

Container Label

GROUP	14	HERBICIDE
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EMPHASIS™ A

Herbicide

Emulsifiable Concentrate

AGRICULTURAL/COMMERCIAL

For Listed Weed Control in Fallow Systems, Preplant Burndown, Hooded Sprayer Applications,
and Harvest Aid Applications

ACTIVE INGREDIENT: Carfentrazone-ethyl 240 g/L

REGISTRATION NUMBER 33987 PEST CONTROL PRODUCTS ACT

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

KEEP OUT OF THE REACH OF CHILDREN

CAUTION

EYE AND SKIN IRRITANT

NET CONTENTS: 0.5 Litre - 1,020 Litres

ADAMA Agricultural Solutions Canada Ltd.
300 – 191 Lombard Ave.
Winnipeg, MB R3B 0X1
1-855-264-6262

For emergency medical help call PROPBARMA 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)

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.

PRECAUTIONS

KEEP OUT OF THE REACH OF CHILDREN.

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Caution. Harmful if swallowed, absorbed through the skin or inhaled. Causes moderate eye irritation. Avoid breathing vapours. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Do not use or store near heat or open flame.

PERSONAL PROTECTIVE EQUIPMENT

Mixers and loaders must wear long-sleeved shirt, long pants, chemical resistant gloves, and shoes plus socks. Applicators must wear long-sleeved shirt, long pants and shoes plus socks. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

DO NOT apply using aerial application equipment.

ENVIRONMENTAL PRECAUTIONS

This product contains aromatic petroleum distillates which are toxic to aquatic organisms. EMPHASIS™ A is toxic to non-target terrestrial and aquatic plants. 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.

DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches, wetlands), estuarine or marine habitats.

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

Observe buffer zones specified under DIRECTIONS FOR USE.

FIRST AID

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 IMMEDIATELY for further treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 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 to 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 Swallowed: Call a poison control centre or doctor IMMEDIATELY for treatment advice. Contains petroleum distillates. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

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

TOXICOLOGICAL INFORMATION

Note to Physician: EMPHASIS™ A is expected to have low oral and dermal toxicity, and moderate inhalation toxicity. It is expected to be slightly irritating to the skin and minimally irritating to the eyes. Treatment is otherwise controlled by removal of exposure followed by symptomatic and supportive care. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia.

STORAGE

Not for use or storage in or around the home. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Isolate EMPHASIS™ A in storage to prevent contamination of other pesticides, fertilizers, water, food or animal feeds. In case of spill, avoid contact, isolate area and keep out unprotected persons and animals. Confine spills.

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-rinse 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).

Refillable Containers:

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

For information on 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.

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EMPHASIS is a trademark of ADAMA Agricultural Solutions Canada Ltd.

Booklet Label

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**TABLE OF
CONTENTS**

Section Number

**GENERAL
INFORMATION**

Notice to User	1
Product Information	2

**SAFETY AND
HANDLING**

Precautions, Protective Clothing and Equipment	3
Environmental Precautions	4
First Aid and Toxicological Information	5
Storage	6
Disposal	7

**DIRECTIONS FOR
USE**

Weeds and Crop Uses	8
Weeds Controlled	8.1
Preplant Burndown and Fallow Systems	8.2
Crops, Use Rates, Tank Mixes	
Hooded Sprayer Applications	8.3
Crops, Use Rates	
Sucker Management	8.4
Crops, Use Rates	
Primocane Control	8.5
Crops, Use Rate	
Harvest Aid Treatment	8.6
Crops, Use Rates, Tank Mixes	
Pre-Harvest Intervals for Hooded Applications and Harvest Aid	8.7
Application Information	9
General Application Instructions	9.1
Spray Buffer Zone for Ground Application	9.2
Crop Rotation Restrictions	9.3
Mixing and Loading Instructions	10
Sprayer Cleanup	11
Resistance-Management Recommendations	12

GENERAL INFORMATION

SECTION 1: 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.

SECTION 2: PRODUCT INFORMATION

EMPHASIS™ A is an emulsifiable concentrate formulation. EMPHASIS™ A is to be mixed with water and listed adjuvants and applied to labelled crops or sites.

EMPHASIS™ A used as directed will provide selective post-emergence control of broadleaf weeds, weed burndown prior to planting and defoliate/desiccate labelled crops as a harvest aid.

Weed control is optimized when the product is applied to actively growing weeds up to 10 cm in height, or as specified. EMPHASIS™ A is a contact herbicide. Within a few hours following application, the foliage of susceptible weeds shows signs of desiccation, and in subsequent days, necrosis and death of the plant occur.

Extremes in environmental conditions such as temperature, moisture, soil conditions, and cultural practices may affect the activity of EMPHASIS™ A. Under warm moist conditions, herbicide symptoms may be accelerated. While under very dry conditions, the expression of herbicide symptoms may be reduced as weeds hardened off by drought are less susceptible to EMPHASIS™ A.

EMPHASIS™ A is rapidly absorbed through the foliage of plants. To avoid significant crop response, applications should not be made within 6 to 8 hours of either rain or irrigation or when heavy dew is present on the crop. Due to environmental conditions and with certain spray tank additives, some herbicidal symptoms may appear on the crop.

SAFETY AND HANDLING

SECTION 3: PRECAUTIONS, PROTECTIVE CLOTHING AND EQUIPMENT

PRECAUTIONS

KEEP OUT OF THE REACH OF CHILDREN.

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

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PERSONAL PROTECTIVE EQUIPMENT

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SECTION 4: ENVIRONMENTAL PRECAUTIONS

This product contains aromatic petroleum distillates which are toxic to aquatic organisms. EMPHASIS™ A is toxic to non-target terrestrial and aquatic plants. 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.

DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches, wetlands), estuarine or marine habitats.

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

Observe buffer zones specified under DIRECTIONS FOR USE.

SECTION 5: FIRST AID AND TOXICOLOGICAL INFORMATION

FIRST AID

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 IMMEDIATELY for further treatment advice.

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IF IN EYES: Hold eye open and rinse slowly and gently with water for 15 to 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 SWALLOWED: Call a poison control centre or doctor IMMEDIATELY for treatment advice. Contains petroleum distillates. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

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SECTION 6: STORAGE

Not for use or storage in or around the home. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Isolate EMPHASIS™ A in storage to prevent contamination of other pesticides, fertilizers, water, food or animal feeds. In case of spill, avoid contact, isolate area and keep out unprotected persons and animals. Confine spills.

SECTION 7: DISPOSAL

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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.

DIRECTIONS FOR USE

EMPHASIS™ A can be applied only one time per growing season. EMPHASIS™ A may be applied as a **pre-plant burndown application, OR hooded application OR** as a **harvest aid**.

SECTION 8: WEEDS AND CROP USES

SECTION 8.1: WEEDS CONTROLLED

When used as directed, EMPHASIS™ A will provide control of the listed weeds up to ten (10) cm in height, or as specified.

Weeds Controlled	EMPHASIS™ A Use Rate mL per hectare
Lamb's-quarters, common (up to 7.5 cm tall) Morning glory (up to 3 leaves) Nightshade, black (up to 5 cm tall) Nightshade, Eastern black (up to 5 cm tall) Pigweed, redroot Velvetleaf Waterhemp, tall (up to 5 cm tall)	36.5 mL
All the weeds controlled at 36.5 mL per hectare plus the weeds listed below: Flixweed Lamb's-quarters, common Mallow, round-leaved Morning glory Nightshade, hairy Pennycress, field (stinkweed) Pigweed, prostrate Pigweed, smooth Pigweed, tumble Purslane, common Smartweed, Pennsylvania (seedling) Mustard, tansy Waterhemp, tall Waterhemp, common	58 mL
All the weeds controlled at 58 mL per hectare plus the weeds listed below: Carpetweed Cleavers Cocklebur Jimsonweed Kochia Nightshade, black Nightshade, Eastern black Thistle, Russian (up to 5 cm tall) Shepherd's purse Canola, volunteer, including glyphosate-tolerant	73 mL
All the weeds controlled at 73 mL per hectare plus the weeds listed below: Bureclover Lettuce, prickly Mallow, Venice (up to 5 cm tall) Spurry, corn	117 mL

SECTION 8.2: PREPLANT BURNDOWN AND FALLOW SYSTEMS

PREPLANT BURNDOWN

EMPHASIS™ A may be used for preplant burndown applications in crops from the crop groups listed below as well as potatoes.

Crop Subgroup 6: Legume Vegetable (Succulent or dried): bean (*Lupinus* spp. includes grain lupin, sweet lupin, white lupin, and white sweet lupin; *Phaseolus* spp. includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean; *Vigna* spp. includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean; chickpea; lentil; pea (*Pisum* spp. includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea); soybean.

Crop Group 8: Fruiting Vegetables (Except Cucurbits) (transplanted only): eggplant; groundcherry; pepino; pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper); tomatillo; tomato.

Crop Group 9: Cucurbit Vegetables (transplanted only): citron melon; cucumber; gherkin; *Momordica* spp. (includes bitter melon, Chinese cucumber); muskmelon (includes true cantaloupe, cantaloupe, casaba melon, crenshaw melon, golden pershaw melon, honeydew melon, honey ball melon, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon); pumpkin; squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon (includes hybrids and/or varieties of *Citrullus lanatus*).

Crop Group 15: Cereal Grains: barley; buckwheat; corn (includes sweet corn and field corn); millet, pearl; millet, proso; oats; popcorn; rye; sorghum; teosinte; triticale; wheat.

Crop Group 20: Oilseeds: rape seed; rape seed, Indian; mustard seed, Indian; mustard seed, Field; mustard seed; flax; sunflower; safflower.

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than ADAMA Agricultural Solutions Canada Ltd. (ADAMA) under the User Requested Minor Use Label Expansion program. For these uses, ADAMA has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

PRE-PLANT BURNDOWN APPLICATION TO MINT

Crop	Mint
Rate	37-117 mL/ha
Water Volume	Apply using a minimum water volume of 100 L/ha.
Adjuvant	Use Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge® at 1% v/v (1 litre per 100 litres of spray solution).
Pre-Harvest Interval	Do not apply within 91 days of harvest

Comments	For optimum performance, make application to actively growing weeds up to 10 cm high, or as specified. Coverage of the weeds is essential for good control. Apply only one application of EMPHASIS™ A to mint per season. Do not follow a pre-plant burndown application with a dormancy or hooded sprayer application of EMPHASIS™ A.
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FALLOW SYSTEMS

EMPHASIS™ A may be utilized in fallow cropping systems where crops are seeded and harvested in alternate years for soil moisture conservation.

EMPHASIS™ A HERBICIDE USE RATES FOR PRE-PLANT BURNDOWN AND FALLOW SYSTEMS

Apply EMPHASIS™ A for pre-plant burndown and fallow systems at up to 117 mL per hectare except for sorghum where EMPHASIS™ A may be applied for pre-plant burndown at up to 73 mL For optimum performance, make application to actively growing weeds up to 10 cm high, or as specified. **Coverage of the weeds is essential for good control.**

TANK-MIXES:

This product may be tank mixed 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 ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 for information before applying any tank mix that is not specifically recommended on this label.

EMPHASIS™ A HERBICIDE PLUS GLYPHOSATE

Apply EMPHASIS™ A at 36.5-73 mL per hectare in combination with registered glyphosate products at 450-900 grams of a.e./ha.

Use 100 L/ha water and ensure good coverage for maximum performance.

This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table:

Rate of Glyphosate	Weeds controlled
450 g a.e./ha ¹	Green foxtail
	Lady's thumb
	Volunteer barley
	Volunteer wheat
	Wild mustard
	Wild oats
450-685 g a.e./ha ¹	Weeds controlled by the 450 g a.e./ha rate plus:
	Canada fleabane (less than 8 cm in height)

Rate of Glyphosate	Weeds controlled
	Common ragweed (less than 8 cm in height)
	Downy brome
	Giant foxtail
	Hemp nettle
	Persian darnel
	Volunteer flax
	Narrow-leaved hawk's beard ²
	Wild buckwheat ³
810 g a.e./ha ¹	Weeds controlled by the 450-685 g a.e./ha rate plus:
	Annual bluegrass
	Annual sow thistle
	Crab grass
	Narrow-leaved vetch
	Prickly lettuce

900 g a.e./ha ¹	Weeds controlled by the 810 g a.e./ha rate plus:
	Canada thistle (rosette stage; summerfallow)
	Dandelion (less than 15 cm)
	Quackgrass (light to moderate infestations, 3-4 green leaves or more)

¹Weeds up to 15 cm in height are controlled by this rate unless otherwise specified

² Narrow-leaved hawk's-beard use 450 g a.e./ha if less than 8cm in height or 685 g a.e./ha if 8-15 cm

³ Wild buckwheat use 450 g a.e./ha if less than 3 leaves or 685 g a.e./ha if 3-4 leaf stage

EMPHASIS™ A HERBICIDE PLUS 2,4-D ESTER

Apply EMPHASIS™ A at 36.5-73 mL per hectare in combination with registered 2,4-D Ester products at 330-528 grams of a.e./ha.

Use 100 L/ha water and ensure good coverage for maximum performance.

This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table:

Rate of 2,4-D Ester	Weeds controlled
330-528 g a.e./ha ¹	Annual sow thistle
	Bluebur (before the 4-leaf stage)
	Burdock (before the 4-leaf stage)
	Common ragweed
	Daisy fleabane
	False flax
	False ragweed
	Giant ragweed
	Goat's beard
	Horsetail
	Mustards (except dog mustard)
	Narrow-leaved hawk's beard (1-2 leaf stage)
	Plantain
	Prickly lettuce
	Russian pigweed
	Stinging nettle
	Sweet clover (seedling)
	Thyme-leaved spurge
Wild buckwheat	
Wild radish	
Wild (prairie) sunflower	

¹Weeds less 8 cm tall and actively growing.

EMPHASIS™ A HERBICIDE PLUS PYROXASULFONE FOR GLYPHOSATE TOLERANT CORN AND SOYBEANS

Apply EMPHASIS™ A at 36.5 – 73 mL per hectare in combination with Pyroxasulfone 85 WG at 118 grams per hectare for early season control of certain weeds. A planned in-crop application of glyphosate should follow this use for season long control.

Use 100 L/ha water and ensure good coverage for maximum performance.

This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table.

Rate of Pyroxasulfone 85WG	Weeds controlled
118 g/ha ¹	Barnyard grass
	Common ragweed
	Downy brome
	Giant foxtail
	Green foxtail
	Green pigweed
	Italian ryegrass
	Japanese brome
	Large crabgrass
	Yellow foxtail
	Wild oats (suppression)
	Wild buckwheat (suppression)

¹This rate provides early season control only. An in-crop application of glyphosate will be needed for season long control.

EMPHASIS™ A HERBICIDE PLUS BROMOXYNIL CONTAINING PRODUCTS FOR BURNDOWN CONTROL OF VOLUNTEER CANOLA (ALL TYPES)

This tank mix provides burndown control of volunteer canola prior to seeding canola crops.

Apply EMPHASIS™ A at 36.5 – 73 mL per hectare in combination with listed bromoxynil products at 140 grams per hectare. Registered glyphosate products can be added to this tank mix at 450-900 g a.e./ha.

EMPHASIS™ A + bromoxynil products will control volunteer canola (all types including LibertyLink®, Clearfield®, and Roundup Ready®) from cotyledon stage up to the 4-leaf stage.

Use 100 L/ha water and ensure good coverage for maximum performance.

No adjuvant required when using this tank-mix with glyphosate.

See table below for rates of bromoxynil containing products based on concentration:

Products	Rate/Hectare
235 g/L NuFarm Koril® 235 or Bromotril® II 240 EC	600 mL
240 g/L IPCO Brotex® 240 or Bromotril® 240 EC	584 mL

EMPHASIS™ A HERBICIDE PLUS EXPRESS® SG HERBICIDE PLUS GLYPHOSATE

For control of broadleaf weeds and grasses in fallow and pre-seed to spring wheat (including durum), winter wheat, spring barley, oats and pulse crops (including chickpea, dry bean, faba bean, field pea, lentil, lupin and soybean).

With any chemfallow treatment, allow at least 10 days to elapse between treatment and tillage. Only weeds emerged at time of application will be controlled.

Fields treated with this tank mix can be seeded to spring wheat (including durum), winter wheat, spring barley, oats or pulse crops (including chickpea, dry bean, faba bean, field pea, lentil, lupin and soybean) a minimum of 24 hours after application.

Injury to pulse crops may occur on coarse-textured soils, low in organic matter (less than 3%), or in fields with variable soils, gravelly areas, sandy areas or eroded knolls. Avoid planting pulse crops in soils containing more than 50% sand.

Apply EMPHASIS™ A at 36.5 – 117 mL/ha with EXPRESS® SG Herbicide at 15 g/ha, tank mixed with glyphosate (present as potassium salt, isopropylamine salt, ammonium salt) at 270 – 450 g a.e./ha and adjuvant (where required) in a total spray volume of 100 L/ha. This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table.

Tank mixes not requiring surfactant:

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
EXPRESS® SG + Glyphosate (present as potassium salt, isopropylamine salt, ammonium salt)	15 g/ha + 450 g a.e./ha	Up to 8 cm	Canada fleabane, common ragweed, narrow leaved hawk's beard	Scentless chamomile
		Up to 15 cm	Dandelion, downy brome, flixweed, giant foxtail, green foxtail, hemp nettle, kochia, lady's thumb, lamb's-quarters, Persian darnel, redroot pigweed, Russian thistle, stinkweed, volunteer barley, volunteer canola (including glyphosate-tolerant varieties), volunteer flax, volunteer wheat, wild mustard, wild oats	
		Up to 3-leaf	Cow cockle, wild buckwheat	

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
		Up to 8-leaf	Common chickweed	
		Rosette		Canada thistle, White cockle

Tank mixes requiring surfactant:

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
EXPRESS® SG + Glyphosate (present as potassium salt, isopropylamine salt, ammonium salt) + Agral® 90	15 g/ha + 270 g a.e./ha + 0.35% v/v	Any stage	Volunteer canola (including glyphosate-tolerant)	
		Seedlings and rosettes		Narrow leaved hawk's beard
		Up to 8 cm	Green foxtail, lady's thumb, stinkweed, volunteer barley, volunteer wheat, wild buckwheat (1-3 leaf), wild mustard, wild oats (1-3 leaf)	
		Up to 10 cm	Kochia, lamb's quarters	Redroot pigweed, Russian thistle
EXPRESS® SG + Glyphosate (present as potassium salt, isopropylamine salt, ammonium salt) + Agral® 90	15 g/ha + 360 g a.e./ha + 0.35% v/v	Rosettes (non-flowering)	Dandelion (top growth)	Canada thistle (top growth)

*Weed suppression is a visual reduction in weed competition (reduced population or vigour) as compared to an untreated area. Degree of suppression will vary with size of weed and environmental conditions prior to and following treatment.

Consult the labels of tank mix partners for specific instructions of "Directions for Use" and restrictions.

EMPHASIS™ A PLUS NC-0050 Herbicide PLUS GLYPHOSATE

For use in the Prairie provinces and the Interior of British Columbia (including the Peace River Region) prior to seeding spring wheat (including durum) winter wheat, spring barley, oats and pulse crops (including chickpea, dry bean, faba bean, field pea, lentil, lupin and soybean) and for chemfallow applications.

With any chemfallow treatment, allow at least 10 days to elapse between treatment and tillage. Only weeds emerged at time of application will be controlled.

Fields treated with this tank mix can be seeded to spring wheat (including durum), winter wheat, spring barley, oats or pulse crops (including chickpea, dry bean, faba bean, field pea, lentil, lupin and soybean) a minimum of 24 hours after application.

Injury to pulse crops may occur on coarse-textured soils, low in organic matter (less than 3%), or in fields with variable soils, gravelly areas, sandy areas or eroded knolls. Avoid planting pulse crops in soils containing more than 50% sand.

Apply EMPHASIS™ A at 36.5 – 117 mL/ha with NC-0050 Herbicide at 15 g/ha, tank mixed with glyphosate (present as potassium salt, isopropylamine salt, ammonium salt) at 270 – 450 g a.e./ha and adjuvant (where required) in a total spray volume of 100 L/ha. This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table.

Tank mixes not requiring surfactant:

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
NC-0050 Herbicide + Glyphosate (present as potassium salt, isopropylamine salt, ammonium salt)	15 g/ha + 450 g a.e./ha	Up to 8 cm	Canada fleabane, common ragweed, narrow leaved hawk's beard	Scentless chamomile
		Up to 15 cm	Dandelion, downy brome, flixweed, giant foxtail, green foxtail, hemp nettle, kochia, lady's thumb, lamb's-quarters, Persian darnel, redroot pigweed, Russian thistle, stinkweed, volunteer barley, volunteer canola (including glyphosate-tolerant varieties), volunteer flax, volunteer wheat, wild mustard, wild oats	
		Up to 3-leaf	Cow cockle, wild buckwheat	
		Rosette		Canada thistle, White cockle

Tank mixes requiring surfactant:

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
NC-0050 Herbicide + Glyphosate (present as potassium salt, isopropylamine salt, ammonium salt) + Agral® 90	15 g/ha + 270 g a.e./ha + 0.35% v/v	Any stage	Volunteer canola (including glyphosate-tolerant)	
		Seedlings and rosettes		Narrow leaved hawk's beard
		Up to 8 cm	Green foxtail, lady's thumb, stinkweed, volunteer barley, volunteer wheat, wild buckwheat (1-3 leaf), wild mustard, wild oats (1-3 leaf)	
		Up to 10 cm	Kochia, lamb's quarters	Redroot pigweed, Russian thistle
NC-0050 Herbicide + Glyphosate (present as potassium salt, isopropylamine salt, ammonium salt) + Agral® 90	15 g/ha + 360 g a.e./ha + 0.35% v/v	Rosettes (non-flowering)	Dandelion (top growth)	Canada thistle (top growth)

*Weed suppression is a visual reduction in weed competition (reduced population or vigour) as compared to an untreated area. Degree of suppression will vary with size of weed and environmental conditions prior to and following treatment.

Consult the labels of tank mix partners for specific instructions of "Directions for Use" and restrictions.

EMPHASIS™ A HERBICIDE PLUS EXPRESS® FX HERBICIDE OR DB-878 HERBICIDE OR INTRUVIX™ A HERBICIDE PLUS GLYPHOSATE

For use in the Prairie provinces and the interior of British Columbia (including the Peace River Region) prior to seeding wheat (spring, durum and winter), spring barley and oats and for chemfallow applications.

With any chemfallow treatment allow at least 10 days to elapse between treatment and tillage. Only weeds emerged at time of application will be controlled.

Treated fields can be seeded to wheat (spring, durum and winter), spring barley or oats a minimum of 24 hours after application.

Apply EMPHASIS™ A at 36.5 – 117 mL/ha with EXPRESS® FX Herbicide or DB-878 Herbicide or INTRUVIX™ A Herbicide at 115 g/ha, tank mixed with glyphosate (present as potassium salt, isopropylamine salt, ammonium salt) at 270 – 450 g a.e./ha and adjuvant (where required) in a total spray volume of 100 L/ha. This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table.

Tank mixes not requiring surfactant:

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
EXPRESS® FX Herbicide or DB-878 Herbicide or INTRUVIX™ A Herbicide + Glyphosate (present as potassium salt, isopropylamine salt, or ammonium salt)	115 g/ha + 450 g a.e./ha	Up to 8 cm	Canada fleabane, common ragweed, kochia (including Group 2 and Group 9 resistant biotypes), narrow leaved hawk's beard	Scentless chamomile
		Up to 15 cm	Dandelion, downy brome, flixweed, giant foxtail, green foxtail, hemp nettle, lady's thumb, lamb's-quarters, Persian darnel, redroot pigweed, Russian thistle, stinkweed, volunteer barley, volunteer canola (including glyphosate-tolerant varieties), volunteer flax, volunteer wheat, wild mustard, wild oats	
		Up to 3-leaf	Cow cockle	
		Up to 8-leaf	Wild buckwheat	
		Rosette		Canada thistle, white cockle

Tank mixes requiring surfactant:

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
EXPRESS® FX Herbicide or DB-878 Herbicide or INTRUVIX™ A Herbicide + Glyphosate (present as potassium salt, isopropylamine salt, or ammonium salt) + Agral® 90	115 g/ha + 270 g a.e./ha + 0.35% v/v	Any stage	Volunteer canola (including glyphosate-tolerant)	
		Seedlings and rosettes		Narrow-leaved hawk's beard
		Up to 8 cm	Green foxtail, kochia (including Group 2 and Group 9 resistant biotypes), lady's thumb, stinkweed, volunteer barley, volunteer wheat, wild buckwheat (1-3 leaf), wild mustard, wild oats (1-3- leaf)	
		Up to 10 cm	Lamb's-quarters	Redroot pigweed, Russian thistle
EXPRESS® FX Herbicide or DB-878 Herbicide or	115 g/ha	Rosettes (non-flowering)	Dandelion (top growth)	Canada thistle (top growth)

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
INTRUVIX™ A Herbicide + Glyphosate (present as potassium salt, isopropylamine salt, or ammonium salt) + Agral® 90	+ 360 g a.e./ha + 0.35% v/v			

*Weed suppression is a visual reduction in weed competition (reduced population or vigour) as compared to an untreated area. Degree of suppression will vary with size of weed and environmental conditions prior to and following treatment.

When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions of all tank mix partners.

NOTE: If rain occurs soon after application control may be reduced. Environmental conditions that slow the drying of the spray mixture on the foliage such as high relative humidity, cool air temperatures or cloud cover, may increase the time required for absorption.

EMPHASIS™ A HERBICIDE PLUS EXPRESS® PRO HERBICIDE OR NC-00439 HERBICIDE PLUS GLYPHOSATE

For use in the Prairie provinces, Peace River Region and the Interior of British Columbia prior to seeding wheat (spring, durum and winter) and spring barley and for chemfallow applications.

With any chemfallow treatment, allow at least 10 days to elapse between treatment and tillage. Only weeds emerged at time of application will be controlled.

Treated fields can be seeded to wheat (spring, durum and winter) or spring barley a minimum of 24 hours after application.

Apply EMPHASIS™ A at 36.5 – 117 mL/ha with EXPRESS® PRO Herbicide or NC-00439 Herbicide at 17.5 g/ha, tank mixed with glyphosate (present as potassium salt, isopropylamine salt, ammonium salt or trimethylsulfonium salt) at 270 – 450 g a.e./ha and adjuvant (where required) in a total spray volume of 100 L/ha. This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table.

Tank mixes not requiring surfactant:

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed *
EXPRESS® PRO Herbicide or NC-00439 Herbicide + Glyphosate (present as potassium salt, isopropylamine salt, ammonium salt or trimethylsulfonium salt)	17.5 g/ha + 450 g a.e./ha	Up to 8 cm	Canada fleabane, cleavers ^R , common ragweed, narrow-leaved hawk's beard ^R , scentless chamomile	Night flowering catchfly
		1-6 leaf	Chickweed	
		Up to 15 cm	Dandelion ^R , downy brome, flixweed, giant foxtail, green foxtail, hemp nettle, kochia, lady's thumb, lamb's-quarters, Persian dandelion, redroot pigweed, Russian thistle, stinkweed, volunteer barley, volunteer canola ^R (including glyphosate-tolerant varieties), volunteer flax, volunteer wheat, wild mustard, wild oats	
		Up to 3-leaf	Cow cockle, wild buckwheat	
		Rosette	White cockle	Canada thistle

Tank mixes requiring surfactant:

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
EXPRESS® PRO Herbicide or NC-00439 Herbicide + Glyphosate (present as potassium salt, isopropylamine salt, ammonium salt or trimethylsulfonium salt) + Agral® 90	17.5 g/ha + 270 g a.e./ha	Seedlings and rosettes		Narrow-leaved hawk's beard
		Up to 8 cm	Green foxtail, lady's thumb, stinkweed, volunteer barley, volunteer wheat, wild buckwheat (1-3 leaf), wild mustard, wild oats (1-3-leaf)	
		Up to 10 cm	Kochia, lamb's-quarters	Redroot pigweed, Russian thistle
		Up to 15 cm	Volunteer canola ^R (including glyphosate tolerant)	
EXPRESS® PRO Herbicide or NC-00439 Herbicide + Glyphosate	17.5 g/ha + 360 g a.e./ha	Rosettes (non-flowering)	Dandelion ^R (top growth)	Canada thistle (top growth)

Tank Mix Partners	Application Rate	Application Stage	Weeds Controlled	Weeds Suppressed*
(present as potassium salt, isopropylamine salt, ammonium salt or trimethylsulfonium salt) + Agral® 90	+ 0.35% v/v			

*Weed suppression is a visual reduction in weed competition (reduced population or vigour) as compared to an untreated area. Degree of suppression will vary with size of weed and environmental conditions prior to and following treatment.

^R Residual control. Degree and duration of residual control will depend on environmental conditions at and following treatment and weed infestation levels.

When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions of all tank mix partners.

EMPHASIS™ A HERBICIDE PLUS COMMAND® 360ME

For use as part of an integrated approach for the control of weeds in herbicide-tolerant canola varieties. Application of a post emergence herbicide (e.g., a herbicide to which the canola variety is tolerant) is recommended.

Apply as a single, soil-applied application prior to seeding canola.

Apply in a minimum of 100 L of water per hectare.

Do not incorporate.

Do not apply to sandy soil. Control may be reduced in high organic matter soils.

This tank mix requires the addition of Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge at 1% v/v (1 litre per 100 litres of spray solution).

Apply EMPHASIS™ A at 36.5 – 117 mL/ha with COMMAND 360ME at 0.25 – 0.33 L/ha in a total spray volume of 100 L/ha. This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table.

Tank Mix Partner	Application Rate	Application Stage	Weeds Controlled
COMMAND® 360ME	0.25 ¹ L/ha – 0.33 L/ha	Apply as a single, soil-applied application prior to seeding canola	Cleavers (early-season control)

¹Suppression only at 0.25 L/ha. Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

Temporary whitening and/or yellowing of the crop may occur when emerging from the treated soil. Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.

When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions of all tank mix partners.

EMPHASIS™ A HERBICIDE PLUS COMMAND® 360ME PLUS GLYPHOSATE

For use as part of an integrated approach for the control of weeds in herbicide-tolerant canola varieties. Application of a post emergence herbicide (e.g., a herbicide to which the canola variety is tolerant) is recommended.

Apply as a single, soil-applied application prior to seeding canola.

Apply in a minimum of 100 L of water per hectare.

Do not incorporate the tank mix.

Do not apply to sandy soil. Control may be reduced in high organic matter soils.

Apply EMPHASIS™ A at 36.5 – 117 mL/ha with COMMAND 360ME at 0.25 – 0.33 L/ha and glyphosate at 450 – 900 g a.e./ha in a total spray volume of 100 L/ha. This tank mix will control weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, as well as those listed in the following table. An adjuvant is not required for this tank mix.

Tank Mix Partner	Application Rate	Application Stage	Weeds Controlled
COMMAND® 360ME	0.25 ¹ L/ha – 0.33 L/ha	Apply as a single, soil-applied application prior to seeding canola	Cleavers (early-season control)
Glyphosate	450 g a.e./ha ²		Barley, volunteer Foxtail, green Lady's thumb Mustard, wild Oats, wild Wheat, volunteer
	450 - 685 g a.e./ha ²		Weeds controlled by the 450 g a.e./ha rate plus: Brome, downy Buckwheat, wild ³ Darnel, Persian Flax, volunteer Fleabane, Canada (less than 8 cm in height) Foxtail, giant Hemp nettle Narrow-leaved hawk's beard ⁴ Ragweed, common (less than 8 cm in height)
	810 g a.e./ha ²		Weeds controlled by the 450 – 685 g a.e./ha rate plus: Bluegrass, annual Crab grass Narrow-leaved vetch Prickly lettuce Sowthistle, annual
	900 g a.e./ha ²		Weeds controlled by the 810 g a.e./ha rate plus: Dandelion (less than 15 cm) Quackgrass (light to moderate infestations, 3-4 green leaves or more)

¹Suppression only at 0.25 L/ha. Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

²Weeds up to 15 cm in height are controlled by this rate unless otherwise specified

³For wild buckwheat use 450 g a.e./ha if less than 3 leaves or 685 g a.e./ha if 3-4 leaf stage

⁴For narrow-leaved hawk's-beard use 450 g a.e./ha if less than 8cm in height or 685 g a.e./ha if 8-15 cm

Temporary whitening and/or yellowing of the crop may occur when emerging from the treated soil. Susceptible weed species may emerge from the soil but are devoid of pigmentation and plant death occurs in a short period of time.

EMPHASIS™ A HERBICIDE PLUS AUTHORITY® 480 HERBICIDE

For use prior to seeding chickpeas, field peas, fababeans, flax, sunflower, soybeans or mustard.

Apply EMPHASIS™ A at 36.5 – 117 mL/ha with AUTHORITY® 480 Herbicide at a rate of 219 – 292 mL/ha in a total spray volume of 100 L/ha. This tank mix will control emerged weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, and will provide extended control of weeds listed in the following table:

Tank Mix Partner	Application Rate	Application Stage	Weeds Controlled
AUTHORITY® 480 Herbicide	219 mL/ha	Apply as a single, soil-applied application prior to seeding chickpeas, field peas, fababeans, flax, sunflowers, soybeans or mustard ² .	Kochia
	292 mL/ha		Cleavers (suppression) ¹ Common groundsel Common purslane Common waterhemp Eastern black nightshade Kochia Lamb's quarters Large crabgrass Redroot pigweed Smooth crabgrass Wild buckwheat Yellow woodsorrel

¹Suppression only. Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

²Low rate only of AUTHORITY® 480 Herbicide on mustard.

Use the higher rates within the rate range for soils with pH less than 7.0 and organic matter greater than 3%.

Do not apply to soils classified as coarse-textured soils.

Do not apply in fine textured soils with less than 1.5% organic matter.

Do not apply in any type of soils with an organic matter content greater than 6%.

Do not use on soils with a pH of 7.8 or greater.

This tank mix requires the addition of Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge at 1% v/v (1 litre per 100 litres of spray solution).

When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions of all tank mix partners.

EMPHASIS™ A HERBICIDE PLUS AUTHORITY® SUPREME HERBICIDE

For use prior to seeding chickpeas, field peas or soybean.

Apply EMPHASIS™ A at 36.5 – 117 mL/ha with AUTHORITY® SUPREME Herbicide at a rate of 400 – 600 mL/ha in a total spray volume of 100 L/ha. This tank mix will control emerged weeds listed on this label, corresponding to the rate of EMPHASIS™ A applied, and will provide extended control of weeds listed in the following table:

Tank Mix Partner	Application Rate	Application Stage	Soil Characteristics	Weeds Controlled
AUTHORITY® SUPREME Herbicide	400 mL/ha (early season control only)	Set-up treatment ¹ (pre-plant)	Medium to fine texture, O.M. 1 – 6%	Barnyard grass Cleavers Common groundsel
	500 mL/ha	Residual treatment (pre-plant)	Medium texture, O.M. 1 – 3%	Common purslane Common ragweed ²
	600 mL/ha		Medium-fine to fine texture, O.M. 3 – 6%	Common waterhemp Cow cockle Downy brome Eastern black nightshade Giant foxtail Green foxtail Green pigweed Japanese brome Kochia Lamb's-quarters Large Crabgrass Powell pigweed Redroot pigweed Stinkweed Smooth crabgrass Wild buckwheat Wild mustard ² Wild oats ² Witchgrass Yellow foxtail Yellow woodsorrel

¹A set-up treatment is an application to remove early weed competition to allow good crop establishment.

²Suppression only. Suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, weed biotype, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

Do not apply to soils classified as coarse-textured soils.

Do not use on peat or muck soils.

Do not apply on any type of soils with an organic matter content greater than 6%.

Do not use on soils with a pH of 7.8 or greater.

This tank mix requires the addition of Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge at 1% v/v (1 litre per 100 litres of spray solution).

When applied as a tank-mix combination, read and observe all label directions, including rates, personal protective equipment, restrictions and precautions for each product used in the tank-mix. Always use in accordance with the most restrictive label restrictions and precautions of all tank mix partners.

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 for information before mixing any pesticide or fertilizer that is not specifically recommended on this label.

ADJUVANT RECOMMENDATIONS FOR PRE-PLANT BURNDOWN AND FALLOW SYSTEMS

When using EMPHASIS™ A alone, use Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge® at 1% v/v (1 litre per 100 litres of spray solution).

SECTION 8.3: HOODED SPRAYER APPLICATIONS

EMPHASIS™ A must be applied to the row middles of the following emerged crops from crop groups listed below as well as grapes and strawberries using hooded sprayers in accordance with specific information in the Directions for Use section:

Crop Group 1: Root and Tuber Vegetables: Chinese artichoke; Jerusalem artichoke; garden beet; sugar beet; edible Burdock; carrot; celeriac; turnip-rooted chervil; chicory; ginseng; horseradish; turnip-rooted parsley; parsnip; potato; radish; oriental radish; rutabaga; salsify; black salsify; Spanish salsify; sweet potato; turnip.

Crop Group 3: Bulb Vegetables: garlic; great-headed garlic; leek; dry bulb onion; green onion; Welch onion; shallot.

Crop Group 4: Leafy Vegetables (Except Brassica Vegetables): arugula; celery; Chinese celery; edible-leaved chrysanthemum; garland chrysanthemum; corn salad; garden cress; upland cress; dock; endive; Florence fennel; head lettuce; leaf lettuce; parsley; garden purslane; winter purslane; radicchio; rhubarb; spinach; Swiss chard.

Crop Group 5: Brassica (Cole) Leafy Vegetables: broccoli; Chinese broccoli; raab broccoli; Brussels sprouts; cabbage; Chinese cabbage (bok choy); Chinese cabbage (napa); Chinese mustard cabbage; cauliflower; cavalo broccolo; collards; kale; kohlrabi; mizuna; mustard greens; mustard spinach; rape greens.

Crop Subgroup 6: Legume Vegetable (Succulent or dried): bean (*Lupinus* spp. includes grain lupin, sweet lupin, white lupin, and white sweet lupin; *Phaseolus* spp. includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean; *Vigna* spp. includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean, yardlong bean); broad bean; chickpea; lentil; pea (*Pisum* spp. includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea); soybean.

Crop Group 8: Fruiting Vegetables (Except Cucurbits) (transplanted only): eggplant; groundcherry; pepino; pepper (includes bell pepper, chili pepper, cooking pepper, pimento, sweet pepper); tomatillo; tomato.

Crop Group 9: Cucurbit Vegetables (transplanted only): (citron melon; cucumber; gherkin; Momordica spp. (includes bitter melon, Chinese cucumber); muskmelon (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon); pumpkin; squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); squash, winter (includes butternut

squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon (includes hybrids and/or varieties of *Citrullus lanatus*).

Crop Group 11: Pome Fruits: apple; crabapple; mayhaw; pear; pear, oriental; quince.

Crop Group 12: Stone Fruits: apricot; sweet cherry; tart cherry; nectarine; peach; plum; Chickasaw plum; Damson plum; Japanese plum; plumcot; prune (fresh).

Crop Group 13: Berries: blackberry includes bingleberry, black satin berry, boysenberry, Cherokee blackberry, Chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, Lavacaberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, youngberry, and varieties and/or hybrids of these); blueberry; currant; elderberry; gooseberry; huckleberry; loganberry; raspberry, black and red.

EMPHASIS™ A HERBICIDE USE RATES FOR HOODED SPRAYER APPLICATIONS

EMPHASIS™ A must be applied with hooded sprayers to control labelled weeds between the rows of the below listed emerged crops. This treatment must be made to crops grown in rows, and includes crops grown in rows where mulch or plastic barriers are used as a weed control tool in the drill or plant line. EMPHASIS™ A may be applied at use rates 37-117mL in a minimum of 100 litres per hectare of spray solution.

Hooded sprayers must be designed, adjusted and operated in such a manner as to totally enclose the spray nozzles, tips and pattern and to prevent any spray deposition to green stem tissue, foliage, blooms or fruit of the crop being treated.

PRECAUTIONS: Crop injury will occur when spray is allowed to come in contact with the green stem tissue, leaves, blooms or fruit of the crop.

Sprayers shall not be operated at more than eight (8) km/h in order to minimize vertical movement of the sprayer during application, including the bouncing or raising of the equipment. Use extreme care in applying to fields where the soil surface is uneven, has deep furrows, drains or other contours that disturb the adjustment and positioning of the spray equipment and/or the spray pattern. Applications must not be made when windy conditions may result in spray deposition onto sensitive plants or plant parts.

For optimum performance, make application to actively growing weeds up to 10 cm tall, or as specified. **Coverage of the weeds is essential for good control.**

ADJUVANT RECOMMENDATIONS FOR HOODED SPRAYER APPLICATIONS

Use Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge® at 1% v/v (1 litre per 100 litres of spray solution).

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than ADAMA Agricultural Solutions Canada Ltd. (ADAMA) under the User Requested Minor Use Label Expansion program. For these uses, ADAMA has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

CROP GROUP 14-11 – TREE NUTS:

EMPHASIS™ A may be applied to tree nuts using hooded sprayers, according to the directions below:

Crop	Rate	Water Volume and Adjuvant
Crop Group 14-11 - Tree nuts: African Nut Tree, Almond, Beech Nut, Brazil Nut, Brazilian Pine, Bunya, Bur Oak, Butternut, Cajou, Candlenut, Cashew, Chestnut, Chinquapin, Coconut, Coquito Nut, Dika Nut, Ginkgo, Guiana Chestnut, Hazelnut (Filbert), Heartnut, Hickory Nut, Japanese Horse-Chestnut, Macadamia Nut, Mongongo Nut, Monkey-Pot, Monkey Puzzle Nut, Okari Nut, Pachira Nut, Peach Palm Nut, Pecan, Pequi, Pili Nut, Pine Nut, Pistachio, Sapucaia Nut, Tropical Almond, Walnut (Black and English), Yellowhorn, cultivars, varieties and/or hybrids of these commodities	37-117 mL/ha	Apply in a minimum water volume of 100 L per ha. Use Agral® 90 or Ag-Surf® adjuvants at 0.25% v/v. Mix thoroughly before spraying.

NOTES AND PRECAUTIONS:

Apply a maximum of 1 application per season.
Do not apply within 3 days of harvest.

Hooded sprayers must be designed, adjusted and operated in such a manner as to totally enclose the spray nozzles, tips and pattern and to prevent any spray deposition to green stem tissue, foliage, blooms or fruit of the crop being treated.

Crop injury will occur when spray is allowed to come in contact with the green stem tissue, leaves, blooms or fruit of the crop.

Sprayers shall not be operated at more than eight (8) km/h in order to minimize vertical movement of the sprayer during application, including the bouncing or raising of the equipment. Use extreme care in applying to fields where the soil surface is uneven, has deep furrows, drains or other contours that disturb the adjustment and positioning of the spray equipment and/or the spray pattern. Applications must not be made when windy conditions may result in spray deposition onto sensitive plants or plant parts.

For optimum performance, make application to actively growing weeds up to 10 cm tall, or as specified.
Coverage of the weeds is essential for good control.

HOODED SPRAYER APPLICATION TO MINT

Crop	Mint
Rate	37-117 mL/ha
Water Volume	Apply using a minimum water volume of 100 L/ha.
Adjuvant	Use Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge at 1% v/v (1 litre per 100 litres of spray solution).
Pre-Harvest Interval	Do not apply within 5 days of harvest
Comments	<p>Apply using a hooded sprayer to control labelled weeds between the rows of mint crops. This treatment must be made to mint crops grown in rows.</p> <p>Hooded sprayers must be designed, adjusted and operated in such a manner as to totally enclose the spray nozzles, tips and pattern and to prevent any spray deposition to green stem tissue, foliage, blooms or fruit of the crop being treated.</p> <p>DO NOT use hooded sprayers designed for <i>broadcast</i> application for application to the actively growing crop. Hooded sprayers designed for broadcast application can only be used for pre-plant burndown or during mint dormancy.</p> <p>PRECAUTIONS: Crop injury will occur when spray is allowed to come in contact with the green stem tissue, leaves, blooms or fruit of the crop.</p> <p>Sprayers shall not be operated at more than eight (8) km/h in order to minimize vertical movement of the sprayer during application, including the bouncing or raising of the equipment. Use extreme care in applying to fields where the soil surface is uneven, has deep furrows, drains or other contours that disturb the adjustment and positioning of the spray equipment and/or the spray pattern. Applications must not be made when windy conditions may result in spray deposition onto sensitive plants or plant parts.</p> <p>For optimum performance, make application to actively growing weeds up to 10 cm tall, or as specified. Coverage of the weeds is essential for good control.</p> <p>Apply only one application of EMPHASIS™ A to mint per season. Do not apply a hooded sprayer application to mint that has been treated with a dormancy or pre-plant burndown spray of EMPHASIS™ A.</p>

NOTICE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS:

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than ADAMA Agricultural Solutions Canada Ltd. (ADAMA) under the User Requested Minor Use Label Expansion program. For these uses, ADAMA has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

SECTION 8.4: SUCKER MANAGEMENT- DIRECTIONS FOR USE:

Apply to young suckers that have not reached maturity and hardened off.

Apply EMPHASIS™ A to manage undesirable sucker growth from the base of vine or tree trunks or root sprouts. Treat when the tissue is young and not mature and/ or hardened off. Do not allow spray to contact fruit, foliage, or green bark. DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

Take all precautions to prevent the spray from contacting desirable foliage or fruit. Complete coverage is necessary. Do not apply if drift is possible. Avoid using fine droplet nozzles that produce a droplet VMD of 300 microns or less (see the drift prevention section of the EMPHASIS™ A label for more instructions). Use of hooded sprayer or directed sprayer application: to prevent drift from reaching other parts of the vine or tree, the use of drift reducing nozzles, splash screens or full screen is recommended (at least one method is required). Direct spray toward the sucker zone.

For management of undesirable sucker growth, apply 150 mL of product per hectare or 75 mL of product/100L of water, using 200 L/ha spray mixture per treated area. Maximum 2 applications per year. Preharvest interval is 30 days for all food crops listed below. Apply with an adjuvant such as Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge® at 1% v/v (1 litre per 100 litres of spray solution). Apply as described in the use table below.

Crop	Rate and Number of Applications	Water Volume and Adjuvant	Spray Droplet Size (VMD). Refer to nozzle guidelines that address orifice size and pressure	Comments
Grape, Stone Fruit, Pome Fruit, Field grown woody ornamental nurseries (genus such as <i>Malus</i> , <i>Prunus</i> , <i>Sorbus</i>), Tree nuts: including African Nut Tree, Almond, Beech Nut, Brazil Nut, Brazilian Pine, Bunya, Bur Oak, Butternut, Cajou, Candlenut, Cashew, Chestnut, Chinquapin, Coconut, Coquito Nut, Dika Nut, Ginkgo, Guiana Chestnut, Filbert (Hazelnut (Filbert)), Heartnut, Hickory Nut, Japanese Horse-Chestnut, Macadamia Nut, (Bush Nut), Mongongo Nut, Monkey-Pot, Monkey Puzzle	150 mL of product per ha or 75 mL per 100 L of spray Maximum 2 applications per year. Allow 14 days between applications.	200 L per ha. Use Agral® 90 or Ag-Surf® adjuvants at 0.25% v/v. Mix thoroughly before spraying.	400-600 (no greater than 25% of the range of droplet size below 400 VMD). Droplets in the 200 VMD range will cause drift and potential damage.	Directed spray at the base of the tree for sucker control with special precaution not to get spray on fruit, foliage or tender growing parts. Pre-Harvest Interval: 30 days

Nut, Okari Nut, Pachira Nut, Peach Palm Nut, Pecan, Pequi, Pili Nut, Pine Nut, Pistachio, Sapucaia Nut, Tropical Almond, and Walnut (Black and English), Yellowhorn, cultivars, varieties and/or hybrids of these commodities				
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HOPS

Timing and Method of Application:

Post-Directed Application for Sucker Management:

EMPHASIS™ A is a contact herbicide for directed spray application to the basal portion of the hop plant for the management of sucker growth. Apply EMPHASIS™ A at 150 mL product per ha per application in a minimum of 200 litres per ha of spray solution by boom-type ground application equipment only to the basal portion of the hop plant (approximately the lower 45 cm) and to the sucker mat which extends from the base of the plant to approximately 45 to 60 cm into the row. Maximum 2 applications per year. Allow 14 days between treatments of EMPHASIS™ A.

Adjuvant Requirements:

Coverage is essential to obtain good basal growth management. Apply with an adjuvant such as Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge® at 1% v/v (1 litre per 100 litres of spray solution).

Postemergent Control of Broadleaf Weeds:

Apply EMPHASIS™ A using shielded sprayers or hooded sprayers to control emerged and actively growing broadleaf weeds within or between the rows of the crop. Refer to Hooded Sprayer Applications section of this label. Make only one application per year for postemergent control of broadleaf weeds. Refer to Section 8.1 for rates and list of weeds controlled.

Precautions:

Extreme caution must be taken during application to avoid upward drift of the spray solution and contact with the highly susceptible new growth. Avoid applications until newly trained vines have developed sufficient barking to avoid damage to the stem and are high enough up the string to avoid contact with the apical bud.

Restrictions:

Do not apply EMPHASIS™ A using air blast or air assisted sprayers.

Do not apply within 7 days of harvest.

Do not apply through any type of irrigation system.

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

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SECTION 8.5: PRIMOCANE CONTROL IN CROP SUBGROUP 13-07A – CANEBERRY:
DIRECTIONS FOR USE:

Apply EMPHASIS™ A for control of primocanes at a rate of 150 ml/ha.

Apply when primocanes are approximately 13 cm in height. Treat when the tissue is young and not mature and/ or hardened off. Do not allow spray to contact fruit, foliage, or green bark.

The method of application is a post- emergence directed application using banded boom sprayer Use Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge® at 1% v/v (1 litre per 100 litres of spray solution).

Maximum 2 applications per year.

Preharvest interval is 30 days. DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

SECTION 8.6: HARVEST AID TREATMENT

EMPHASIS™ A may be applied prior to harvest to crops from the crop subgroup listed below as well as potatoes, soybeans, barley, millet, oats, sorghum, triticale and wheat. Refer to the PHI table for appropriate application.

EMPHASIS™ A HERBICIDE USE RATES FOR HARVEST AID TREATMENT

Apply EMPHASIS™ A at 73-117 mL per hectare, except for sorghum where the maximum rate is 73 mL per hectare. Apply EMPHASIS™ A at 233-350 mL per hectare for potatoes, where the first application maximum rate is 350 mL per hectare.

EMPHASIS™ A HERBICIDE TANK MIXES FOR HARVEST AID TREATMENT

EMPHASIS™ A at 73-117 mL/ha may be tanked-mixed with 900 g a.e./ha of glyphosate (present as isopropylamine salt or potassium salt, registered for pre-harvest use on small grains and crop sub-group 6-C listed below) to control additional weeds and provide more complete harvest aid burn-down. When tank mixing, read and follow all harvest aid label directions for all products used. Make applications in spray volumes sufficient to provide complete coverage of foliage. Use a minimum of 100 litres of water. DO NOT apply the tank mix to crops if grown for seed production.

Small Grains: barley, millet, oats, sorghum and wheat.

EMPHASIS™ A, when tank mixed with glyphosate (present as isopropylamine salt or potassium salt, registered for pre-harvest use on barley, millet, oats, sorghum or wheat), can be used as a desiccant to dry immature green crop and green weeds to advance harvest dates of small grains. This tank mix application used for crop desiccation should be made when grain moisture is less than 30% (hard dough stage; a thumbnail impression remains on seed). The use of EMPHASIS™ A will not speed up the maturity of green crops.

Crop Subgroup 6-C: Dried shelled pea and bean (except lentil and soybean): dried cultivars of bean (*Lupinus* spp. includes grain lupin, sweet lupin, white lupin, and white sweet lupin; *Phaseolus* spp. includes field bean, kidney bean, lima bean (dry), navy bean, pinto bean, tepary bean, bean; *Vigna* spp. includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean); broad bean (dry); chickpea; pea (*Pisum* spp. includes field pea)).

Make application when the crop is mature and the grain has begun to dry down, or according to Agriculture and Agri-Food Canada recommendations in the use area.

EMPHASIS™ A, when tank mixed with glyphosate (present as isopropylamine salt or potassium salt, registered for pre-harvest use on crops within crop sub-group 6-C), can be used as a desiccant to dry immature green material at top of dry bean and pea crops and immature green weeds to advance harvest dates. This tank mix application used for crop desiccation should be made when grain moisture of dry bean and dry pea is less than 30%. Apply to dry bean when 80-90% of bean leaves have fallen and pods are mature (yellow to brown in colour). Apply to dry pea when the majority (75% - 80%) of the pods are brown, the bottom pods are ripe and the pea seeds have detached from the pods. The use of EMPHASIS™ A will not speed up the maturity of green crops.

HARVEST AID IN POTATOES

EMPHASIS™ A can be applied foliarly to potatoes in senescence and will provide adequate desiccation of potato foliage and vines. EMPHASIS™ A will also desiccate late season susceptible broadleaf weeds to aid in tuber harvest. Adequate desiccation is generally achieved within 14 days after the initial treatment is applied. If the potato crop is in the active vegetative growth stage when desiccation is initiated, two applications may be required to provide desiccation of leaf and stem tissue. Dense potato canopy, large plant size, and environmental conditions not conducive to product absorption or activity will reduce initial application efficacy and increase the need for a second application. If a second application is necessary, apply at 7 to 14 days after the first application. **Thorough coverage of the potato plant to be desiccated is essential.** Use a sufficient volume of water to obtain thorough coverage of the potato leaves and vines. For optimum results, apply EMPHASIS™ A when the potato crop is in the early stages of natural senescence.

For potato burndown harvest aid, apply EMPHASIS™ A as a broadcast spray at a rate of 233-350 mL per hectare in spray volume sufficient to provide complete coverage of potato foliage. If a second burndown application is required for potatoes, use a second application of EMPHASIS™ A at 233-350 ml/ha, where the maximum rate is 350 ml/ha, when needed, or Reglone® Desiccant at the rates listed on the label. Make applications in spray volumes sufficient to provide complete coverage of foliage Use a minimum of 100 litres of water.

For potato burndown harvest aid, use a labeled adjuvant listed in the directions for use section of this label below at a maximum rate of 2 liters per 100 liters of water. Thorough coverage is necessary for burndown of potato foliage and stems.

EMPHASIS™ A may be used alone or as a tank mixture with other potato harvest aids as a desiccant prior to harvest. When tank mixing EMPHASIS™ A with Reglone® Desiccant use EMPHASIS™ A at a rate of 233-350 mL/ha plus Reglone® Desiccant at a rate of 1.25-2.3 L/ha. Should a second application be necessary, apply EMPHASIS™ A at a rate of 233-350 mL/ha either alone or as a tank-mix with Reglone® Desiccant at a rate of 1.25L/ha.

Apply EMPHASIS™ A in at least 200 litres of water per hectare using nozzles delivering medium droplet size in the 200 – 400 micron range, and not coarse droplets. Select a spray pressure between 210 to 420

kPa measured at the nozzle to obtain a droplet size of approximately 200-400 microns. Vary the spray volume and spray pressure as indicated by the density of the potato canopy and vines to assure thorough spray coverage. Increase the spray volume and pressure if the potato canopy is dense or under cool, cloudy or dry conditions. Increased spray volumes will enhance performance. If Turbo TeeJet® nozzles are used, a spray pressure of 420 kPa or more will be required to obtain thorough coverage. Do not apply when winds are gusty, changing direction by more than 30 degrees, having speed changer of greater than 8 kph or prone to cause herbicide drift from desired target, particularly when high spray pressures are utilized.

ADJUVANT RECOMMENDATIONS FOR HARVEST AID TREATMENT

Use Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge® at 1% v/v (1 litre per 100 litres of spray solution). The use of Agral® 90 is not recommended in the spray mixture of EMPHASIS™ A + Reglone® Desiccant for use on potatoes except in the prairie provinces.

SECTION 8.7: PREHARVEST INTERVALS FOR HOODED APPLICATIONS, HARVEST AID AND FOR SUCKER MANAGEMENT

Refer to the crop section of this label for specific product use directions.

Preharvest Intervals (PHI) or Maximum Growth Stage for EMPHASIS™ A Applications	
Crop/Crop Group/Crop Subgroup	PHI (Days Before Harvest)
Vegetables, root (Subgroups 1A and 1B)	1
Vegetables, bulb (Group 3)	1
Vegetables, leafy (Group 4) except Brassica	1
Vegetables, brassica (Group 5) (cole) leafy	1
Vegetables, legume (Group 6)	1
Vegetables, fruiting; (Group 8) except cucurbits	1
Vegetables, cucurbit (Group 9)	1
Bushberry (Subgroup 13B)	1
Vegetables, tuberous and corm (Subgroups 1C and 1D)	7
Pome fruit (Group 11)	3
Stone fruit (Group 12)	3
Caneberry (Subgroup 13A)	15
Tree Nuts (Crop Group 14-11)	3
Strawberries	1
Grape	3
Sorghum (harvest aid)	3
Barley (harvest aid)	3
Millet (harvest aid)	3
Oats (harvest aid)	3
Triticale (harvest aid)	3
Wheat (harvest aid)	3
Soybean (harvest aid)	3
Potato (harvest aid)	7
Dried shelled peas and beans (Crop Subgroup 6-C (harvest aid)	3
Mint (hooded sprayer applications)	5
Pre-harvest Intervals (PHI) for SUCKER MANAGEMENT	
Crop/Crop Group/Crop Subgroup	PHI (Days Before Harvest)
Grape	30

Preharvest Intervals (PHI) or Maximum Growth Stage for EMPHASIS™ A Applications	
Crop/Crop Group/Crop Subgroup	PHI (Days Before Harvest)
Stone Fruit	30
Pome Fruit	30
Field Grown Wood Ornamental Nurseries	30
Tree nuts	30

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SECTION 8.8: DORMANCY SPRAY FOR MINT

Crop	Mint
Rate	37-117 mL/ha Use higher rates when weeds are under stress or are larger.
Application Timing	Apply as a broadcast application before mint breaks dormancy for control of existing broadleaf weeds.
Water Volume	Apply using a minimum water volume of 100 L/ha.
Adjuvant	Use Agral® 90 or Ag-Surf® at 0.25% v/v (0.25 litres per 100 litres of spray solution) or use Merge at 1% v/v (1 litre per 100 litres of spray solution).
Pre-Harvest Interval	Do not apply within 91 days of harvest
Comments	DO NOT apply to actively growing crop. For optimum performance, make application to actively growing weeds up to 10 cm high, or as specified. Coverage of the weeds is essential for good control. Apply only one application of EMPHASIS™ A to mint per season. Do not follow a pre-plant burndown or dormancy spray with a hooded sprayer application of EMPHASIS™ A.

SECTION 9: APPLICATION INFORMATION

SECTION 9.1: GENERAL APPLICATION INSTRUCTIONS

GROUND APPLICATION

Use a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Use nozzles that produce minimal amounts of fine spray droplets. Do not exceed 210 kPa spray pressure, unless otherwise required for optimal drift reduction nozzle performance. Apply in a minimum of 100 litres of spray volume per hectare. Use higher spray volumes when there is a dense weed population or dense crop canopy. Adjust sprayers to position spray tips no lower than 45 cm above the crop.

Hooded sprayers must be designed and operated so as to totally enclose the spray nozzles and tips and spray pattern and prevent any spray deposition to the crop being treated. PRECAUTIONS:

Crop injury will occur when spray is allowed to come in contact with the green stem tissue, leaves, blooms or fruit of the crop.

Use ground sprayers designed, calibrated and operated to deliver uniform spray droplets to the targeted plant or plant parts. Adjust sprayer nozzles to achieve uniform plant coverage. Overlaps and slower ground speeds (caused by continuing to spray while starting, stopping or turning) may result in higher application rates and possible crop response.

ADJUVANT USE REQUIREMENTS

A spray adjuvant product must be used in the spray solution with EMPHASIS™ A for optimum performance, when used alone. Refer to the specific crop use section of this label for adjuvant choices and use rates.

METHODS OF APPLICATION

EMPHASIS™ A is a versatile product with several different application options to achieve weed control or plant desiccation results. If EMPHASIS™ A is being applied in standing crop situations, application methods and adjustments must be precise to prevent potential crop injury.

Harvest Aid and Pre-plant burndown applications are permitted, where noted in the Directions for Use section of the label.

Hooded Sprayer applications may be made to many labelled crops as noted in the Directions for Use section of the label. **Hooded sprayers must be designed and operated so as to totally enclose the spray nozzles and tips and spray pattern and prevent any spray deposition to the crop being treated.**

SPRAY DRIFT MANAGEMENT

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER.

The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target movement from applications to agricultural field crops.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The optimum drift management strategy is to apply the largest droplets that provide sufficient coverage and performance. Applying larger droplets reduces drift potential but will not prevent drift when applications are made improperly, or under unfavourable environmental conditions. (See Wind, Temperature and Humidity, and Temperature Inversions.)

Controlling Spray Droplet Size

VMD – VMD is the expression of the droplet size of the spray cloud. The VMD value means that 50% of the droplets are larger than the expressed value and 50% of the droplets are smaller than the expressed value. Optimum EMPHASIS™ A spray clouds should be 450 microns with fewer than 10% of the droplets being 200 microns or smaller.

Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows usually produce larger droplets.

Pressure – Do not exceed the nozzle manufacturer’s recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of Nozzles – Use the minimum number of nozzles that provide uniform coverage.

Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles.

Application Height – Making applications at the lowest height that is safe reduces exposure of spray droplets to evaporation and wind movement.

Wind – Drift potential is lowest between winds speeds of 5 to 16 km/h. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Applications shall be avoided below 5 km/h due to variable wind direction and high inversion potential.

Do not apply EMPHASIS™ A when wind speed exceeds 16 km/h. NOTE: Local terrain can influence wind patterns. Every applicator shall be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity – When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions – Do not apply EMPHASIS™ A during a temperature inversion because the drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the following morning. Their presence can be indicated by ground fog. However, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas – Apply EMPHASIS™ A only when direction of air flow is away from nearby sensitive areas (e.g. residential areas, bodies of water, known habitats for threatened or endangered species and non-target crops).

SECTION 9.2: SPRAY BUFFER ZONE FOR GROUND 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) medium classification.

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, rangelands, riparian areas and shrublands).

Method of application	Buffer Zones (metres) Required for the Protection of:
	Terrestrial habitat
Field sprayer*	5

*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 or ground, 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 or ground, the labelled buffer zone can be reduced by 30%.

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

SECTION 9.3: CROP ROTATION RESTRICTIONS

Following an application of EMPHASIS™ A, a treated field may be rotated at any time to crops listed under Section 8.2 of this label, subject to specific crop restrictions that may be found in the individual crop sections. All other crops may be planted after 12 months.

SECTION 10: MIXING AND LOADING INSTRUCTIONS

It is important that spray equipment is clean and free of existing pesticide deposits before using this product. Follow the spray tank clean-out procedures specified on the label of the product previously applied before adding EMPHASIS™ A to the spray tank.

For best results, fill the spray tank with one half the volume of clean water needed for the area to be treated. Make sure the agitation system is operating while adding products. Slowly add the required amount of EMPHASIS™ A to the spray tank. Carefully rinse the container, adding the rinsings to the spray tank. Complete filling the spray tank to the desired level. Spray tank agitation should be sufficient to ensure uniform spray mixture during application and must continue until the spray tank has been emptied.

Tank Mixtures: Fill spray tank one-half to two-thirds full of water. With agitator operating add the recommended amount of ingredients using the following order:

- Wettable powders and dispersible granules
- Agitate tank mix thoroughly
- Micro-encapsulated suspensions
- Liquid flowables and suspensions
- Emulsifiable concentrate formulations
 - Fill spray tank nearly full of water
- Glyphosate formulations
- Surfactants
 - Complete filling the spray tank to the desired level

If sprayer has been stored or idle, purge the spray boom and nozzles with clean water before charging sprayer with products to be applied.

Avoid the overnight storage of EMPHASIS™ A spray mixtures.

Premixing EMPHASIS™ A spray solutions in nurse tanks is not recommended. Maintain continuous and adequate spray solution agitation until all the spray solution has been used.

Do not use with tank additives that alter the pH of the spray solution.

SECTION 11: SPRAYER CLEANUP

Many herbicide products are very active at low rates, especially to sensitive crops. Residues left in mixing equipment, spray tanks, hoses, spray booms and nozzles can cause crop effects if such equipment is not properly cleaned between uses.

As soon as possible after spraying EMPHASIS™ A and before using the sprayer equipment for any other applications, the sprayer equipment must be thoroughly cleaned using the following procedure. In addition, users must take appropriate steps to ensure proper equipment clean-out for any other products mixed with EMPHASIS™ A, as directed on the companion product labels. Maximum cleaning can be achieved by cleaning the spray system immediately following use.

1. Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse.
2. Next, prepare a sprayer cleaning solution by adding 3 litres of ammonia (containing at least 3% active) per 100 litres of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush the tank, hoses, spray boom and spray nozzles.
3. If possible, leave the ammonia solution or fresh water left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage to dissolve and dilute any remaining traces of herbicide.
4. Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water.
5. Remove and clean spray tips and all filters and screens separately in an ammonia solution prepared as in Step 2, above. Replace these parts right after cleaning and rinsing.
6. Properly dispose of all cleaning solution and rinsate in accordance with established regulations and guidelines. Do not apply sprayer cleaning solutions or rinsate to sensitive crops.

Do not store the sprayer overnight or for any extended period of time with EMPHASIS™ A spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers.

Small quantities of EMPHASIS™ A remaining in improperly cleaned mixing, loading and/or spray equipment may be released during subsequent applications, potentially causing crop effects.

SECTION 12: RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, EMPHASIS™ A is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to EMPHASIS™ A and other Group 14 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 EMPHASIS™ A or other Group 14 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 www.adama.com/canada.

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