

2023-03-08  
2023-0119  
\*Container Label\*



## VIKING™ Carfentrazone Herbicide

GROUP	14	HERBICIDE
-------	----	-----------

EMULSIFIABLE CONCENTRATE

COMMERCIAL (AGRICULTURAL)

FOR LISTED WEED CONTROL IN FALLOW SYSTEMS, PREPLANT BURNDOWN, HOODED SPRAYER APPLICATIONS, AND HARVEST AID APPLICATIONS

**REGISTRATION NUMBER:** 34736 PEST CONTROL PRODUCTS ACT

**ACTIVE INGREDIENT:** Carfentrazone-ethyl 240 g/L

**NET CONTENTS:** 0.5 Litre - 1,020 Litres

**READ THE LABEL AND ATTACHED BOOKLET BEFORE USING**

**KEEP OUT OF THE REACH OF CHILDREN**

**CAUTION: EYE AND SKIN IRRITANT**

**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.

## **NOTICE TO USER**

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

## **PRECAUTIONS**

KEEP OUT OF THE REACH OF CHILDREN.  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

### **Caution.**

Harmful if swallowed, absorbed through the skin or inhaled.

Causes moderate eye irritation.

Avoid breathing vapours.

Avoid contact with eyes, skin or clothing.

Wash thoroughly with soap and water after handling.

Do not use or store near heat or open flame.

## **PERSONAL PROTECTIVE EQUIPMENT**

Mixers and loaders must wear long-sleeved shirt, long pants, chemical resistant gloves, and shoes plus socks.

Applicators must wear long-sleeved shirt, long pants and shoes plus socks. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**DO NOT** apply using aerial application equipment.

## **ENVIRONMENTAL PRECAUTIONS**

This product contains aromatic petroleum distillates which are toxic to aquatic organisms.

**TOXIC** to aquatic organisms and non-target terrestrial. 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 strip between the treated area and the edge of the water body.

## **FIRST AID**

### **If Inhaled:**

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

### **If on Skin or Clothing:**

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

### **If in Eyes:**

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

### **If Swallowed:**

Call a poison control centre or doctor IMMEDIATELY for treatment advice. Contains petroleum distillates. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give **any** liquid to the person.

Do not give anything by mouth to an unconscious person.

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

### **TOXICOLOGICAL INFORMATION**

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

### **STORAGE**

Store this product away from food or feed. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Isolate **VIKING Carfentrazone Herbicide** in storage to prevent contamination of other pesticides, fertilizers, water, food or animal feeds. In case of spill, avoid contact, isolate area and keep out unprotected persons and animals. Confine spills. Call Viking Crop Production Partners Inc.: 1-587-743-1029.

### **DISPOSAL**

#### **Recyclable Containers:**

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

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

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

#### **Returnable Containers:**

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

#### **Refillable Containers:**

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

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

**IN CASE OF EMERGENCY, CALL 1-800-424-9300 / 1-703-527-3887**

\*Booklet Label\*



## **VIKING™ Carfentrazone Herbicide**

<b>GROUP</b>	<b>14</b>	<b>HERBICIDE</b>
--------------	-----------	------------------

EMULSIFIABLE CONCENTRATE

COMMERCIAL (AGRICULTURAL)

FOR LISTED WEED CONTROL IN FALLOW SYSTEMS, PREPLANT BURNDOWN, HOODED SPRAYER APPLICATIONS, AND HARVEST AID APPLICATIONS

**REGISTRATION NUMBER:** 34736 PEST CONTROL PRODUCTS ACT

**ACTIVE INGREDIENT:** Carfentrazone-ethyl 240 g/L

**NET CONTENTS:** 0.5 Litre - 1,020 Litres

**READ THE LABEL AND ATTACHED BOOKLET BEFORE USING**

**KEEP OUT OF THE REACH OF CHILDREN**

**CAUTION: EYE AND SKIN IRRITANT**

**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.

**TABLE OF CONTENTS**

**Section Number**

**GENERAL**

Notice to user .....1

**INFORMATION**

Product Information .....2

**SAFETY AND HANDLING**

Precautions, Protective Clothing and Equipment ..... 3

Environmental Precautions..... 4

First Aid and Toxicological Information..... 5

Storage..... 6

Disposal..... 7

**DIRECTIONS FOR USE**

Weeds and Crop Uses .....8

Weeds Controlled ..... 8.1

Preplant Burndown and Fallow Systems.....8.2

Hooded Sprayer Applications... ..8.3

Harvest Aid Treatment ..... 8.4

Preharvest Intervals For Hooded Applications and Harvest Aid... .. 8.5

Application Information... ..9

General Application Instructions... ..9.1

Spray Buffer Zone for Ground Application..... 9.2

Crop Rotation Restrictions..... 9.3

Mixing and Loading

Instructions .....10

Sprayer Cleanup ..... 11

Resistance-Management Recommendations... .. 12

## **GENERAL INFORMATION**

### **SECTION 1: NOTICE TO USER**

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

### **SECTION 2: PRODUCT INFORMATION**

**VIKING Carfentrazone Herbicide** is an emulsifiable concentrate formulation. **VIKING Carfentrazone Herbicide** is to be mixed with water and listed adjuvants, and applied to labelled crops or sites.

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

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

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

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

## **SAFETY AND HANDLING**

### **SECTION 3: PRECAUTIONS, PROTECTIVE CLOTHING and EQUIPMENT**

#### **PRECAUTIONS**

#### **KEEP OUT OF THE REACH OF CHILDREN.**

#### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

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

#### **PERSONAL PROTECTIVE EQUIPMENT**

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

### **SECTION 4: ENVIRONMENTAL PRECAUTIONS**

This product contains aromatic petroleum distillates which are toxic to aquatic organisms.

**TOXIC** to aquatic organisms and non-target terrestrial. Observe 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 strip between the treated area and the edge of the water body.

## **SECTION 5: FIRST AID AND TOXICOLOGICAL INFORMATION**

### **FIRST AID**

#### **If Inhaled:**

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

#### **If on Skin or Clothing:**

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

#### **If in Eyes:**

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

#### **If Swallowed:**

Call a poison control centre or doctor IMMEDIATELY for treatment advice. Contains petroleum distillates. Do not induce vomiting unless told to do so by the poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

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

### **TOXICOLOGICAL INFORMATION**

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

### **SECTION 6: STORAGE**

Store product away from food or feed. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Isolate **VIKING Carfentrazone Herbicide** in storage to prevent contamination of other pesticides, fertilizers, water, food or animal feeds. In case of spill, avoid contact, isolate area and keep out unprotected persons and animals. Confine spills. Call Viking Crop Production Partners Inc.: 1-587-743-1029.

### **SECTION 7: DISPOSAL**

#### **Recyclable Containers:**

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

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

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

#### **Returnable Containers:**

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of

purchase (distributor/dealer).

**Refillable Containers:**

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

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

**DIRECTIONS FOR USE**

**VIKING Carfentrazone Herbicide** can be applied only one time per growing season. **VIKING Carfentrazone Herbicide** may be applied as a **Pre- plant burndown application, OR Hooded Application OR** as a **Harvest Aid**

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

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

**SECTION 8: WEEDS AND CROP USES SECTION**

**8.1: WEEDS CONTROLLED**

When used as directed, **VIKING Carfentrazone Herbicide** will provide control of the listed weeds up to ten (10) cm in height, or as specified.

<b>Weeds Controlled</b>	<b>VIKING Carfentrazone Herbicide Use Rate mL per hectare</b>
Lamb's-quarters, common (up to 7.5 cm tall)	36.5 mL
Morning glory (up to 3 leaves)	
Nightshade, Eastern black	
Pigweed, redroot	
Velvetleaf	
Waterhemp, tall (up to 5 cm tall)	
All the weeds controlled at 36.5 mL per hectare plus the weeds listed below:	58 mL
Lamb's-quarters, common	
Mallow, round-leaved	
Morning glory	
Nightshade, hairy	
Pennycress, field (stinkweed)	
Pigweed, prostrate	
Pigweed, smooth	
Pigweed, tumble	
Purslane, common	
Smartweed, Pennsylvania (seedling)	

Mustard, tansy	
Waterhemp, tall	
All the weeds controlled at 58 mL per hectare plus the weeds listed below:	73 mL
Carpetweed	
Cocklebur	
Jimsonweed	
Kochia	
Nightshade, Eastern black	
Canola, volunteer, including glyphosate-tolerant	
All the weeds controlled at 73 mL per hectare plus the weeds listed below:	117mL
Burclover	
Lettuce, prickly	
Mallow, Venice (up to 5 cm tall)	
Spurry, corn	

## SECTION 8.2: PREPLANT BURNDOWN AND FALLOW SYSTEMS

### PREPLANT BURNDOWN

**VIKING Carfentrazone Herbicide** may be used for preplant burndown applications in crops from the crop groups listed below as well as potatoes.

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

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

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

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

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

### FALLOW SYSTEMS

**VIKING Carfentrazone Herbicide** may be utilized in Fallow Cropping Systems where crops are seeded and harvested in alternate years for soil moisture conservation.

**VIKING CARFENTRAZONE HERBICIDE USE RATES FOR PRE-PLANT BURNDOWN AND FALLOW SYSTEMS**  
 Apply **VIKING Carfentrazone Herbicide** for pre-plant burndown and fallow system at up to 117 mL per hectare except for sorghum where **VIKING Carfentrazone Herbicide** may be applied for pre-plant burndown at up to 73 ml. For optimum performance, make application to actively growing weeds up to 10 cm high, or as specified.  
**Coverage of the weeds is essential for good control.**

**TANK-MIXES:**

**VIKING CARFENTRAZONE HERBICIDE PLUS ROUNDUP® ULTRA® LIQUID HERBICIDE OR ROUNDUP WEATHERMAX® WITH TRANSORB® 2 TECHNOLOGY LIQUID HERBICIDE OR NUFARM CREDIT® LIQUID HERBICIDE**

Apply **VIKING Carfentrazone Herbicide** at 36.5-73 mL per hectare in combination with Roundup Ultra Liquid Herbicide, Roundup Weathermax with Transorb 2 Technology Liquid Herbicide, and Nufarm Credit Liquid Herbicide at 450-900 grams of ai/ha.

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

**When applied as directed, VIKING Carfentrazone Herbicide plus Roundup Ultra Liquid Herbicide, Roundup Weathermax with Transorb 2 Technology Liquid Herbicide, or Nufarm Credit Liquid Herbicide will provide control of listed weeds.**

Dandelion, common	Chickweed
Kochia	Lamb's-quarters, common
Horsetail	Morning glory
Pennycress, field (stinkweed)	Shepherd's-purse
Smartweed, Pennsylvania	Mustard, tansy
Thistle, Russian	Canola, volunteer, including glyphosate- tolerant

**VIKING CARFENTRAZONE HERBICIDE PLUS 2,4-D ESTER**

Apply **VIKING Carfentrazone Herbicide** at 36.5-73 mL per hectare in combination with registered 2,4-D Ester products at 560 grams of ai/ha for control of weeds listed below. Use 100 L/ha water and ensure good coverage for maximum performance.

Buckwheat, wild	Morning glory
Kochia	Pennycress, field (stinkweed)
Lettuce, prickly	Shepherd's-purse
Lamb's-quarters, common	Smartweed, Pennsylvania
Horsetail	Mustard, tansy
Thistle, Russian	Canola, volunteer, including glyphosate- tolerant

**VIKING CARFENTRAZONE HERBICIDE PLUS BROMOXYNIL CONTAINING PRODUCTS FOR BURNDOWN CONTROL OF VOLUNTEER CANOLA (ALL TYPES)**

Apply **VIKING Carfentrazone Herbicide** at 36.5 – 73 ml per hectare in combination with listed bromoxynil products at 140 grams a.i. per hectare. Registered glyphosate products can be added to this tank mix at 450-900 g a.e./ha.

**VIKING Carfentrazone Herbicide** + bromoxynil products will control volunteer canola (all types including Liberty Link®, Clearfield®, and RoundupReady®) from cotyledon stage up to the 4-leaf stage.

Use 100 L/ha water and ensure good coverage for maximum performance. No adjuvant required when using this tank-mix with glyphosate.

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

Products	Rate/Hectare
240 g/L IPCO® Brotex® 240	584 ml
480 g/L IPCO Brotex 480	292 ml

## ADJUVANT RECOMMENDATIONS FOR PRE-PLANT BURNDOWN AND FALLOW SYSTEMS

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

### SECTION 8.3: HOODED SPRAYER APPLICATIONS

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

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

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

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

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

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

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

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

**Crop Group 11: Pome Fruits** (apple; crabapple; mayhaw; pear; pear, oriental; quince)

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

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

#### **VIKING CARFENTRAZONE HERBICIDE USE RATES FOR HOODED SPRAYER APPLICATIONS**

**VIKING Carfentrazone Herbicide** must be applied with hooded sprayers to control labelled weeds between the rows of the below listed emerged crops. This treatment must be made to crops grown in rows, and includes crops grown in rows where mulch or plastic barriers are used as a weed control tool in the drill or plant line.

**VIKING Carfentrazone Herbicide** may be applied at use rates 37-117mL in a minimum of 100 litres per hectare of spray solution.

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

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

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

For optimum performance, make application to actively growing weeds up to 10 cm tall, or as specified.

**Coverage of the weeds is essential for good control.**

#### **ADJUVANT RECOMMENDATIONS FOR HOODED SPRAYER APPLICATIONS**

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

#### **HOPS**

##### **Timing and Method of Application:**

##### **Post emergent Control of Broadleaf Weeds:**

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

##### **Precautions:**

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

##### **Restrictions:**

Do not apply **VIKING Carfentrazone Herbicide** using air blast or air assisted sprayers.

Do not apply within 7 days of harvest.

Do not apply through any type of irrigation system.

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

## SECTION 8.4: HARVEST AID TREATMENT

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

### VIKING CARFENTRAZONE HERBICIDE USE RATES FOR HARVEST AID TREATMENT

Apply **VIKING Carfentrazone Herbicide** at 73-117 mL per hectare, except for sorghum where the maximum rate is 73 mL per hectare. Apply **VIKING Carfentrazone Herbicide** at 233-350 mL per hectare for potatoes, where the first application maximum rate is 350 mL per hectare.

### VIKING CARFENTRAZONE HERBICIDE TANK MIXES FOR HARVEST AID TREATMENT

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

**Small Grains** barley, millet, oats, sorghum and wheat

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

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

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

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

### HARVEST AID IN POTATOES

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

results, apply **VIKING Carfentrazone Herbicide** when the potato crop is in the early stages of natural senescence.

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

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

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

Apply **VIKING Carfentrazone Herbicide** in at least 200 litres of water per hectare using nozzles delivering medium droplet size in the 200 – 400 micron range, and not course droplets. Select a spray pressure between 210 to 420 kPa measured at the nozzle to obtain a droplet size of approximately 200- 400 microns. Vary the spray volume and spray pressure as indicated by the density of the potato canopy and vines to assure thorough spray coverage. Increase the spray volume and pressure if the potato canopy is dense or under cool, cloudy or dry conditions. Increased spray volumes will enhance performance. If Turbo TeeJet® nozzles are used, a spray pressure of 420 kPa or more will be required to obtain thorough coverage. Do not apply when winds are gusty, changing direction by more than 30 degrees, having speed changer of greater than 8 kph or prone to cause herbicide drift from desired target, particularly when high spray pressures are utilized.

#### ADJUVANT RECOMMENDATIONS FOR HARVEST AID TREATMENT

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

#### SECTION 8.5: PREHARVEST INTERVALS FOR HOODED APPLICATIONS AND HARVEST AID

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

Preharvest Intervals (PHI) or Maximum Growth Stage for <b>VIKING Carfentrazone Herbicide</b> Applications	
Crop/Crop Group/Crop Subgroup	PHI (Days Before Harvest)
Vegetables, root (Subgroups 1A and 1B)	1
Vegetables, bulb (Group 3)	1
Vegetables, leafy (Group 4) except Brassica	1
Vegetables, brassica (Group 5) (cole) leafy	1
Vegetables, legume (Group 6)	1
Vegetables, fruiting (Group 8) except cucurbits	1
Vegetables, cucurbit (Group 9)	1
Bushberry (Subgroup 13B)	1
Vegetables, tuberous and corm (Subgroups 1C and 1D)	7
Pome fruit (Group 11)	3
Stone fruit (Group 12)	3
Caneberry (Subgroup 13A)	15
Strawberries	1

Grape	3
Sorghum (harvest aid)	3
Barley (harvest aid)	3
Millet (harvest aid)	3
Oats (harvest aid)	3
Triticale (harvest aid)	3
Wheat (harvest aid)	3
Soybean (harvest aid)	3
Potato (harvest aid)	7
Dried shelled peas and beans (Crop Subgroup 6-C (harvest aid)	3

## **SECTION 9: APPLICATION INFORMATION**

### **SECTION 9.1: GENERAL APPLICATION INSTRUCTIONS**

#### **GROUND APPLICATION**

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

**Hooded sprayers must be designed and operated so as to totally enclose the spray nozzles and tips and spray pattern and prevent any spray deposition to the crop being treated. PRECAUTIONS: Crop injury will occur when spray is allowed to come in contact with the green stem tissue, leaves, blooms or fruit of the crop.**

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

#### **TANK MIXTURES**

**VIKING Carfentrazone Herbicide** may be tanked-mixed with Roundup Ultra Liquid Herbicide, Roundup Weathermax with Transorb 2 Technology Liquid Herbicide, Nufarm Credit Liquid Herbicide, IPCO Brotex 240, IPCO Brotex 480 or 2, 4- D Ester to control additional weeds in the pre-plant burn-down application. When tank-mixes are permitted, read and observe all label directions, including rates and restrictions for each product used in the tank-mix. Follow the more stringent label precautionary measures for mixing, loading and applying stated on all product labels.

#### **ADJUVANT USE REQUIREMENTS**

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

#### **METHODS OF APPLICATION**

**VIKING Carfentrazone Herbicide** is a versatile product with several different application options to achieve weed control or plant desiccation results. If **VIKING Carfentrazone Herbicide** is being applied in standing crop situations, application methods and adjustments must be precise to prevent potential crop injury. Harvest Aid and Pre-plant burndown applications are permitted, where noted in the Directions for Use section of the label.

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

## SPRAY DRIFT MANAGEMENT

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

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

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

### Information on Droplet Size

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

### Controlling Spray Droplet Size

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

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

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

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

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

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

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

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

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

**Temperature Inversions** – Do not apply **VIKING Carfentrazone Herbicide** during a temperature inversion because the drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the following morning. Their presence can be indicated by

ground fog. However, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

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

## SECTION 9.2: SPRAY BUFFER ZONE FOR GROUND APPLICATION

**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.

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, rangelands, riparian areas and shrublands).

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

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

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

## SECTION 9.3: CROP ROTATION RESTRICTIONS

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

## SECTION 10: MIXING AND LOADING INSTRUCTIONS

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

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

When tank mixing with other products, **VIKING Carfentrazone Herbicide** should be mixed first in the spray tank. After **VIKING Carfentrazone Herbicide** is thoroughly mixed, add the other products as specified on their label. If sprayer has been stored or idle, purge the spray boom and nozzles with clean water before charging sprayer with products to be applied.

Avoid the overnight storage of **VIKING Carfentrazone Herbicide** spray mixtures.

Premixing **VIKING Carfentrazone Herbicide** spray solutions in nurse tanks is not recommended. Maintain continuous and adequate spray solution agitation until all the spray solution has been used.

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

### **SECTION 11: SPRAYER CLEANUP**

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

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

Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse.

Next, prepare a sprayer cleaning solution by adding 3 litres of ammonia (containing at least 3% active) per 100 litres of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush the tank, hoses, spray boom and spray nozzles.

If possible, leave the ammonia solution or fresh water left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage to dissolve and dilute any remaining traces of herbicide.

Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water.

Remove and clean spray tips and all filters and screens separately in an ammonia solution prepared as in Step 2, above. Replace these parts right after cleaning and rinsing.

Properly dispose of all cleaning solution and rinsate in accordance with established regulations and guidelines. Do not apply sprayer cleaning solutions or rinsate to sensitive crops.

Do not store the sprayer overnight or for any extended period of time with **VIKING Carfentrazone Herbicide** spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers.

Small quantities of **VIKING Carfentrazone Herbicide** remaining in improperly cleaned mixing, loading and/or spray equipment may be released during subsequent applications, potentially causing crop effects.

## SECTION 12: RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, **VIKING Carfentrazone Herbicide** is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to **VIKING Carfentrazone Herbicide** and other Group 14 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance- management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of **VIKING Carfentrazone Herbicide** or other Group 14 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment 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.

Viking (TM) is a trademark of Viking Crop Production Partners Inc.  
All other products mentioned are trademarks of their respective holders.