canola when in the 2 to 6 leaf stage. Use 100 L/ha water.

<sup>\*\*\*</sup>Canada thistle – 0.42 L ADAMA Clopyralid 360/ha top growth control to 6-8 weeks, 0.56 L ADAMA Clopyralid 360/ha season-long control, 0.83 L ADAMA Clopyralid 360/ha control into following year

<sup>\*\*\*\*</sup>Wild buckwheat – 0.56 L ADAMA Clopyralid 360/ha for season-long control

### Tank-Mix Instructions

**Note 1:** When tank mixing water soluble formulations such as ADAMA Clopyralid 360 with emulsifiable concentrates such as Poast Ultra, Fusion, and Select herbicides, first add the ADAMA Clopyralid 360 to the spray tank. Once it is half filled with water, add the emulsifiable concentrate as the remaining water is put into the spray tank.

**Note 2:** If the sprayer has been previously used to apply herbicides which contain 2,4-D or MCPA herbicides, it is imperative that the spray equipment be thoroughly cleaned before ADAMA Clopyralid 360 is mixed in the spray tank. Trace contamination of the spray solution with these herbicides will result in damage to the canola.

**Note 3:** Use 100 L/ha of water. Use a 50 mesh (or coarser) filter screen. Fill the spray tank three-quarters full with water. Add the required amount of Odyssey WDG herbicide soluble bag(s) directly into the sprayer through the tank opening. Agitate for at least ten minutes to dissolve the herbicide. After the herbicide is dissolved, use a separate calibrated measuring device to add the required amount of ADAMA Clopyralid 360 while agitating the spray solution. After the ADAMA Clopyralid 360 is dissolved, continue agitation and add the required amount of Merge adjuvant or non-ionic surfactant plus fertilizer. If excess foaming occurs, a silicone anti-foaming agent may be added (e.g. Halt). Complete filling the tank to the desired level with water. If agitation is stopped for more than 5 minutes, re-suspend spray solution by full agitation prior to commencing spraying again. Between loads of Odyssey WDG herbicide, check in-line and nozzle screens and rinse and clean if necessary. Upon completion of spraying Odyssey WDG herbicide, thoroughly flush tank, boom, hoses and in-line and nozzle screens with clean water to avoid possible injury to other crops.

**FLAX, Including Low Linolenic Acid Varieties  
(Western Canada Only)**

For use in flax, ADAMA Clopyralid 360 should be applied when the flax is 5 to 10 cm high and the weeds are actively growing. Use ADAMA Clopyralid 360 at 0.56 to 0.83 L/ha to control Canada thistle, common groundsel, scentless chamomile, wild buckwheat, perennial sow-thistle (top growth) and volunteer alfalfa.

The 0.83 L/ha rate will extend control of Canada thistle into the following year.

**Tank-Mix Combinations in Flax**

REFER TO THE PRODUCT LABELS OF THESE HERBICIDES FOR A LIST OF OTHER WEEDS CONTROLLED, RATES (IF NOT LISTED IN THE TABLE BELOW) AND TIMINGS OF APPLICATION, WATER VOLUMES AND USE PRECAUTIONS.

Herbicide Tank-Mix Partner	Rate ADAMA Clopyralid 360	Rate Tank-Mix Partner	Additional Weeds Controlled
MCPA Ester or MCPA Amine  MCPA Amine (500 g ae/L) MCPA Ester (500 g ae/L)  MCPA Ester (600 g ae/L)	0.42 L/ha	420 - 560 g a.e./ha  0.84 - 1.12 L/ha  0.7 - 0.93 L/ha	Canada thistle (top growth control) shepherd's-purse, common groundsel common ragweed, cocklebur, dandelion, stinkweed, lamb's-quarters tartary buckwheat, scentless chamomile, wild buckwheat, wild mustard, volunteer canola, redroot pigweed*, perennial sow-thistle (top growth), volunteer alfalfa
Poast Ultra	0.42 - 0.83 L/ha	0.32 - 0.47 L/ha plus Merge Adjuvant 0.75-1.0 L/ha	annual grass weeds, Canada thistle
Poast Ultra plus MCPA Ester	0.42 - 0.83 L/ha	0.32 - 0.47 L/ha plus Merge Adjuvant 0.75-1.0 L/ha plus 420 - 560 g ai/ha	broadleaved, annual grasses, and certain perennial broadleaved weeds
Select	0.56 - 0.83 L/ha	0.19 L/ha + Amigo Adjuvant at 0.5% v/v	Canada thistle** , wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats, and wild buckwheat
Select plus MCPA Ester	0.21 - 0.28 L/ha	0.19 L/ha plus Amigo Adjuvant at 0.5 v/v plus 420 - 560 g a.e./ha	Low rate: 0.21 L/ha ADAMA Clopyralid 360 + 420 g a.e./ha MCPA Ester – Canada thistle (low infestation), wild oats, green foxtail, volunteer cereals (wheat, barley, oats).  High rate: 0.28 L/ha ADAMA Clopyralid 360 + 560 g a.e./ha MCPA Ester – Canada thistle (medium to high infestation), wild oats, green foxtail, red root pigweed, smartweed, sow-thistle (annual and perennial) (top growth), volunteer cereals (wheat, barley, oats), volunteer canola, and wild buckwheat

\* Refer to MCPA herbicide label for rates and control rating.

\*\*Canada thistle – 0.56 L ADAMA Clopyralid 360/ha for season-long control, 0.83 L ADAMA Clopyralid 360/ha control extended into following year.

### **Tank-Mix Instructions**

**Note 1:** Rates of MCPA ester herbicide of 420 g active ingredient/ha or higher, or MCPA amine herbicide of 490 g active ingredient/ha or higher may cause some delay in maturity with resulting yield reduction.

**Note 2:** Where contact herbicides such as bromoxynil herbicide are used (which damage the leaves of the Canada thistle) ADAMA Clopyralid 360 should be applied 7 to 14 days prior or after an interval of 14 days. This allows the Canada thistle to recover and resume growth.

**Note 3:** Add the correct amount of ADAMA Clopyralid 360 to spray tank half filled with water and agitate. Add the correct amount of Poast Ultra herbicide and continue to agitate. Add the correct amount of Merge adjuvant along with the remaining amount of water necessary to fill the spray tank. Continue agitation.

**Note 4:** Add the correct amount of ADAMA Clopyralid 360, then MCPA herbicide to half filled sprayer and agitate for 2 to 3 minutes. Next, add Poast Ultra herbicide, and follow with the addition of Merge adjuvant with the remaining water to the required spray volume. Continuously agitate at all times.

### **OATS (Western Canada Only), WHEAT (SPRING) AND BARLEY (SPRING)**

ADAMA Clopyralid 360 may be used on wheat (spring), barley (spring) and oats to control Canada thistle, common groundsel, perennial sow-thistle (top growth control), wild buckwheat, scentless chamomile and volunteer alfalfa. ADAMA Clopyralid 360 should be applied when the wheat, barley or oats are between the 3 leaf to flag leaf emergence stages of growth and weeds are actively growing. Since ADAMA Clopyralid 360 damages legumes such as clover and alfalfa, these should not be undersown into the cereals. See Grazing and Harvesting for Feed Section of label for grazing/harvesting intervals for immature crops.

### **Rates of Use**

ADAMA Clopyralid 360 may be used alone in cereals for Canada thistle control.

Use 0.42 L/ha of ADAMA Clopyralid 360 for the control of top growth of Canada thistle. This rate will suppress top growth of Canada thistle for 6 to 8 weeks. Some regrowth may occur by the end of the season but will not interfere with the harvesting of the crop.

Use 0.56 L/ha of ADAMA Clopyralid 360 for season long control of Canada thistle.

### **Tank-Mix Combinations Oats (Western Canada Only), Spring Wheat and Barley**

REFER TO THE PRODUCT LABELS OF THESE HERBICIDES FOR A LIST OF OTHER WEEDS CONTROLLED, RATES (IF NOT LISTED IN THE TABLE BELOW) AND TIMINGS OF APPLICATION, WATER VOLUMES AND USE PRECAUTIONS.

**The following tank mixtures will control both annual and perennial broadleaved weeds listed on the tank-mix partner labels and in addition the weeds named in the Comments column below**

<b>Herbicide Tank-Mix Partner</b>	<b>Crops Registered</b>	<b>ADAMA Clopyralid 360</b>	<b>Tank-Mix Partner</b>	<b>Additional Weeds Controlled</b>
2,4-D Ester or 2,4-D Amine  2,4-D Amine (470 g ae/L)  2,4-D Amine (564 g ae/L) 2,4-D Ester (564 g a.e./L)  2,4-D Ester (660 g ae/L)	spring wheat durum wheat spring barley	0.28 - 0.42 L/ha	420 - 560 g a.e./ha  0.9 - 1.2 L/ha  0.75 - 1.0 L/ha  0.64 – 0.85 L/ha	Canada thistle (ADAMA Clopyralid 360 at 0.28 L/ha will control Canada thistle for 6 to 8 weeks and at 0.42 L/ha rate will provide season long control) <b>DO NOT USE ON OATS</b>
MCPA Ester or MCPA Amine  MCPA Amine (500 g ae/L) MCPA Ester (500 g ae/L)  MCPA Ester (600 g ae/L)	spring wheat durum wheat spring barley oats	0.28 - 0.42 L/ha	420 - 560 g ae/ha  0.84 - 1.12 L/ha  0.7 – 0.93 L/ha	Canada thistle (ADAMA Clopyralid 360 at 0.28 L/ha will control Canada thistle for 6 to 8 weeks and at 0.42 L/ha rate will provide season long control)
MCPA Ester plus Achieve Liquid	spring wheat durum wheat spring barley	0.21 - 0.28 L/ha	420 - 560 g ae/ha plus 0.5 L/ha plus Turbocharge 0.5% v/v	green foxtail, yellow foxtail, barnyard grass, Persian dandel, wild oats <b>DO NOT USE ON OATS</b>
MCPA Ester plus Assert 300 SC	spring wheat durum wheat spring barley	0.21 - 0.28 L/ha	420 - 560 g ae/ha plus 1.3 - 1.6 L/ha	wild oats: use 1.3 L/ha of Assert 300 SC on 1-3 leaf wild oats and 1.6 L/ha of Assert 300 SC on 4 leaf wild oats. <b>DO NOT USE ON OATS</b>
MCPA Ester plus Axial 100 EC	spring wheat spring barley	0.21 - 0.28 L/ha	420 - 560 g ae/ha plus 600 mL/ha plus Adigor 700 mL/ha	wild oats, green foxtail, yellow foxtail, volunteer oats, volunteer canary seed, proso millet <b>DO NOT USE ON OATS</b>
MCPA Ester plus Everest Solupak 70DF	spring wheat	0.21 - 0.28 L/ha	420 - 560 g ae/ha plus 43 g/ha	green foxtail, wild oats <b>DO NOT USE ON OATS</b>
MCPA Ester plus Horizon 240 EC	spring wheat durum wheat	0.21 - 0.28 L/ha	420 - 560 g ae/ha plus 230 - 290 mL/ha + Score Adjuvant 0.8 - 1.0% v/v	wild oats, green & yellow foxtail, volunteer (tame) oats, barnyard grass, volunteer canary seed at 230 mL/ha Horizon 240 EC plus 0.8% v/v Score Adjuvant

				above weeds plus Persian danel at 290 mL/ha Horizon 240 EC plus 1.0% v/v Score Adjuvant DO NOT USE ON OATS
MCPA Ester plus Puma 120 Super	spring wheat durum wheat spring barley	0.21 - 0.28 L/ha	420 - 560 g ae/ha plus 385 - 770 mL/ha	green foxtail at 385 mL/ha of Puma 120 Super  green foxtail, wild oats, barnyard grass at 770 mL/ha of Puma 120 Super DO NOT USE ON OATS
Florasulam SC plus MCPA Ester	spring wheat durum wheat spring barley oats	0.21 L/ha	0.1 L/ha plus 420 g ae/ha	Canada thistle, volunteer canola*, common chickweed, cleavers, dandelions (seedlings; over-wintered rosettes <15 cm), flixweed (spring rosettes only), hempnettle, lamb's quarters, pigweed, redroot, shepherd's purse, smartweed, perennial sowthistle (top growth only)**, annual sowthistle, stinkweed, stork's-bill, wild buckwheat, and wild mustard, and suppression of dandelion (over-wintered rosettes >15 cm; mature plants)  *Including Roundup Ready, Liberty-Link and Smart herbicide-tolerant canola varieties **Control not observed until a minimum of 40 days after treatment
Florasulam SC plus MCPA Ester plus Assert 300 SC	spring wheat durum wheat spring barley	0.21 L/ha	0.1 L/ha plus 420 g ae/ha +/- 1.6 L/ha	wild oats Use 1.3 L/ha of Assert 300 SC on 1-3 leaf wild oats and 1.6 L/ha of Assert 300 SC on 4 leaf wild oats DO NOT USE ON OATS
Florasulam SC plus MCPA Ester plus Everest Solupak 70DF	spring wheat durum wheat	0.21 L/ha	0.1 L/ha plus 420 g ae/ha plus 43 g/ha plus Agral 90 or AgSurf 0.25% v/v	green foxtail, wild oats DO NOT USE ON OATS

<p>Florasulam SC plus MCPA Ester plus Axial 100 EC</p>	<p>spring wheat spring barley</p>	<p>0.21 L/ha</p>	<p>0.1 L/ha plus 420 g ae/ha plus 600 mL/ha plus Adigor 700 mL/ha</p>	<p>wild oats, green foxtail*, yellow foxtail, volunteer oats, volunteer canary seed, proso millet, and barnyard grass** *Suppression only of green foxtail. **A reduction in barnyard grass control may be observed with this tank-mix combination. <b>DO NOT USE ON OATS</b></p>
<p>Starane™ II plus MCPA Ester</p>	<p>spring wheat durum wheat spring barley</p>	<p>0.21 L/ha  or  0.28 L/ha</p>	<p>0.31 L/ha plus 420 g ae/ha   0.41 L/ha plus 560 g ae/ha</p>	<p>Low rate: cleavers (1-4 whorls), Canada thistle (low infestations), volunteer flax (1-12 cm), flixweed (spring seedling 2- 4 lf), kochia***, lamb's- quarters, wild mustard, shepherd's purse, stinkweed, volunteer sunflower and suppression of stork's-bill (1-8 leaf)</p> <p>High rate: cleavers (1-4 whorls), flixweed**, kochia***, lamb's quarters, shepherd's-purse, stinkweed, stork's bill (1-8 leaf), sunflower (volunteer),volunteer flax (1-12 cm), wild mustard, tartary, buckwheat, wild buckwheat (1-4 leaf), Canada thistle* (medium to high infestations), volunteer canola, dandelion** common groundsel, round-leaved mallow (1-6 leaf), red-root pigweed, Russian pigweed, scentless chamomile, smartweed, annual sowthistle, perennial sowthistle*, and suppression of common chickweed***, hemp- nettle (2-6 leaf stage)</p> <p>* Season long control, with some regrowth in the fall (top growth control). ** spring rosettes only. *** Including biotypes resistant to Group 2</p>



				herbicides that inhibit the ALS enzyme. DO NOT USE ON OATS
Starane II plus MCPA Ester plus Achieve Liquid	spring wheat durum wheat spring barley	0.21 L/ha  or  0.28 L/ha	0.31 L/ha plus 420 g ae/ha plus 0.5 L/ha  or  0.41 L/ha plus 560 g ae/ha plus 0.5 L/ha plus Turbocharge 0.5% v/v	plus green foxtail, wild oats DO NOT USE ON OATS
Starane II plus MCPA Ester plus Assert 300 SC	spring wheat durum wheat spring barley	0.21 L/ha  or  0.28 L/ha	0.31 L/ha plus 420 g ae/ha plus 1.3 - 1.6 L/ha  or  0.41 L/ha plus 560 g a.e./ha plus 1.3 - 1.6 L/ha	wild oats Use 1.3 L/ha of Assert 300 SC on 3-4 leaf wild oats and 1.6 L/ha of Assert 300 SC on 4 leaf wild oats DO NOT USE ON OATS
Starane II plus MCPA Ester plus Everest Solupak 70DF	spring wheat durum wheat	0.21 L/ha  or  0.28 L/ha	0.31 L/ha plus 420 g ae/ha plus 43 g/ha or 0.41 L/ha plus 560 g ae/ha plus 43 g/ha	green foxtail, wild oats DO NOT USE ON OATS

Starane II plus MCPA Ester plus Horizon 240 EC	spring wheat durum wheat	0.21 L/ha  or  0.28 L/ha	0.31 L/ha plus 420 g ae/ha plus 230 mL/ha + Score Adjuvant 0.8% v/v or 0.41 L/ha plus 560 g ae/ha plus 230 mL/ha + Score Adjuvant 0.8% v/v	green foxtail, wild oats DO NOT USE ON OATS
Starane II plus MCPA Ester plus Puma 120 Super	spring wheat durum wheat spring barley	0.21 L/ha  or  0.28 L/ha	0.31 L/ha plus 420 g ae/ha plus 385 - 770 mL/ha or 0.41 L/ha plus 560 g ae/ha plus 385 - 770 mL/ha	green foxtail at 385 mL/ha of Puma 120 Super  green foxtail, wild oats, and barnyard grass at 770 mL/ha of Puma 120 Super DO NOT USE ON OATS
Refine Extra plus 2,4-D Ester or MCPA Ester	spring wheat spring barley (Western Canada only)	0.21 L/ha	20 g/ha + Agral 90 Adjuvant 0.2% v/v plus 420 g ae/ha	perennial sow thistle, wild buckwheat, volunteer canola, wild mustard, lady's thumb and stinkweed, while providing seasonal control of Canada thistle and suppression of cleavers DO NOT USE ON OATS

### Tank-Mix Instructions

**Note 1:** If a tank-mix partner requires the addition of an adjuvant add the recommended adjuvant and dilution rate to the tank-mix.

**Note 2:** When tank mixing with Refine Extra, mix Refine Extra herbicide first in fresh water, then add the required amount of ADAMA Clopyralid 360 followed by MCPA or 2,4-D herbicides. Add the surfactant last.

### SUMMERFALLOW AND NON-CROP FARMLAND

ADAMA Clopyralid 360 may be used on summerfallow (one application per year) and non-crop farmland (around farm buildings, storage areas, fence rows, etc.) at 0.83 L/ha for the control of Canada thistle, scentless chamomile, common groundsel, wild buckwheat, the top growth of perennial sow-thistle and volunteer alfalfa. The Canada thistle plants should be between the rosette and the early bud stage and actively growing at the time of spraying.

## SEEDLING AND ESTABLISHED GRASSES FOR SEED PRODUCTION AND FORAGE (WESTERN CANADA ONLY)

Including Kentucky bluegrass, smooth brome grass, reed canary grass, creeping red fescue, meadow fescue, tall fescue, meadow foxtail, orchard grass, altai wild ryegrass, Russian wild ryegrass, timothy, crested wheatgrass, intermediate wheatgrass, slender wheatgrass and streambank wheatgrass for forage and seed production and tall wheatgrass for forage only: For control of the weeds listed on the label plus alsike clover, apply ADAMA Clopyralid 360 at the rate of 0.42 to 0.83 L/ha in 110 to 220 L/ha of water. Make one application per season by ground sprayer. For seedling grasses, apply at the 2 to 4 leaf stage. For established grasses, apply at the shot-blade stage, or in the fall after harvest or in early spring. See Grazing and Harvesting for Feed Section.

## SUGAR BEETS

For Canada thistle control apply ADAMA Clopyralid 360 at 0.56 to 0.83 L/ha with ground equipment as a foliar spray either broadcast or in a band over the row. When applied in the band, the amount of ADAMA Clopyralid 360 should be reduced proportional to the band width. ADAMA Clopyralid 360 should be applied when sugarbeets are in the cotyledon to 8 leaf stage. For the most effective control of Canada thistle, apply ADAMA Clopyralid 360 as a broadcast treatment to the entire infested area. Do not apply within 90 days of harvest.

## BUFFER ZONES

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

For applications to rights-of-way, buffer zones for protection of sensitive terrestrial habitats are not required; however, the best available application strategies which minimize off-site drift, including meteorological conditions (for example, wind direction, low wind speed) and spray equipment (for example, coarse droplet sizes, minimizing height above canopy), should be used.

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, woodlots, hedgerows, riparian areas and shrublands).

Method of Application	Crop	Buffer Zones (metres) Required for the Protection of Terrestrial Habitat
field sprayer	wheat, barley, oats, flax, canola, forage grasses, sugar beet, non-crop uses	2*

\*Buffer zones for the protection of terrestrial habitats are not required for use on rights-of-way, including railroad ballast, rail and hydro rights-of-way, utility easements, roads and training grounds and firing ranges on military bases.

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

**NOTE:** Applicators may recalculate a site-specific buffer zone by combining information on current weather conditions and spray configuration for the following applications: all airblast applications, and for field and aerial applications which specify the following droplet size category wording on the product label: 'DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) [Fine or Medium or Coarse] classification.' To access the Buffer Zone Calculator, please visit the Pest Management Regulatory Agency web site.

## RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, ADAMA Clopyralid 360 is a Group 4 herbicide. Any weed population may contain or develop plants naturally resistant to ADAMA Clopyralid 360 and other Group 4 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 ADAMA Clopyralid 360 or other Group 4 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 ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 or at <http://www.adama.com/canada/en/crop-protection>.

**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 any way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.