

2023-03-09
2023-0125
Container Label



VIKING™ Imazethapyr Herbicide

GROUP	2	HERBICIDE
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Emulsifiable Concentrate

COMMERCIAL (AGRICULTURAL)

REGISTRATION NO. 34747 PEST CONTROL PRODUCTS ACT

ACTIVE INGREDIENT: Imazethapyr ... 240 g/L

NET CONTENTS: 3.3 L – 1020 L

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

**In case of emergency call the 24 hour Emergency Response Number 1-800-424-9300 or
1-703-527-3887**

Viking Crop Production Partners Inc.

Box 18033

RPO Shawnessy

Calgary, AB. T2Y 0K3

1-587-743-1029

Viking (TM) is a trademark of Viking Crop Production Partners Inc.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH THE SKIN.

DO NOT CONTAMINATE FOOD OR FEED PRODUCTS.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

AVOID BREATHING VAPOUR OR SPRAY MIST.

May cause eye damage. May cause skin irritation. Use with adequate ventilation. Wear dust and/or splash-proof goggles or face shield and chemical-resistant gloves when mixing, loading and during application, clean-up and repair. Wear long-sleeved shirt and long-legged pants when handling. Do not eat, drink or smoke when using. Wash hands and face before eating, drinking, smoking and using the toilet. Wash thoroughly with soap and water after handling. Take a shower IMMEDIATELY after work. Store and wash all protective clothing separately from normal laundry. Clean protective equipment (gloves, goggles, face shield) upon removal with soapy water. Wash in detergent and hot water before reuse. Wear freshly laundered clothes daily.

DO NOT apply using aerial application equipment.

FIRST AID

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

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

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

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

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

TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS

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

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.

STORAGE

Store this product away from food or feed. Keep from freezing. DO NOT store below 0°C. If the product is exposed to temperatures below 0°C during shipment or storage, make sure the product has thawed completely, and shake the container vigorously.

DISPOSAL

Recyclable Containers:

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

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

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

For information on the disposal of unused, unwanted product, contact, the manufacture or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE TO USER

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

Booklet Label



VIKING™ Imazethapyr Herbicide

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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.

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GENERAL INFORMATION

VIKING Imazethapyr Herbicide is a selective herbicide that can be applied as an early pre-plant, pre-plant incorporated, pre-emergent or post-emergence treatment in various crops.

The application method depends upon the crop, anticipated weed spectrum and the preference of the applicator. With pre-plant and pre-emergent treatments, susceptible weeds emerge, are present as stunted plants and then die. When **VIKING Imazethapyr Herbicide** is applied early post-emergence, absorption may occur through both the roots and foliage. Susceptible weeds stop growing and eventually die.

DIRECTIONS FOR USE

Do not enter or allow entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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

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.

Field Sprayer Application

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

DO NOT apply using aerial application equipment.

Spray Buffer Zones

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	Terrestrial Habitat
Field sprayer	All crops	1	1

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 apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

REGISTERED USES EASTERN CANADA

REGISTERED CROPS

VIKING Imazethapyr Herbicide is registered for use as an early post-emergence in the following crops:

Adzuki Beans
Alfalfa Grown for Seed Production
Dry Common Beans of the species *Phaseolus vulgaris*^{1,2},
Lima Beans (Ontario only)
Processing Peas
Snap Beans
Snow Peas
Soybeans

¹ Dry common bean varieties may vary in their tolerance to herbicides, including **VIKING Imazethapyr Herbicide**. Since not all dry common bean varieties have been tested for tolerance to **VIKING Imazethapyr Herbicide**, first use of **VIKING Imazethapyr Herbicide** should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your seed supplier for information on the tolerance of specific varieties of dry common beans to **VIKING Imazethapyr Herbicide**.

² Including, but not limited to: kidney, cranberry, yellow eye, Dutch brown, black and white beans

MOISTURE REQUIREMENTS

As with most soil-applied herbicides, pre-emergent applications of **VIKING Imazethapyr Herbicide** require moisture for activation. Soil-applied **VIKING Imazethapyr Herbicide** requires sufficient water within 7 days of application to moisten the soil to a depth of 5 cm for activation. If adequate moisture is not received within 7 to 10 days of application, perform a shallow inter-row cultivation 5-8 cm deep using a roller or S-tine cultivator to control escaped weeds until the field receives adequate moisture. For early pre-plant applications (soybeans

only), more than 7-10 days may elapse before the receipt of adequate precipitation to activate the herbicide and reduce the risk of weed escapes. Growers preferring surface applications of herbicides may choose this type of application of **VIKING Imazethapyr Herbicide**.

PLANT BACK RESTRICTIONS AND ROTATIONAL CROPS

In cases of crop failure, replant only soybeans, all types of dry common beans of the species *Phaseolus vulgaris*, lima beans, adzuki beans, imazethapyr tolerant corn, and processing peas in the year of application. Winter wheat may also be re-planted in cases of crop failure or as a rotational crop 100 days following a **VIKING Imazethapyr Herbicide** application. Soil preparation for re-planting should be no deeper than 10 cm.

Field corn, imazethapyr tolerant corn, soybeans, winter wheat, spring wheat, spring barley, all types of dry common beans of the species *Phaseolus vulgaris*, lima beans, adzuki beans, and processing peas may be planted the season following a **VIKING Imazethapyr Herbicide** application. Conduct a field bioassay (a test strip grown to maturity) the year BEFORE growing any other crop.

CROP SPECIFIC RECOMMENDATIONS

SOYBEANS

Apply **VIKING Imazethapyr Herbicide** as an early pre-plant, pre-plant incorporated, pre-emergent or post-emergent treatment in soybeans.

For fields that contain weeds other than those listed in the “Weed Control in Soybeans: **VIKING Imazethapyr Herbicide** Alone” table, tank mix for broad-spectrum weed control (see “Herbicide Tank Mix Options–Soybeans”). The choice of product for tank mixing will depend on the specific weed(s) to be controlled. Consult the labels of the tank mix products to determine which product will provide control of the specific weeds present in the field.

Weed Control in Soybeans: **VIKING Imazethapyr Herbicide** Alone

Weeds	Application Timing					
	Early Pre-plant (prior to weed emergence)	Early Pre-plant (emerged weeds prior to 2 true leaf stage)	Pre-plant Incorporated	Pre-Emergent	Early Post-Emergent (before weeds reach 2 true leaf stage)	Late Post-Emergent (maximum leaf stage in parenthesis)
Broadleaf Weeds						
lamb’s-quarters	C	PC	C ²	C	PC	
redroot pigweed	C	C	C	C	C	C (12)
smartweed	C			C		
lady’s-thumb	C			C ³		
wild mustard	C	C	C	C	C	
velvetleaf	C ¹	C ¹	C ¹	C ¹	C ¹	C(8)
ragweed, common	C	PC	PC ²	C ³	C ⁴	
ragweed, giant					PC ⁵	PC(10)
eastern black nightshade	PC	C	C	C	C	
wild buckwheat		PC			C	
cocklebur		C ¹			C ^{1, 4}	

Grasses						
foxtail, green and yellow	C	C	C	C	C	C (4)
barnyard grass	C	PC	PC ²	C ³	C ⁴	C(6)
old witchgrass	C			C ³	C	
proso millet	PC	PC	PC	PC	PC	
crabgrass, large					PC	
Perennials						
yellow nutsedge					PC	

C = Control PC = Partial Control and Reduces Competition

¹ Some plants of velvetleaf and/or cocklebur that germinate deeper in the soil and emerge late may escape treatment.

² Tank mixing is recommended for fields with a history of heavy infestations of this weed species.

³ The higher label rate or tank mixing is recommended for fields with a history of heavy infestations of this weed species.

⁴ The higher label rate is required for heavy infestations of this weed species.

⁵ The higher label rate is required

Herbicide Tank Mix Options - Soybeans

Tank Mix Option	Application Timing			
	Early Pre-plant	Pre-plant Incorporated	Pre-emergent	Early and Late Post-emergent
Glyfos [®] Soluble Concentrate Herbicide or Vantage [™] Plus MAX	X ¹			X ^{1, 3}
Sencor [®]	X ¹	X ^{1, 2}	X ¹	
Lexone [®]		X ^{1, 2}	X ¹	
Treflan [™] EC / Trifluralin 480 EC Herbicide/ Rival [®] EC		X ¹		
Lorox L [®] / Afolan F [®]			X ¹	
Liberty [®] 200SN Herbicide				X ^{2, 4}
Basagran [®] / Basagran Forte				X ^{1, 2}

¹ Refer to the label of the specific tank mix product for information regarding rates, recommendations, precautions and restrictions.

² Refer to Tank Mix Options under the appropriate Application Timing in this label.

³ Glyphosate Tolerant Soybeans only (i.e., varieties with the Roundup Ready[®]). Refer to CROP: GLYPHOSATE TOLERANT gene SOYBEANS section.

⁴ For use on soybean varieties that are specially developed to be tolerant to glufosinate ammonium (e.g. LibertyLink[®] seeds).

Timing	Early Pre-plant Application – Soybeans Apply VIKING Imazethapyr Herbicide up to 30 days before planting in conventional, reduced tillage or no -till soybeans. VIKING Imazethapyr Herbicide alone may be applied as a surface application using this technique. Only one additional working of the soil to prepare the seedbed is recommended following the application. This final seedbed preparation should not work the soil deeper than 10 cm. Deeper tillage will result in reduced concentration of herbicide in the weed germination zone and reduction in weed control. DO NOT plow following the application.	
Rate	Early Pre-plant – Prior to Weed Emergence	420 mL/ha
	Early Pre -plant to Emerged Weeds (before the weeds reach the 2 true leaf stage).	420 mL/ha + non-ionic surfactant. Non- ionic surfactant MUST BE ADDED . Liquid fertilizer added to the spray solution will provide quicker burndown of weeds.
Water Volume	100-400 L/ha	
Surfactant/ Adjuvant	For Early Pre-plant to Emerged Weeds: Non-ionic surfactant – 0.25% v/v (e.g. 2.5 L/1000 L of spray solution) Liquid fertilizer solution (10-34-0, 28-0-0 or or 32-0-0) - 2 L/ha	
Weeds Controlled	See “Weed Control in Soybeans” table above.	
Remarks	Plant only soybeans during the season of application.	

Timing	Pre-plant Incorporated Application - Soybeans Incorporate VIKING Imazethapyr Herbicide evenly throughout the top 5 cm of the soil profile. Incorporation may be achieved with a double pass using discs or cultivator operated at 8 to 12 kph with the second pass at an angle to the first. Cultivators must have 3 or 4 rows of flexible sweeps staggered and spaced less than 15 cm apart followed by a drag or rolling basket to ensure no soil is left unturned.	
Rate	312 mL/ha	
Water Volume	100-400 L/ha	
Weeds Controlled	See “Weed Control in Soybeans” table above.	
Remarks	DO NOT apply VIKING Imazethapyr Herbicide as a pre-plant incorporated application more than one year in sequence. Allow at least 24 months between pre-plant incorporated applications.	

Tank Mix Options	For fields that contain heavy lamb' s-quarters, common ragweed and/or barnyard grass infestations or weeds other than those listed under “ VIKING Imazethapyr Herbicide Alone ”, tank mixing may be required to provide broad-spectrum weed control (see “Herbicide Tank Mix Options – Soybeans” table). Follow the most conservative rates, recommendations, precautions and restrictions on the tank mix labels.			
	For SENCOR and LEXONE herbicide, refer to the following table for rates:			
	Soil Texture¹	Application Rate per Hectare		
		SENCOR 75 DF	SENCOR 480 F	LEXONE 75 DF
Medium (loam, silt loam, silt, sandy clay, sandy clay loam)	750 g	1.1 L	540 g	
Heavy (silty clay, silty clay loam, clay and clay loam)	750 g	1.1 L	640 g	
¹ Do not use on light (loamy sand, sandy loam) textured soils. Do not use on soil with less than 2% organic matter.				

Timing	Pre-emergent Application - Soybeans Pre-emergent applications of VIKING Imazethapyr Herbicide may be applied before the crop and weeds emerge.
Rate	312 - 420 mL/ha
Water Volume	100-400 L/ha
Weeds Controlled	See “Weed Control in Soybeans” table above.
Tank Mix Options	For fields that contain heavy infestations of common ragweed, old withgrass, barnyard grass, lady’s-thumb or weeds other than those listed under “ VIKING Imazethapyr Herbicide Alone ”, tank mixing may be required to provide broad-spectrum weed control (see “Herbicide Tank Mix Options – Soybeans” table). Follow the most conservative rates, recommendations, precautions and restrictions on the tank mix labels.

Timing	<p>Early and Late Post-emergent Application - Soybeans Apply VIKING Imazethapyr Herbicide early post-emergent after the crop has emerged and before the weeds reach the 2 true leaf stage.</p> <p>VIKING Imazethapyr Herbicide may also be applied late post-emergent after the crop has emerged for control of certain weed species up to the growth stages indicated in the “Weed Control in Soybeans: VIKING Imazethapyr Herbicide Alone” table. To minimize weed competition with the crop, application should be made as early as possible after weed emergence.</p>	
Rate	Early Post-emergent – (before the weeds reach the 2 true leaf stage)	312-420 mL/ha + non-ionic surfactant + liquid fertilizer
	Late Post-emergent	420 mL/ha + non-ionic surfactant + liquid fertilizer
Water Volume	100-400 L/ha	
Surfactant/ Adjuvant	Non-ionic surfactant – 0.25% v/v (e.g. 2.5 L/1000 L of spray solution) Liquid fertilizer solution (10-34-0, 28-0-0 or 32-0-0) - 2 L/ha	
Weeds Controlled	See “Weed Control in Soybeans” table above.	
Remarks	<p>Addition to the spray solution of a non-ionic surfactant plus liquid fertilizer is essential for post-emergent application, improving uptake of the product by weeds resulting in improved herbicidal activity.</p> <p>Avoid applications when weeds and/or crop are under growth stress. Stunting of the crop may result following post-emergence application. This condition is the result of stem inter- node shortening but will not result in yield reduction.</p>	
Tank Mix Options	<p>VIKING Imazethapyr Herbicide may also be tank mixed with the herbicides listed in the “Herbicide Tank Mix Options – Soybeans” table. Always follow the most conservative rates, recommendations, precautions and restrictions on the tank mix labels.</p> <p>Comments: Use the 312 mL /ha rate of VIKING Imazethapyr Herbicide when tank mixed with Basagran or Basagran Forte herbicide.</p> <p>For VIKING Imazethapyr Herbicide plus Basagran herbicide, a non-ionic surfactant at the rate of 0.25% (v/v) and fertilizer solution (1 0-34-0, 28 -0-0 or 32-0-0) at the rate of 2 L/ha MUST BE ADDED to the spray solution.</p> <p>For VIKING Imazethapyr Herbicide plus Basagran Forte herbicide, only fertilizer solution MUST BE ADDED at the rate of 2 L/ha.</p>	

GLYPHOSATE TOLERANT SOYBEANS
(i.e., varieties with the Roundup Ready® gene)

Timing	<p>Post-emergent Application</p> <p>For broadleaf and grass weeds other than those listed in “Weed Control in Soybeans: VIKING Imazethapyr Herbicide Alone” table, VIKING Imazethapyr Herbicide may be tank mixed with Glyphos Soluble Concentrate Herbicide, or Vantage Plus MAX Herbicide Solution and applied to Roundup Ready soybeans.</p> <p>Follow the rates, application timings, recommendations, precautions and restrictions on the glyphosate label. Refer to the glyphosate label for adjuvant recommendations.</p>
VIKING Imazethapyr Herbicide Rate	312 mL/ha
Water Volume	100-400 L/ha
Alternative VIKING Imazethapyr Herbicide Rate	<p>VIKING Imazethapyr Herbicide at 160 - 210 mL/ha</p> <p>Tank mixing VIKING Imazethapyr Herbicide at 160 - 210 mL/ha with glyphosate will provide residual control of late germinating eastern black night shade, common lamb's quarters, redroot pigweed, velvetleaf, fall panicum and wild prosomillet. Use 900 g ae/ha of glyphosate¹ and apply up to and including the 3rd trifoliolate leaf stage of Roundup Ready soybeans in 100-200 litres per hectare of clean water. Use higher rate for heavier infestations.</p> <p>Consult the glyphosate label for weeds controlled by glyphosate, as well as for further recommendations, precautions and restrictions.</p> <p>¹ 900 g ae glyphosate/ha is equivalent to 2.5 L/ha of Glyphos Soluble Concentrate Herbicide or 1.88 L/ha of Vantage Plus MAX Herbicide Solution.</p>
Remarks	<p>WARNING</p> <p>Apply VIKING Imazethapyr Herbicide + glyphosate herbicide tank mix ONLY to glyphosate tolerant soybeans, i.e. varieties with the Roundup Ready® gene. SOYBEANS WHICH ARE NOT DESIGNATED AS GLYPHOSATE TOLERANT WILL BE DAMAGED OR DESTROYED BY THIS TREATMENT.</p>

**GLUFOSINATE AMMONIUM TOLERANT (LIBERTYLINK®) SOYBEANS
(British Columbia and Eastern Canada Only)**

Timing	<p>Post-emergent Application</p> <p>For control of broadleaf and grass weeds other than those listed in the “Weed Control in Soybeans: VIKING Imazethapyr Herbicide Alone” table, VIKING Imazethapyr Herbicide may be tank mixed with Liberty 200SN herbicide and applied to glufosinate ammonium tolerant (LibertyLink) soybeans from the cotyledon to the flowering stage of the crop.</p> <p>Consult the Liberty 200SN Herbicide label for the recommended leaf stage of weeds at application for best weed control.</p>
Rates	<p>312 mL/ha VIKING Imazethapyr Herbicide + 1.5 - 2.5 L/ha Liberty 200SN herbicide.</p> <p>Tank mix VIKING Imazethapyr Herbicide with the appropriate rate of Liberty 200SN herbicide for the targeted weed species. Refer to the Liberty 200SN herbicide label for rates, weeds controlled, further recommendations, precautions and restrictions.</p>
Water Volume	Minimum of 110 L/ha
Remarks	<p>WARNING</p> <p>Apply VIKING Imazethapyr Herbicide plus Liberty 200SN herbicide tank mix ONLY to glufosinate ammonium tolerant soybeans (e.g. LibertyLink seeds). Application of Liberty 200SN herbicide to non-tolerant soybeans will result in severe crop injury or death of the crop.</p>

EDIBLE BEANS (including dry common beans of the species *Phaseolus vulgaris*^{1, 2}, lima beans (Ontario only) and adzuki beans)

Apply **VIKING Imazethapyr Herbicide** as a pre-emergent treatment in lima beans (Ontario only), dry common beans of the species *Phaseolus vulgaris* and adzuki beans, and as a pre-plant incorporated treatment in dry common beans of the species *Phaseolus vulgaris* and adzuki beans.

1 *Dry common bean varieties may vary in their tolerance to herbicides, including **VIKING Imazethapyr Herbicide**. Since not all dry common bean varieties have been tested for tolerance to **VIKING Imazethapyr Herbicide**, first use of **VIKING Imazethapyr Herbicide** should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your seed supplier for information on the tolerance of specific varieties of dry common beans to **VIKING Imazethapyr Herbicide**.*

2 *Including, but not limited to: kidney, cranberry, yellow eye, Dutch brown, black and white beans.*

Weed Control in Edible Beans: VIKING Imazethapyr Herbicide Alone

Weeds	Application Timing	
	Pre-emergent	Pre-plant Incorporated (dry common beans of the species <i>Phaseolus vulgaris</i> and adzuki beans only)
Broadleaf Weeds		
lamb's-quarters	C	C
redroot pigweed	C	C
smartweed	C	C
lady's-thumb	C	C
wild mustard	C	C
velvetleaf	C ¹	C ¹
ragweed, common	PC	PC
Eastern black nightshade	C	C
Grasses		

foxtail, green and yellow	C	C
proso millet	PC	PC

C = Control PC = Partial Control and Reduced Competition

¹ Some plants of velvetleaf that germinate deeper in the soil and emerge late may escape treatment.

Timing	Pre-emergent Application – Edible Beans
Rate	312 mL/ha
Water Volume	100-400 L/ha
Weeds Controlled	See “Weed Control in Edible Beans” table above.
Tank Mix Options	For fields that contain heavy infestations of broadleaf weeds other than those listed under “ VIKING Imazethapyr Herbicide Alone ”, tank mixing may be required to provide broad-spectrum weed control. Cranberry and Kidney Beans Tank mix VIKING Imazethapyr Herbicide with 1.15 – 1.75 L/ha (1.0 5-1.60 kg ai/ha) of DUAL® MAGNUM herbicide to control labelled broadleaf weeds and grasses in cranberry beans and kidney beans. Refer to the DUAL MAGNUM herbicide label for additional recommendations, precautions and restrictions not specified on this label.

Timing	Pre-plant Incorporated Application (dry common beans of the species <i>Phaseolus vulgaris</i> and adzuki beans only)
Rate	312 mL/ha
Water Volume	100-400 L/ha
Weeds Controlled	See “Weed Control in Edible Beans” table above.
Tank Mix Options	White Beans Tank mix VIKING Imazethapyr Herbicide with 1.25 -2.4 L/ha of TREFLAN EC herbicide/ Trifluralin 480 EC Herbicide to control a broader spectrum of weeds in white beans only. Follow recommendations, precautions and restrictions on the TREFLAN EC herbicide/ Trifluralin 480 EC Herbicide label. Consult the tank mix partner label for weeds controlled other than those listed for VIKING Imazethapyr Herbicide alone. Dry Common Beans of the Species <i>Phaseolus vulgaris</i> ^{1,2} Tank mix VIKING Imazethapyr Herbicide with 1.15 – 1.75 L /ha (1.05 - 1.60 kg ai/h a) of DUAL® Magnum/DUAL II Magnum herbicide to control labelled broadleaf weeds and grasses in dry common beans. Refer to the DUAL Magnum/DUAL II Magnum herbicide label for additional recommendations, precautions and restrictions not specified on this label. Follow the more stringent label precautionary measures for mixing, loading and applying stated on both product labels. ¹ NOTE: Dry common bean varieties may vary in their tolerance to herbicides, including the tank mix of VIKING Imazethapyr Herbicide plus DUAL Magnum/DUAL II Magnum. Since not all dry common bean varieties have been tested for tolerance to the tank mix of VIKING Imazethapyr Herbicide plus DUAL Magnum/DUAL II Magnum, first use of this tank mix should be limited to a small area of each variety to confirm tolerance prior to adoption as a general field practice. Additionally, consult your seed supplier for information on the tolerance of specific varieties of dry common beans to the tank mix of VIKING Imazethapyr Herbicide plus DUAL Magnum/DUAL II Magnum. ² CAUTION: Beans should be seeded at least 4 cm deep or crop injury may result.

PROCESSING PEAS

Timing	Pre-emergent Application or Pre-plant Incorporated Application
Rate	312 mL/ha
Water Volume	200 L/ha
Weeds Controlled	Weeds found in the “ VIKING Imazethapyr Herbicide Alone: Weed Control in Soybeans ” table.

SNOW PEAS

Timing	Pre-emergent Application or Pre-plant Incorporated Application
Rate	312 mL/ha
Water Volume	200 L/ha
Weeds Controlled	Weeds found in the “ VIKING Imazethapyr Herbicide Alone: Weed Control in Soybeans ” table.

SNAP BEANS

Timing	Pre-emergent Application or Pre-plant Incorporated Application
Rate	312 mL/ha
Water Volume	200 L/ha
Weeds Controlled	Weeds found in the “ VIKING Imazethapyr Herbicide Alone: Weed Control in Soybeans ” table.

ALFALFA GROWN FOR SEED PRODUCTION

Timing	Post-emergent Application Apply early post-emergent when weeds are less than 7.5 cm (3 in.) tall. Apply only after the crop has one fully developed trifoliolate leaf.
Rate	312 – 420 mL/ha
Water Volume	200 L/ha
Surfactant/Adjuvant	A non-ionic surfactant at the rate of 0.2 5% (v/v) MUST BE ADDED to the spray solution (e.g. ,2.5 L of surfactant per 1000 L of spray solution). Fertilizer solutions, 10-34-0, 28-0-0 or 32-0-0 MUST BE ADDED to the s pray solution at the rate of 2 L/ha to provide quicker burn down of weeds.
Weeds Controlled	Weeds found in the “ VIKING Imazethapyr Herbicide Alone: Weed Control in Soybeans ” table.

MIXING INSTRUCTIONS

1. Ensure the spray tank is clean before use. Follow the clean-out recommendations stated on the label of the product that was previously used.
2. Fill the spray tank one-half full to three-quarters full of water and start agitation.
3. Using a calibrated measuring device, add the required amount of tank mix partner (refer to the tank mixture section of each crop for tank mixtures).
4. Mix thoroughly.
5. Using a separate calibrated measuring device, add the required amount of **VIKING Imazethapyr Herbicide** to the tank while agitating the spray solution.
6. While the solution remains agitating, add the required amount of non -ionic surfactant if required.

7. If required, add the required amount of liquid fertilizer (28- 0-0, 10-34-0 or 32-0-0) to the spray solution.
8. Continue agitation while filling the remainder of the spray tank with water.
9. Clean the spray tank after use.

RESTRICTIONS AND LIMITATIONS

1. DO NOT apply using aerial application equipment - GROUND APPLICATION ONLY
2. DO NOT over apply **VIKING Imazethapyr Herbicide**. Over application may result in injury particularly if the crop is under stress.

Crop Pre-harvest Interval

Crop	Application to Harvest Interval (days)
Soybeans	100
Dry Common Beans of the species <i>Phaseolus vulgaris</i> and Adzuki Beans	100
Lima Beans	90
Processing Peas	50
Snow Peas	60
Snap Beans	40

1. CAUTION: Do not graze treated crops or cut for hay, sufficient data are not available to support such use.
2. DO NOT let spray drift contaminate crops in adjacent fields.
3. ONLY ONE (1) application of **VIKING Imazethapyr Herbicide** may be made during the season.
4. DO NOT apply **VIKING Imazethapyr Herbicide** as a pre-plant incorporated application in all crops more than one year in sequence. Allow at least 24 months between pre-plant incorporated applications.
5. Emerged weeds in pre- emergent applications which reach the 2 - 3 true leaf stage might be considered as escapes. Shallow cultivation or application of a post-emergent herbicide is recommended. DO NOT cultivate deeply.
6. DO NOT apply **VIKING Imazethapyr Herbicide** when crop is under stress conditions because crop injury may result.
7. Post-emergent application of **VIKING Imazethapyr Herbicide** to soybeans may cause stunting. This condition is the result of stem inter-node shortening and does not cause yield reductions if **VIKING Imazethapyr Herbicide** has been used at label rates and following label recommendations.
8. **VIKING Imazethapyr Herbicide** may cause stunting or delayed maturity in white beans and kidney beans. Stunting is the result of stem inter-node shortening and should not cause yield reductions if **VIKING Imazethapyr Herbicide** has been used at label rates and following label recommendations.

REGISTERED USES WESTERN CANADA

REGISTERED SOIL ZONES

VIKING Imazethapyr Herbicide is registered in the black and grey wooded soil zones of the Prairie Provinces. **VIKING Imazethapyr Herbicide** is not registered for use in the brown and dark brown soil zones with the exception of dry beans and alfalfa (newly seeded purestand for forage and seed production) under irrigation.

REGISTERED CROPS

VIKING Imazethapyr Herbicide is registered for use as an early post-emergence in in the following crops:

Crop	Use Rate (mL/ha)	Water Volume (L/ha)
Alfalfa (newly seeded purestand for forage or seed production)	210	100-400
Alfalfa (established for seed production)	210	100-400
Chickling vetch (seed production only)	210	100-400
Dry beans (pinto, pink, red)	210	100-400
Field peas	210	100-400
Soybeans (Manitoba only)	210	100-400

For all applications, a non-ionic surfactant containing at least 80% active ingredient (Agral® 90, Agsurf®) at the rate of 0.25% (v/v) must be added to the spray solution (e.g., 2.5 L of surfactant per 1000 L of spray solution).

WEEDS CONTROLLED

EARLY POST- EMERGENCE WEED CONTROL (up to and including the 4 leaf stage)

Weeds	Application Timing	
	Field Peas	Newly seeded pure stand alfalfa for forage or seed production
Broadleaf weeds		
Common groundsel	-	PC
Chickweed*	C	-
Cleavers*	C	-
Green smartweed	-	C
Hemp-nettle	C	-
Redroot pigweed	C	C
Shepherd's purse*	C	PC
Smartweed	C	-
Stinkweed*	C	C
Volunteer canola	C	C
Wild buckwheat	S	-
Wild mustard*	C	C
Grasses		
Green foxtail	C	PC
Wild oats	S	-

C = Control PC = Partial Control and Reduced Competition S = Suppression

* Certain populations of these weed are known to be resistant to group 2. If you suspect this potential on your farm, follow recommendations in Resistance-Management Recommendations, Section 6.

**CROP SPECIFIC RECOMMENDATIONS
FIELD PEAS**

Timing	Early post-emergence
Soil Zones	VIKING Imazethapyr Herbicide is registered for use in black and grey wooded soils ONLY.
Rate	210 mL/ha + Adjuvant
Weeds Controlled	See “Early Post-Emergence Weed Control” table above
Remarks	<p>VIKING Imazethapyr Herbicide, by early post-emergence application up to the 4-true leaf stage of the weeds, will control weeds listed in Section 3.2. Field peas up until the sixth (6th) trifoliate leaf stage.</p> <p>An interval of 60 days must follow the VIKING Imazethapyr Herbicide application before field peas are harvested.</p> <p>Field peas treated with VIKING Imazethapyr Herbicide may be fed to livestock 30 days after application.</p>

ALFALFA (NEWLY SEEDED PURESTAND FOR FORAGE OR SEED PRODUCTION)

Timing	Early post-emergence
Soil Zones	Black, grey wooded and irrigated brown soil zones.
Rate	210 mL/ha + adjuvant
Weeds Controlled	See “Early Post-Emergence Weed Control” table above
Remarks	<p>VIKING Imazethapyr Herbicide can be applied as an early post-emergence treatment in newly seeded purestand alfalfa in the year of establishment.</p> <p>VIKING Imazethapyr Herbicide may be applied when the crop has developed at least one (1) fully expanded trifoliate leaf and up to and including the 4 leaf stage of susceptible weeds.</p> <p>VIKING Imazethapyr Herbicide is intended for use on purestand alfalfa in the year of establishment, on stands that will remain for 3 or more years.</p> <p>Apply only in the year of establishment and only after the crop has one fully developed trifoliate leaf.</p> <p>ONLY ONE (1) application of VIKING Imazethapyr Herbicide may be made during the life of the alfalfa stand.</p> <p>DO NOT graze or harvest for forage until 14 days after treatment.</p> <p>Mature seed from treated plants should not be used for human consumption.</p>

ALFALFA (ESTABLISHED FOR SEED PRODUCTION PURPOSES)

Timing	Early post-emergence
Soil Zones	Black and grey wooded soil zones
Rate	210 mL/ha + adjuvant
Weeds Controlled	Stinkweed, wild mustard, volunteer canola, redroot pigweed and suppression of green foxtail
Remarks	One application per year; post-emergent; ground application; apply before alfalfa reaches 30 cm. Do not use VIKING Imazethapyr Herbicide in the last year of the alfalfa stand.

DRY BEANS (PINTO, PINK, RED)

Timing	Early post-emergence
Soil Zones	Black, grey wooded and irrigated brown soil zones only
Rate	210 mL/ha + adjuvant
Weeds Controlled	Hairy nightshade
Remarks	One application per year; ground sprayer; apply in 100 - 400 L water/ha post-emergence; apply up to the 2nd trifoliate leaf stage of the dry bean; up to 6 leaf stage of hairy nightshade; PHI of 75 days.

CHICKLING VETCH / GRASS PEA (FOR SEED PRODUCTION ONLY)

Timing	Early post-emergence
Soil Zones	Black and grey wooded soil zones
Rate	210 mL/ha + adjuvant
Weeds Controlled	See "Early Post-Emergence Weed Control" table above
Remarks	One application per year; post-emergent; ground application; PHI 60 days; apply at the 5-7 leaf stage of chickling vetch/grass pea.

SOYBEANS (MANITOBA ONLY)

Timing	Early post-emergence
Soil Zones	Black and grey wooded soil zones
Rate	210 mL/ha + adjuvant
Weeds Controlled	See "Early Post-Emergence Weed Control" table above
Remarks	Apply as post-emergent application once per season at 1 to 3 leaves of soybean growth; ground application only; PHI 85 days.

MIXING INSTRUCTIONS

- (1) Fill the spray tank one-half to three-quarters full with water.
- (2) Using a calibrated measuring device, add the required amount of **VIKING Imazethapyr Herbicide** while agitating the spray solution.
- (3) While the solution remains agitating, add the required amount of non-ionic surfactant.

(4) Fill the remainder of the tank with water.

RESTRICTIONS ON CROPPING

There is the possibility of residual soil activity from **VIKING Imazethapyr Herbicide** the year following application. Research studies have shown the following crops can be safely grown in black and grey wooded soil zones the year following a **VIKING Imazethapyr Herbicide** application.

0 - 12 months after application In case of crop failure, the following crops can be planted in the same season:	1 year after application The following crops can be planted in the following season:
field peas imazethapyr and imazamox tolerant canola	spring barley spring wheat lentils alfalfa field peas imazethapyr and imazamox tolerant canola
Conduct a field bioassay (a test strip grown to maturity) the year BEFORE growing any other crop than those listed above.	

WARNINGS

- (1) DO NOT apply using aerial application equipment - GROUND APPLICATION ONLY
- (2) DO NOT over-apply **VIKING Imazethapyr Herbicide**. Over application may result in injury particularly if the crop is under stress.
- (3) DO NOT let spray drift contaminate crops other than those being sprayed.
- (4) DO NOT apply 2 applications of **VIKING Imazethapyr Herbicide** within the same year. ONLY ONE (1) application of **VIKING Imazethapyr Herbicide** may be made during the season.
- (5) In cases of crop failure, only field peas or imazethapyr and imazamox tolerant canola (e.g. canola varieties with the CLEARFIELD trait) may be re-planted in the year of application.

Crop Pre-harvest Interval

Crop	Application to Harvest Interval (days)
Soybeans	85
Dry Beans	75
Chickling Vetch/ Grass Pea	60
Field Peas	60

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, **VIKING Imazethapyr Herbicide** is a Group 2 herbicide.

Any weed population may contain or develop plants naturally resistant to **VIKING Imazethapyr Herbicide** and other Group 2 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 **VIKING Imazethapyr Herbicide** or other Group 2 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 Viking Crop Production Partners Inc. at 1-587-743-1029.

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