Container Label

GROUP 1 HERBICIDE

ARROW ALL IN®

POST-EMERGENCE HERBICIDE

FOR CONTROL OF GRASSES IN LEGUME VEGETABLES (SUCCULENT OR DRIED), EDAMAME, HIGHBUSH AND LOWBUSH BLUEBERRIES, CRANBERRY, CANOLA (including imazethapyr-tolerant varieties), BASIL, DILL, CARAWAY, FLAX (including low linolenic acid varieties), POTATOES, ORIENTAL (BROWN) MUSTARD (condiment and oilseed types), BRASSICA CARINATA, YELLOW MUSTARD, DRY BULB ONIONS, DRY BULB SHALLOTS AND GARLIC, GREEN ONION, LEEK, SAFFLOWER, SOYBEANS, SEEDLING ALFALFA, SUNFLOWERS, GARDEN (TABLE) BEET, PARSNIP, CARROT, RADISH, CELERIAC, RUTABAGA, CHERRY (tart and sweet), CERTAIN HERBS, SPICES, HOPS, CHINESE CABBAGE (napa), CELERY, BUCKWHEAT, DRY BEANS (Pinto, Black, Great Northern, Red, Pink and Navy), CORIANDER, FENUGREEK, PRAIRIE CARNATION, SPINACH, STRAWBERRY AND SWEET POTATO

COMMERCIAL (AGRICULTURAL)

EMULSIFIABLE CONCENTRATE

ACTIVE INGREDIENT: CLETHODIM 120 g/L

REGISTRATION NO. 33225 PEST CONTROL PRODUCTS ACT

CAUTION  POISON

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

NET CONTENTS: 1 L to Bulk

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

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)

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN. May irritate skin and eyes. Avoid contact with skin, eyes and clothing. Wash concentrate from skin or eyes immediately. Do not inhale fumes. Avoid breathing vapours or spray mist. After use, wash hands and other exposed skin. When using, do not eat, drink or smoke. Remove and launder contaminated clothing separately from household laundry before reuse. Wear coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing, loading, clean-up and repair. Gloves are not required during application within a closed cab. Apply only to agricultural crops when the potential for drift to areas of human habitation and areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

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

ENVIRONMENTAL PRECAUTIONS

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

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

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

Avoid application when heavy rain is forecast.

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

This product contains an active ingredient and aromatic petroleum distillates, which are toxic to aquatic organisms.

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

FIRST AID

IF SWALLOWED: Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.
IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eye. Call a poison control centre or doctor for treatment advice.

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

TOXICOLOGICAL INFORMATION
Treat the patient symptomatically. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia.

STORAGE:
Store this product away from food or feed.

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

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

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

FOR 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 CONTAINERS THAT CAN BE REFILLED THE USER BY THE DISTRIBUTOR/DEALER:
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.

BULK CONTAINER REFILLING:
1. The container is to be refilled by the distributor/dealer only with ARROW ALL IN®. DO NOT reuse this container for any other purpose.
2. Reseal and return to an authorized Bulk Site.
3. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions and damaged or worn threads on closure devices.
4. Check for leaks after refilling and before transportation.
5. DO NOT refill or transport damaged or leaking containers.
6. If the container is not being refilled, return to the point of purchase (distributor/dealer) for disposal.

DISPOSAL OF UNUSED, UNWANTED PRODUCT:
For information on disposal of unused, unwanted product, contact the registrant or the provincial or territorial regulatory agency. Contact the registrant and the provincial or territorial regulatory agency in case of a spill, and for cleanup of spills.

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

Booklet Label

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GENERAL INFORMATION

THE PRODUCT

ARROW ALL IN® is a selective post-emergence herbicide for control of a broad range of grasses in legume vegetables (succulent or dried), edamame, highbush and lowbush blueberries, cranberry, canola (including imazethapyr-tolerant varieties), basil, dill, caraway, flax (including low linolenic acid varieties), potatoes, oriental (brown) mustard (condiment and oilseed types), Brassica carinata, yellow mustard, dry bulb onions, dry bulb shallots and garlic, green onion, leek, safflower, soybeans, seedling alfalfa, sunflowers, garden (table) beet, parsnip, carrot, radish, celeriac, rutabaga, cherry (tart and sweet), certain herbs, spices, hops, chinese cabbage (napa), celery, buckwheat, dry beans (pinto, black, great northern, red, pink and navy), coriander, fenugreek, prairie carnation, spinach, strawberry and sweet potato .

ARROW ALL IN® is a systemic herbicide which is translocated from the treated foliage to the growing points of the leaves, shoots and roots. Uptake into the plant is primarily through its leaves. Thorough coverage of the foliage is important for consistent grass control. Susceptible grasses that are actively growing will undergo a burn-back and colour change after treatment. Leaf foliage will first change from green to yellowish, then purplish and finally brown colour. The time required for complete control is normally 7 to 21 days following treatment, depending on growing conditions and crop competition.

SAFETY AND HANDLING

PRECAUTIONS, PROTECTIVE CLOTHING AND EQUIPMENT AND RE-ENTRY RESTRICTIONS

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FIRST AID AND TOXICOLOGICAL INFOMATION

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

DIRECTIONS FOR USE
As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

PRODUCT OVERVIEW
ARROW ALL IN® is to be used only on legume vegetables (succulent or dried), edamame, highbush and lowbush blueberries, cranberry, canola (including imazethapyr-tolerant varieties), basil, dill, caraway, flax (including low linolenic acid varieties), potatoes, oriental (brown) mustard (condiment and oilseed types), Brassica carinata, yellow mustard, dry bulb onions, dry bulb shallots and garlic, green onion, leek, safflower, soybeans, seedling alfalfa, sunflowers, garden (table) beet, parsnip, carrot, radish, celeriac, rutabaga, cherry (tart and sweet), certain herbs, spices, hops, chinese cabbage (napa), celery, buckwheat, dry beans (pinto, black, great northern, red, pink and navy), coriander, fenugreek, prairie carnation, spinach, strawberry and sweet potato .

APPLICATIONS AND USE LIMITATIONS
Not for use in greenhouses

A 30-day plant-back interval should be observed for all unlabelled crops.

Apply ARROW ALL IN® when the annual grasses and volunteer cereals are in the 2 to 6 leaf stage as specified under APPLICATION TIMING. Most effective control is achieved when application is made prior to tillering when annual grasses are small and actively growing.

For suppression or control of quackgrass, apply ARROW ALL IN® when the quackgrass is in the 2 to 6

leaf stage and 6 to 15 cm in height. Most effective results are achieved when application is made at the 3 to 5 leaf stage, when the canopy is uniform and actively growing.

ARROW ALL IN® will be less effective when plants are stressed by lack of moisture, excessive moisture, low temperature and/or very low relative humidity. Regrowth by tillering may occur if application is made under any of the above stress conditions. In wide row crops, where the canopy may be slow to close, cultivation may be necessary to control grasses that emerge after treatment.

For Desi and Kabuli chickpeas, apply ARROW ALL IN® at a maximum of one application per season before the crop reaches the 9 node stage (18 cm height maximum) and when the annual grasses and volunteer cereals are in the 2 to 6 leaf stage.

For dill and fenugreek, apply ARROW ALL IN® post-emergence, when dill or fenugreek is in the 3- to 5-leaf stage at a maximum of one application per season.

For coriander, or prairie carnation, apply ARROW ALL IN® post-emergence, when coriander or prairie carnation is in the 2- to 5-leaf stage. A maximum of one application may be made per year.

For safflower, apply ARROW ALL IN® post-emergence, when safflower is in the 6- to 8-leaf stage at a maximum of one application per season.

Cranberry is tolerant to ARROW ALL IN® at all stages of growth, however, do not apply ARROW ALL IN® between the hook stage and full fruit set.

For dry bulb onions, dry bulb shallots and garlic, apply ARROW ALL IN® post-emergence, when crops are in the 1- to 4-leaf stage.

For green onion, apply ARROW ALL IN® post emergence, when crop is in the 2– to 3-leaf stage.

For leek, apply ARROW ALL IN® post-emergent at least 2 weeks after transplanting when crop is well established and has produced one new fully expanded leaf.

Apply ARROW ALL IN® only to established sweet and tart cherry trees. The pre-harvest interval outlined in the Crop Recommendations table must be followed to avoid excessive crop residues.

All other labelled crops are tolerant to ARROW ALL IN® at all stages of growth. However, the pre-harvest interval outlined in the CROP RECOMMENDATIONS table must be followed to avoid excessive crop residues.

GROUND APPLICATION

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

For Ground Application, use sprayers equipped with standard flat fan nozzles. For optimum spray coverage use nozzles tilted 45° forward.

The use of flood jet or hollow cone nozzles is not recommended, because of uneven and inadequate spray coverage. Thorough and uniform spray coverage over the entire leaf area of the target weeds is necessary for optimum weed control.

Thoroughly clean all screens to prevent nozzle clogging, especially when water volumes of 55 to 110 L/ha are used.

In general, use water volumes of 55 to 225 L/ha and a minimum of 275 kPa pressure. For applications to dense weed infestations or to dense crop canopies, use a minimum of 110 litres of water per hectare at pressures of 275 to 425 kPa.

For legume vegetables (succulent or dried) (except soybeans) and edamame, a minimum spray volume of 110 L/ha is recommended.

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

Water volume and spray pressure:
Apply ARROW ALL IN® alone or in tank mixes (ONLY with the recommended tank mix partners that are registered for aerial use) in no less than 28 L/ha spray volume at a pressure no less than 300 kPa.

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

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended on this label.

When applying ARROW ALL IN® by aircraft, uniform coverage is essential. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Aerial Use Precautions
- Read and understand the entire label before opening this product. If you have questions, call ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 or obtain technical advice from the distributor or your provincial agricultural representative.
- Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the National Aerial Pesticide Application Manual, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.
- Do not apply to terrain where there is a potential for surface run-off to enter aquatic systems.
- Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.
- Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift.
- Do not apply when wind speed is greater than 16 km/h at a flying height at the site of application.
- Do not apply with spray droplets smaller than ASAE coarse classification.

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

- It is desirable that the pilots have communication capabilities at each treatment site at the time of application.
- The field crew and the mixer/loaders must wear goggles or face shield, rubber apron, chemical-resistant gloves, rubber boots, long sleeved shirt and long-legged pants.
- All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions:

- Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-855-264-6262 or obtain technical advice from the distributor or your provincial agricultural representative.

RESTRICTIONS AND LIMITATIONS:

1. Use only for crops listed on the label.
2. Thorough pre-plant tillage operations are required to fields where sod or forage grass crops may have grown in the previous year.
3. Take necessary precautions to avoid sprayer overlaps.
4. Rainfall within one hour of application may reduce the effectiveness of the spray.
5. Allow 4 days between application of ARROW ALL IN® and any other chemical not recommended as a tank-mix combination on the label.
6. Do not apply more than 0.76 L/ha (90 grams a.i./ha) per season.
7. Do not use crops for grazing of livestock or green feed following application of ARROW ALL IN® until after the appropriate interval as specified in the crop recommendations table has been observed. Do not cut treated crops for forage until the appropriate interval as specified in the crop recommendations table has been observed.
8. ARROW ALL IN® may be applied by air for certain crops specified in this label.
9. DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PRE-HARVEST, GRAZING AND FEEDING INTERVALS

Refer to the REGISTERED USES and TANK-MIXES section of the label for Pre-Harvest and Grazing/Feeding restrictions.

SPRAY BUFFER ZONES

A spray buffer zone is NOT required for:

- uses with hand-held application equipment permitted on this label,
- low-clearance hooded or shielded sprayers that prevent spray contact with crop, fruit or foliage.

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

Method of application	**Crop**	**Spray Buffer Zones (metres) Required for the Protection of:**		
		Freshwater Habitat of Depths:		**Terrestrial habitat**
		Less than	Greater than	

			1 m	1 m	
Field sprayer	Seedling alfalfa, highbush and lowbush blueberry, cherry, cranberry, caraway, chive, coriander, dill, fenugreek, dry bulb onion, dry bulb shallot, safflower, canola, carrot, flax (including low linolenic varieties), field pea, hops, lentils, oriental (brown) Mustard (condiment and oilseed types), yellow mustard, Brassica carinata, potato, parsnip, radish, garden (table) beet, soybean, sunflower, celery, Chinese cabbage (napa), celeriac		1	1	2
	Spinach, Edamame, Edible-podded Legume (crop subgroup 6A) vegetables, Succulent shelled peas and beans (crop subgroup 6B), bean (lupines, phaseolus, and vigna spp.), broad bean, chickpea, guar, lablab bean, Prairie carnation, pigeon pea, various herbs and spices (except chive, coriander, and dill), buckwheat		1	1	1
Aerial	Canola, flax (including low linolenic acid varieties), field peas, lentils, potatoes, Oriental (brown) mustard (condiment and oilseed types), yellow mustard, soybeans, sunflowers, Brassica carinata, dry bulb onions, garlic	Fixed Wing	10	1	60
		Rotary Wing	10	1	50
	Desi and Kabuli chickpeas, Bean (lupines, phaseolus, and vigna spp.), broad bean, chickpea, guar, lablab bean, pigeon pea, buckwheat	Fixed wing	4	1	30
		Rotary wing	1	1	30

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

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

For Cherry (sweet and tart):
Use of the following spray methods or equipment DO NOT require a buffer zone: handheld or backpack sprayer and spot treatment, *inter-row hooded sprayer, low-clearance hooded or shielded sprayers that ensure spray drift does not come in contact with orchard crop fruit or foliage.*

REGISTERED USES, APPLICATION TIMING AND TARGET PEST

REGISTERED USE:

Crops	Maximum Application Rate of ARROW ALL IN®	Application Method[7]	Pre-Harvest Interval
Highbush blueberries[1,4,5]	0.76 L/ha	Ground application only	14 days
Lowbush Blueberry[1,5,9]	0.76 L/ha	Ground application only	30 days
Cranberry[1,2,5]	0.76 L/ha	Ground application only	30 days
Chive, Celery, Chinese Cabbage (napa)[1,5]	0.76 L/ha	Ground application only	30 days
Dill[1,5]	0.76 L/ha	Ground application only	30 days (dillweed leaves) 40 days (dill seed)
Canola	0.76 L/ha	Ground and aerial application	60 days
Carrot, Celeriac, garden (table) beet, Parsnip, Radish, Rutabaga[3,5]	0.76 L/ha	Ground application only	30 days
Flax (including low linolenic acid varieties)	0.76 L/ha	Ground and aerial application	60 days
Pigeon Pea[1,2]	0.38 L/ha	Ground and aerial application	75 days
Edamame and Edible-podded legume vegetables (Crop subgroup 6A): Bean (*Phaseolus* spp.) (includes runner bean, snap bean, wax bean), Bean (*Vigna* spp.) (includes asparagus bean, Chinese longbean, moth bean, yardlong bean), Jackbean (*Canavalia ensiformis*), Pea (*Pisum* spp.) (includes dwarf pea, edible-pod pea, snow pea, sugar snap pea), Sword bean (*Canavalia gladiata*). **Succulent shelled peas and beans (Crop subgroup 6B):** Bean (*Phaseolus* spp.) (includes lima bean, green bean), Bean (*Vigna* spp.) (includes blackeyed pea, cowpea, southern pea), Broad bean (fava bean) (*Vicia faba*), Pea (*Pisum* spp.) (includes English pea, garden	0.38 L/ha	Ground application only	21 days

pea, green pea), Pigeon pea (*Cajanus cajan*)[1,2,5]			
Dried Shelled Pea and Bean (Crop subgroup 6C) (except soybean, field pea, lentils, pigeon pea) including: Bean (*Lupinus* spp.) (includes grain lupin, sweet lupin, white lupin and white sweet lupin); bean (*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 (fava bean) (*Vicia faba*); chickpea (garbanzo bean) (*Cicer arietinum*); guar (*Cyamopsis tetragonoloba*); lablab bean (hyacinth bean) (*Lablab purpureus*)[1,2]	0.38 L/ha	Ground and aerial application	60 days
Field Peas	0.76 L/ha	Ground and aerial application	75 days
Hops[1,4,5]	0.76 L/ha	Ground application only	21 days
Lentils	0.76 L/ha	Ground and aerial application	60 days
Desi and Kabuli Chickpeas	0.38 L/ha	Ground and aerial application	60 days
Dry Bulb Onions, Dry Bulb Shallot and Garlic[1,5]	0.76 L/ha	Ground application only	45 days
Potatoes	0.76 L/ha	Ground and aerial application	60 days
Green Onion[1,5]	0.76 L/ha	Ground application only	14 days
Leek[1,5]	0.76 L/ha	Ground application only	14 days
Oriental (Brown) Mustard (condiment and oilseed types)	0.76 L/ha	Ground and aerial application	60 days
Yellow Mustard	0.76 L/ha	Ground and aerial application	60 days
Brassica carinata	0.76 L/ha	Ground and aerial application	60 days
Soybeans	0.76 L/ha	Ground and aerial application	75 days
Seedling Alfalfa	0.76 L/ha	Ground application only	30 days

Sunflowers	0.76 L/ha	Ground and aerial application	72 days
Dry Beans (Pinto, Black, Great Northern, Red, Pink and Navy)[7]	0.38 L/ha	Ground and aerial application	60 days
Caraway, Coriander (cilantro)[1,5]	0.76 L/ha	Ground application only	60 days for seed 30 days for leaves
Angelica; balm (lemon balm); basil; borage; burnet; chamomile; catnip; chervil; clary; costmary; cilantro (leaf); horehound; hyssop; lavender; lovage; marigold; marjoram (includes sweet or annual marjoram, wild marjoram or oregano and pot marjoram); nasturtium; parsley (dried); pennyroyal; rosemary; rue; sage; summer and winter savory; sweet bay (bay leaf); tansy; tarragon; thyme; wintergreen; woodruff; and wormwood[1,2,4,5]	0.38 L/ha	Ground application only	30 days
Anise (anise seed); caraway (black); celery seed; culantro (seed); cumin; fennel [common and Florence (seed)]; juniper berry; lovage (seed); mustard (seed); poppy (seed); and Saffron[1,2,4,5]	0.38 L/ha	Ground application only	60 days
Cherry (sweet and tart)[1,5,8] (established trees)	0.76 L/ha	Ground application only	14 days
Buckwheat[1,5,7]	0.38 L/ha	Ground and aerial application	60 days
Fenugreek[1,3,5]	0.76 L/ha	Ground application only	30 days (leaf and seed)
Prairie Carnation[1,5,6]	0.38 L/ha	Ground application only	N/A
Safflower[1,5]	0.76 L/ha	Ground application only	70 days
Spinach[3,5]	0.38L/ha	Ground application only	14 days
Strawberry	0.76 L/ha	Ground application only	60 days
Sweet Potato	0.76 L/ha	Ground application only	30 days

1. Apply a maximum of one application per year.
2. NOTE: Varieties of this crop or crops in this crop group may vary in their tolerance to herbicides, including ARROW ALL IN®. Since not all crops or crop varieties have been tested for tolerance to ARROW ALL IN®, first use of ARROW ALL IN® should be limited to a small area of each

crop or variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your supplier for information on the tolerance of specific varieties to ARROW ALL IN®.

3. Apply a maximum of two applications per year. If repeat application is required, allow at least 14 days between first and second application.
4. Apply ARROW ALL IN® as a broadcast spray directed to the ground.
5. Refer to section "MINOR USES" in this label for additional use instructions.
6. Do not harvest treated prairie carnations for human consumption.
7. SPRAY VOLUME FOR AERIAL APPLICATION: Apply in 28 to 55 L/ha. Increase spray volumes up to 100 L/ha as grass or crop foliage becomes dense.
8. Do not apply ARROW ALL IN® directly over the top of the sweet and tart cherry trees. Direct the spray at the base of the tree where grassy weeds are growing. If ARROW ALL IN® is improperly applied, crop injury can occur.
9. Apply ARROW ALL IN® as a broadcast spray over the top for lowbush blueberries.

APPLICATION TIMING AND TARGET PEST

Rates of use are given below to control various grass species. Refer to the REGISTERED USE section for the maximum use rate on each crop.

Grass Species	**Leaf Stage**	**Application Rate of ARROW ALL IN®**	**OPTIONAL: Rate of additional adjuvant****
Foxtail (green, yellow), Wild oats, Volunteer cereals (wheat, barley, oats)	2-4	0.25 L/ha*	30% phosphate ester surfactant at 0.5% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25%.
Barnyard Grass, Witchgrass, Fall panicum, Proso millet, Volunteer Corn, Volunteer canary grass	2-6	0.25 L/ha	
Wild Oats, Volunteer cereals, (wheat, barley, oats), Foxtail (green, yellow), Persian darnel, Crabgrass (smooth and large), Proso millet, Witchgrass, Fall panicum, Barnyard grass, Volunteer corn. Volunteer canary grass, Downy brome, Quackgrass suppression	2-6	0.38 L/ha	
Quackgrass control***	2-6	0.76 L/ha	30% phosphate ester surfactant at 1% v/v, or Methylated Seed Oil at 1% v/v, or Non-ionic surfactant at 0.5%.
Annual bluegrass suppression	2-6	0.76 L/ha	30% phosphate ester surfactant at 0.5% v/v, or Methylated Seed Oil at 0.5% v/v, or

			Non-ionic surfactant at 0.25%.
Downy brome***	2-6 maximum 3 tillers	0.76 L/ha	30% phosphate ester surfactant at 1% v/v, or Methylated Seed Oil at 1% v/v, or Non-ionic surfactant at 0.5%.

*ARROW ALL IN® applied at 0.25 L/ha for the control of weeds listed in this section of the table should only be applied under the following conditions:

- Good crop stand
- Early application (as in above table, prior to tillering)
- Do not apply to volunteer winter cereals
- Light to moderate weed infestation
- Adequate moisture and fertility
- Absence of stress, good growing conditions

If any one of the above conditions is not present at the time of application, use 0.38 L/ha rate of ARROW ALL IN®.

**An optional additional adjuvant may be used under circumstances of heavy weed pressure or when environmental conditions (e.g., drought) are not ideal for weed control. Adjuvants, such as those containing 30% phosphate ester surfactant, non-ionic surfactants (e.g. ADAMA Adjuvant 80) or methylated seed oil, can be added to ARROW ALL IN® at the indicated leaf stage of the grassy weed.

*** For adequate control, use a minimum spray volume of 100 L/ha.

MIXING INSTRUCTIONS AND TANK MIXES

MIXING INSTRUCTIONS:

1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
2. Fill clean spray tank half full with clean water. Start agitation system.
3. Add the required amount of the tank-mix partner. NB. Consult the tank-mix partner label and follow the proper mixing order and related instructions. Continue to agitate.
4. Add the correct amount of ARROW ALL IN®. Continue to agitate.
5. OPTIONAL: For use of Arrow All In alone (not in a tank mixture), add the correct amount of adjuvant (30% phosphate ester surfactant, methylated seed oil or non-ionic surfactant).
6. Continue to add the remaining amount of water to fill the spray tank. Continue to agitate.
7. After any break in the spraying operation, agitate thoroughly before spraying again. Check inside the tank to ensure that sprayer agitation is sufficient to re-mix the spray materials. Do not allow the mixture to sit overnight. In the case of tank mixtures with broadleaf herbicides, settling will occur if agitation is not continuous.
8. If an oil film starts to build up in the tank, drain it and clean tank with strong detergent solution.
9. Immediately after use, thoroughly clean the sprayer by flushing the system with clean water containing detergent.

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

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact 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.

FLAX

ARROW ALL IN® AND A HERBICIDE CONTAINING ONLY BROMOXYNIL AND MCPA (E.G., BADGE®):

ARROW ALL IN® may be tank-mixed with BADGE® for control of certain broadleaf and grassy weeds in flax (**including low linolenic acid varieties**) in one spray operation. Apply in 55 – 110 litres of water per hectare at a spray pressure of 275 kPa. DO NOT spray this tank-mix on plants under stress. DO NOT spray during periods of hot, humid weather.

Time of Application: Flax (including low linolenic acid varieties), may be treated from 5 cm high to the early bud stage. For best results, apply when flax (including low linolenic acid varieties) is 5 cm to 10 cm high and weeds are in the seedling stage. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: ARROW ALL IN® at 0.38 – 0.76 L/ha tank-mixed with BADGE® at 1.25 L/ha.

Weeds Controlled: As listed for ARROW ALL IN® used alone, plus certain seedling broadleaf weeds.

ARROW ALL IN® AND MCPA ESTER:

ARROW ALL IN® may be tank-mixed with MCPA ESTER (e.g. 500 or 600 g a.e./L) for control of certain broadleaf and grassy weeds in flax (**NOT including low linolenic acid varieties**) in one spray operation. For ground application, apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa. For aerial application apply this tank mix in a minimum of 30 L/ha spray volume at a pressure of 235 kPa.

NOTE: THIS TANK-MIX MAY NOT BE APPLIED TO LOW LINOLENIC ACID VARIETIES OF FLAX.

Time of Application: Flax may be treated from 5 cm tall to just before the bud stage. Do not apply after the early bud stage. Apply when the grassy weeds are in the 2 to 6 leaf stage and broadleaf weeds are in the seedling stage and actively growing. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: ARROW ALL IN® at 0.38 - 0.76 L/ha tank-mixed with MCPA ESTER at 420 g a.e./ha.

Weeds Controlled: As listed for ARROW ALL IN® used alone, plus certain seedling broadleaf weeds.

ARROW ALL IN® AND LONTREL® 360 Herbicide:

ARROW ALL IN® may be tank-mixed with Lontrel® 360 Herbicide for control of certain broadleaf and grass weeds in flax (**NOT including low linolenic acid varieties**) in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa.

NOTE: THIS TANK-MIX MAY NOT BE APPLIED TO LOW LINOLENIC ACID VARIETIES OF FLAX.

Time of Application: Flax may be treated from 5 cm to 10 cm in height. Apply when the grassy weeds are in the 2 to 6 leaf stage and the broadleaf weeds are actively growing.
Application to Canada thistle should be made when Canada thistle is in the rosette to pre-bud stage of growth. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: ARROW ALL IN® at 0.38 L/ha tank-mixed with Lontrel® 360 Herbicide at 0.56 to 0.83 L/ha.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats, wild buckwheat.

Canada thistle	0.56 L /ha	Lontrel® 360 Herbicide Season-long control
	0.83 L /ha	Lontrel® 360 Herbicide Control extended into following year

ARROW ALL IN® AND CURTAIL® M Herbicide

ARROW ALL IN® may be tank-mixed with Curtail® M Herbicide for control of certain broadleaf and grass weeds in flax **(including low linolenic acid varieties)** in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure of 275 kPa.

Time of Application: Flax may be treated from 5 to 15 cm in height. Apply when the grassy weeds are in the 2-6 leaf stage and the broadleaf weeds are actively growing. Application to Canada thistle should be made when Canada thistle is between 10 cm and up to the pre-bud stage. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: ARROW ALL IN® at 0.38 L/ha tank-mixed with Curtail® M Herbicide at 1.5 to 2.0 L/ha.

Weeds Controlled: Weed claims listed on the ARROW ALL IN® Herbicide label plus weed claims listed on Curtail® M Herbicide label.

Grazing Interval: Do not cut treated crops for feed or graze until 60 days after application.

CANOLA

ARROW ALL IN® AND LONTREL® 360 Herbicide:

ARROW ALL IN® may be tank-mixed with Lontrel® 360 Herbicide for control of certain broadleaf and grass weeds in canola in one spray operation. Apply in a minimum of 100 L/ha spray volume at a pressure

of 275 kPa.

Time of Application: Canola may be treated from the 2 to 6 leaf stage. Apply when the grassy weeds are in the 2 to 6 leaf stage and the broadleaf weeds are actively growing. Application to Canada thistle should be made when Canada thistle is in the rosette to pre-bud stage of growth. If broadleaf weeds and grass weeds are not in recommended treatment stage at the same time, then separate applications should be made.

Application Rate: ARROW ALL IN® at 0.38 L/ha tank-mixed with Lontrel® 360 Herbicide at 0.42 to 0.83 L/ha.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats.

Wild Buckwheat	0.56 L Lontrel® 360 Herbicide /ha	Season-long control
Canada thistle	0.42 L Lontrel® 360 Herbicide /ha	Top growth control to 6 - 8 weeks
	0.56 L Lontrel® 360 Herbicide /ha	Season-long control
	0.83 L Lontrel® 360 Herbicide /ha	Control into following year

ARROW ALL IN® AND A HERBICIDE CONTAINING ONLY IMAZETHAPYR (E.G., PHANTOM® 240 SL or PURSUIT® Herbicide):
Imazethapyr Tolerant Canola (e.g. canola varieties with the SMART trait)

ARROW ALL IN® may be tank-mixed with Pursuit® Herbicide for control of certain broadleaf and grassy weeds in imazethapyr-tolerant canola varieties in one spray operation. Apply in a minimum of 100 litres of water per hectare at a spray pressure of 275 kPa.

Time of Application: Imazethapyr-tolerant canola varieties may be treated after the crop has developed one (1) fully expanded leaf. Apply when grassy weeds are in the 2 to 6 leaf stage. Apply up to the 4 leaf stage for control of broadleaf weeds.

Application Rate: ARROW ALL IN® at 0.38L/ha tank-mixed with Pursuit® Herbicide at 0.105 or 0.21 L/ha.

Weeds Controlled: As listed for ARROW ALL IN® plus the following additional weeds. Pursuit® Herbicide at 0.105 L/ha for control of chickweed, hempnettle, redroot pigweed*, stinkweed, volunteer canola (not imazethapyr-tolerant), wild mustard and wild buckwheat*, in the 1 to 4 leaf stage.
*For the control of light infestations only. For heavy infestations use the 0.21 L/ha rate of Pursuit® Herbicide. Pursuit® Herbicide at 0.21 L/ha for control of weeds as listed on the Pursuit® label.

ARROW ALL IN® AND MUSTER® Herbicide:

ARROW ALL IN® may be tank-mixed with Muster® Herbicide for control of certain broadleaf and grassy weeds in canola in one spray operation. Apply in a minimum of 100 litres of water per hectare at a spray pressure of 275 kPa.

Time of Application: Canola may be treated from the 2 leaf stage to the beginning of bolting. Apply when the grassy weeds are in the 2 to 6 leaf stage and when the broadleaf weeds are in the cotyledon to 6 leaf stage. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time,

then separate applications should be made.

Application Rate: ARROW ALL IN® at 0.38 L/ha tank-mixed with Muster® Herbicide at 20 or 30 g/ha.

Weeds Controlled: Muster® Herbicide at 20 or 30 g/ha: Wild oats, green foxtail, volunteer barley, volunteer oats, volunteer wheat, hempnettle, wild mustard, green smartweed, flixweed (spring seedlings), stinkweed*, and redroot pigweed.
* *Stinkweed suppression at the lower rate. Apply to stinkweed in the 1 to 4 leaf stage.*

ARROW ALL IN® AND LIBERTY® 150 SN HERBICIDE or ADAMA GLUFOSINATE 150 SL : For use on Glufosinate Ammonium tolerant canola varieties only (e.g. varieties or hybrids labelled LibertyLink®).

ARROW ALL IN® may be tank-mixed with LIBERTY® 150 SN HERBICIDE or ADAMA GLUFOSINATE 150 SL for control of certain broadleaf and grass weeds in Glufosinate Ammonium tolerant canola varieties in one spray operation. Apply in a minimum of 110 L/ha spray volume at a pressure of 275 kPa.

Time of Application: Glufosinate Ammonium tolerant canola varieties may be treated from the cotyledon stage up to the early bolting stage. Apply when the wild oats, volunteer wheat, volunteer oats and green foxtail are in the 1 to 5 leaf stage. Refer to LIBERTY® 150 SN HERBICIDE or ADAMA GLUFOSINATE 150 SL label for application timing on all remaining grass and broadleaf weeds for 2.7 or 3.3 L/ha.

Application Rate: ARROW ALL IN® at 0.125 L/ha tank-mixed with LIBERTY® 150 SN HERBICIDE or ADAMA GLUFOSINATE 150 SL at 2.7 to 3.3 L/ha.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat, volunteer oats plus all remaining grass weeds and broadleaf weeds listed on the LIBERTY® 150 SN HERBICIDE or ADAMA GLUFOSINATE 150 SL label at the application rates of 2.7 and 3.3 L/ha.

FIELD PEAS

ARROW ALL IN® AND A HERBICIDE CONTAINING ONLY IMAZETHAPYR (E.G., PHANTOM® 240 SL or PURSUIT® Herbicide):
ARROW ALL IN® may be tank-mixed with Phantom® 240 SL or Pursuit® Herbicide for control of certain broadleaf and grassy weeds in field peas in one spray operation. Apply in a minimum of 100 litres of water per hectare at a spray pressure of 275 kPa.

Time of Application: Field peas may be treated up to the sixth (6th) trifoliate leaf stage. Apply when volunteer wheat, volunteer barley, wild oats and green foxtail are in the 2 to 6 leaf stage. Apply up to the 4 leaf stage for control of broadleaf weeds. If broadleaf weeds and grassy weeds are not in the recommended treatment stage at the same time, then separate applications should be made.

Application Rate: ARROW ALL IN® at 0.38 L/ha tank-mixed with Phantom® 240 SL or Pursuit® Herbicide at 210 mL/ha.

Weeds Controlled: Wild oats, green foxtail, volunteer barley, volunteer wheat plus the weeds as listed on the Phantom® 240 SL or Pursuit® Herbicide label.

GLYPHOSATE TOLERANT SOYBEANS

ARROW ALL IN® may be tank-mixed with Roundup Weathermax® with Transorb 2 Technology Liquid Herbicide (or other liquid glyphosate products registered for use on glyphosate tolerant soybeans) for control of volunteer glyphosate tolerant corn and other weeds listed on the product labels. All weeds listed on each label can be controlled in one spray operation. Apply in a minimum of 100L/ha spray volume at a pressure of 275 kPa.

Time of application: Glyphosate tolerant soybeans may be treated from 1st trifoliate through to flowering, observing the 75 day PHI. Apply when the grassy weeds are in the 2-6 leaf stage and the broadleaf weeds are actively growing.

Application Rate: ARROW ALL IN® at 0.38 L/ha tank-mixed with 900 to 1800 g a.e./ha of a liquid glyphosate product that is registered for use on glyphosate tolerant soybeans (equivalent to 1.67 to 3.33 L/ha of Roundup Weathermax® with Transorb 2 Technology Liquid Herbicide, a 540 g/L product.

Weeds Controlled: Weed claims listed on the ARROW ALL IN® Herbicide label (volunteer glyphosate tolerant corn in particular) plus weed claims listed on the glyphosate product label.

Grazing Interval: Do not cut treated crops for feed or graze until 60 days after application.

MINOR USES:

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	Weeds Controlled	Application Rate of ARROW ALL IN®	Application Rate of Adjuvant	Time of Application
PRAIRIE CARNATION	Annual weeds listed on the ARROW ALL IN® label. Refer to weed/rate chart in this label.	0.38 L/ha	30% phosphate ester surfactant at 0.5% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25%.	Apply ARROW ALL IN® post-emergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply in a minimum spray volume of 110 L/ha. Do not harvest treated prairie carnations for human consumption. **Ground application only**.

	Edamame, Edible-podded legume vegetables (Crop subgroup 6A): Bean (*Phaseolus* spp.) (includes runner bean, snap bean, wax bean), Bean (*Vigna* spp.) (includes asparagus bean, Chinese longbean, moth bean, yardlong bean), Jackbean (*Canavalia ensiformis*), Pea (*Pisum* spp.) (includes dwarf pea, edible-pod pea, snow pea, sugar snap pea), Pigeon pea (*Cajanus cajan*), Soybean (immature seed) (*Glycine max*), Sword bean (*Canavalia gladiata*). **Succulent shelled peas and beans (Crop subgroup 6B):** Bean (*Phaseolus* spp.) (includes lima bean, green bean), Bean (*Vigna* spp.) (includes blackeyed pea, cowpea, southern pea), Broad bean (fava bean) (*Vicia faba*), Pea (*Pisum* spp.) (includes English pea, garden pea, green pea), Pigeon pea (*Cajanus cajan*).	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38 L/ha	30% phosphate ester surfactant at 0.5% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25%.	Apply ARROW ALL IN® postemergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 21 days. **Ground application only.**	

	BUCKWHEAT	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38 L/ha	30% phosphate ester surfactant at 0.5% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25%.	Apply ARROW ALL IN® postemergence of weeds and crop. Apply a maximum of one application per year using ground or aerial equipment. Apply in a minimum spray volume of 100 L/ha for ground application. Apply in a minimum spray volume of 28-55 for aerial application. Increase to 100 L/ha if grass or crop foliage becomes dense. Observe a PHI of 60 days.	
	CHERRY (SWEET AND TART) (established trees)	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® to established sweet and tart cherry trees, post-emergence of weeds. Do not apply ARROW ALL IN® directly over the top of the trees. Direct the spray at the base of the tree where grassy weeds are growing. If ARROW ALL IN® is improperly applied, crop injury can occur. Apply a maximum of one application per year using ground equipment. Apply in a minimum spray volume of 100 litres of water per hectare. Observe a PHI of 14 days. **Ground application only.**	

	HIGHBUSH AND LOWBUSH BLUEBERRY	ARROW ALL IN® labelled grassy weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® post-emergence of weeds and crop. Apply a maximum of one application per year, post-emergent by ground equipment. For highbush blueberry, apply as a broadcast spray directed to the ground. For lowbush blueberry, apply as a broadcast spray over the top of the crop. Apply in a minimum spray volume of 100 L/ha. Observe a PHI of 14 days for highbush blueberry and a PHI of 30 days for lowbush blueberry. **Ground application only**	
	CORIANDER (Cilantro), CARAWAY	Annual weeds listed on the ARROW ALL IN® label	0.38-0.76 L/ha Refer to ARROW ALL IN® weed/rate chart in this label.	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® post-emergent when coriander is in the 2 to 5 leaf stage. Apply a maximum of one application per year, using ground equipment. Observe a PHI of 30 days for leaves and 60 days for seed. **Ground application only.**	

DILL	Labelled grassy weeds. Refer to weed/rate chart on this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® postemergence of weeds and crop when dill is in the 3- to 5-leaf stage. Apply a maximum of one application per year using ground equipment. Apply a minimum spray volume of 100 L/ha. Observe a PHI of 30 days for dillweed leaves and a PHI of 40 days for dill seed. **Ground application only.**
CHIVE	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha Refer to ARROW ALL IN® weed/rate chart in this label.	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply a maximum of one application per year, postemergent using ground equipment. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. **Ground application only.**
Angelica; balm (lemon balm); basil; borage; burnet; chamomile; catnip; chervil; clary; costmary; culantro (leaf); horehound; hyssop; lavender; lovage; marigold; marjoram (includes sweet or annual marjoram, wild marjoram or oregano and pot marjoram); nasturtium; parsley (dried); pennyroyal; rosemary; rue; sage; savory, summer and winter; sweet bay (bay leaf); tansy; tarragon; thyme; wintergreen; woodruff; and wormwood	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38 L/ha	30% phosphate ester surfactant at 0.5% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25%.	Apply ARROW ALL IN® postemergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. **Ground application only.**

Anise (anise seed), caraway (black); celery seed; cilantro (seed); cumin; fennel [common and Florence (seed)]; juniper berry; lovage (seed); mustard (seed); poppy (seed); and saffron	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38 L/ha	30% phosphate ester surfactant at 0.5% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25%.	Apply ARROW ALL IN® postemergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 60 days. **Ground application only.**
HOPS	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® postemergence of weeds and crop. Apply a maximum of one application per season, using ground equipment. Apply as a broadcast spray directed to the ground. Apply in a minimum spray volume of 110 litres of water per hectare. Observe a PHI of 21 days. **Ground application only.**
FENUGREEK	Annual weeds listed on the ARROW ALL IN® label	Refer to ARROW ALL IN® weed/rate chart in this label.	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® post-emergent when fenugreek is in the 3 to 5 leaf stage. Apply a maximum of one application per season, using ground equipment. Apply in a minimum spray volume of 100L/ha. Observe a PHI of 30 days for leaves and seed. **Ground application only.**

DRY BULB ONIONS, DRY BULB SHALLOT and GARLIC	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25%.	Apply ARROW ALL IN® postemergent when the crop is in the 1- to 4-leaf stage. Apply a maximum of one application per season, using ground equipment. Observe a PHI of 45 days. **Ground application only.**	
GREEN ONION	Labelled weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® postemergent when the crop is in the 2- to 3-leaf stage. Apply a maximum of one application per season, using ground equipment. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 14 days. **Ground application only.**	
LEEK	Labelled weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® postemergent at least 2 weeks after transplanting when crop is well established and has produced one new fully expanded leaf. Apply a maximum of one application per season, using ground equipment. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 14 days. **Ground application only.**	

SAFFLOWER	Annual Weeds listed on the ARROW ALL IN® label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® postemergent when safflower is in the 6- to 8-leaf stage. Apply a maximum of one application per season using ground equipment. Apply in a minimum spray volume of 100 litres of water per hectare. Observe a PHI of 70 days. **Ground application only.**	
SPINACH	Annual Weeds listed on the ARROW ALL IN® label	Refer to ARROW ALL IN® weed/rate chart in this label.	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply a maximum of two applications per year with 14 days between applications, post emergent by ground application when grassy weeds are in the 2 to 6 leaf stage. Observe a PHI of 14 days. **Ground application only.**	
CRANBERRY	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® post emergence of weeds and crop. Do not apply between the hook stage and full fruit set. Apply a maximum of one application per year using ground equipment. Apply in a minimum spray volume of 110 L of water/ha. Observe a PHI of 30 days. **Ground application only.**	

GARDEN (TABLE) BEET, PARSNIP, CARROT, RADISH, RUTABAGA, CELERIAC	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® postemergence of weeds and crop using ground equipment. Apply a maximum of two applications per year. If repeat application is required, allow at least 14 days between first and second application. **Do not apply more than 0.76 L/ha (90 grams ai/ha) per crop season.** Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. **Ground application only.**	
CELERY, CHINESE CABBAGE (NAPA)	Labelled grassy weeds. Refer to weed/rate chart in this label.	0.38-0.76 L/ha	30% phosphate ester surfactant at 0.5-1% v/v, or Methylated Seed Oil at 0.5% v/v, or Non-ionic surfactant at 0.25-0.5%.	Apply ARROW ALL IN® postemergence of weeds and crop. Apply a maximum of one application per year using ground equipment. Apply in a minimum spray volume of 110 L/ha. Observe a PHI of 30 days. **Ground application only**	

	STRAWBERRY	Labelled grassy weeds. Refer to weed/rate chart in this label	0.25 – 0.76 L/ha	An optional additional adjuvant may be used under circumstances of heavy weed pressure or when environmental conditions (e.g drought) are not ideal for weed control.	Apply ARROW ALL IN™ post-emergent to the grassy weeds when they are in the 2-6 leaf stage. To be used after harvest and at least 4 days prior to the renovation (renovation timing for June-bearing strawberries'). Apply a maximum of one application per year using ground equipment. Apply in a minimum spray volume of 55 – 225 L/ha. Observe a PHI of 60 days. **Ground application only.**	
	SWEET POTATO	Labelled grassy weeds. Refer to weed/rate chart in this label	0.25 – 0.76 L/ha	An optional additional adjuvant may be used under circumstances of heavy weed pressure or when environmental conditions (e.g drought) are not ideal for weed control.	Apply ARROW ALL IN™ post-emergent to the sweet potato when the grassy weeds are in the 2-6 leaf stage. Apply a maximum of one application per year using ground equipment. An optional additional adjuvant may be used under circumstances of heavy weed pressure or when environmental conditions (e.g drought) are not ideal for weed control. Apply in a minimum spray volume of 55 – 225 L/ha. Observe a PHI of 30 days. **Ground application only.**	

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management ARROW ALL IN® is a Group 1 herbicide. Any weed population may contain or develop plants naturally resistant to ARROW ALL IN® and other Group 1 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of ARROW ALL IN® or other Group 1 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.

For further information or to report suspected resistance, contact ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262 or at www.adama.com/canada.

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