

{Booklet Label}

GROUP	14	15	HERBICIDES
-------	----	----	------------

# Fierce<sup>®</sup> Herbicide

Wettable Granules  
COMMERCIAL

**FOR CONTROL AND/OR SUPPRESSION OF CERTAIN WEEDS IN SOYBEAN,  
CHICKPEA, FIELD PEA, LENTIL (SMALL RED AND LARGE GREEN CLASSES ONLY),  
FIELD CORN AND WHEAT (Spring and Winter)**

**ACTIVE INGREDIENTS:**

Flumioxazin.....	33.5%
Pyroxasulfone.....	42.5%

**READ THE LABEL BEFORE USE**

**KEEP OUT OF REACH OF CHILDREN**

REGISTRATION NO.: 31117 PEST CONTROL PRODUCTS ACT

**WARNING  
EYE AND SKIN IRRITANT**

**Net Contents: 85 g - Bulk**

Valent Canada, Inc.  
201-230 Hanlon Creek Blvd.  
Guelph, ON N1C 0A1  
Phone: 519-767-9262

## 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.

## FIRST AID

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

**IF 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 the person to fresh air. If the 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 SWALLOWED:** Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

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

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL OR POISONING CALL  
1-800-892-0099***

## TOXICOLOGICAL INFORMATION

There is no specific antidote for this product. Apply symptomatic therapy.

## PRECAUTIONS

**KEEP OUT OF THE REACH OF CHILDREN.** Harmful if inhaled or absorbed through the skin. Causes eye irritation. **DO NOT** get in eye. May irritate skin. Avoid contact with skin.

Follow mixer/loader and applicator scenario as appropriate in the chart below:

In addition, wear coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, socks and shoes, goggles or face shield during clean-up and repair activities.

Equipment	Personal Protective Equipment	Maximum amount of
-----------	-------------------------------	-------------------

	Mixer/Loader	Applicator	product handled per day
Groundboom	Chemical-resistant coveralls over long sleeved shirt and long pants, chemical-resistant gloves, socks and shoes, and goggles or faceshield	<b>Open cab:</b> coveralls over long-sleeved shirt, long pants, socks and shoes, and chemical-resistant gloves, and respirator with a NIOSH-approved organic-vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH-approved canister approved for pesticides.	58 kg
		<b>Closed cab*:</b> long-sleeved shirt, long pants, socks and shoes. (No gloves are required, but must be available for maintenance activities)	
Right-of-Way sprayer	Chemical-resistant coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, socks and shoes. Mixers and loaders must also wear goggles or faceshield.		11 kg
Backpack or High-pressure handwand equipment	Coveralls over long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes, and respirator with a NIOSH-approved organic-vapour-removing cartridge with a prefilter approved for pesticides or a NIOSH-approved canister approved for pesticides. Mixers and loaders must also wear goggles or faceshield.		1.8 kg
Low-pressure Hand-held Equipment			0.48 kg

\* A closed cab is a chemical resistant barrier that completely surrounds the occupant of the cab and prevents contact with the pesticide or treated surfaces outside the cab.

Do not eat, drink or smoke during work. Wash hands and face thoroughly before eating, drinking, smoking, chewing gum, or using the toilet. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes. Remove clothing immediately if pesticide gets inside. Wash thoroughly and put on clean clothing. After work, change clothing and wash entire body thoroughly. Wash contaminated working clothes separately from other laundry before reuse.

Do not apply when weather conditions favour spray drift from treated areas. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Keep all unprotected persons out of operating areas, or vicinity where there may be drift. Only protected handlers may be in the area during application.

DO NOT apply using aerial application equipment.

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

Do not enter or allow entry into treated areas until the sprays have dried in non-crop bare ground use areas. Do not enter or allow worker entry into treated areas until the restricted entry interval of 12 hours for all crop uses.

Do not apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation.

Do not apply within 100 metres of non-dormant pears.

Do not apply to powdery soils or soils that are susceptible to wind displacement unless irrigation can be applied immediately after application.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., contact Valent Canada, Inc.

Read and understand the entire label before opening this product. If you have any questions, call the manufacturer at 914-682-8934 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

#### **ENVIRONMENTAL PRECAUTIONS**

This product is toxic to aquatic organisms, small wild mammals, certain beneficial insects and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland. Do not contaminate water when disposing of equipment washwaters.

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g., sandy soil) and/or the depth to the water table is shallow.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, such as no till, limited till and contour plowing; these methods also reduce pesticide run-off.

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.

## STORAGE

Do not contaminate water, food or feed by storage. Keep pesticide in original container. Store in a cool, dry, secure place. Do not put formulation or dilute spray solution into food or drink containers. Do not store or transport near feed or food. Not for use or storage in or around the home. To prevent contamination, store this product away from food or feed.

## DISPOSAL

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 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 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.

## RESISTANCE MANAGEMENT

For resistance management, please note that Fierce Herbicide is both a Group 14 and a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to Fierce Herbicide and other Group 14 and/or Group 15 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 Fierce Herbicide or other Group 14 and /or Group 15 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 and to report suspected resistance, contact Valent Canada at 519-767-9262.

## APPLICATION INFORMATION

**Spray equipment used to apply Fierce Herbicide should not be used to apply other materials to any crop foliage, unless the proper cleanout procedure is followed. See “SPRAYER CLEANUP” for more information.**

### SPRAYER PREPARATION

Before applying Fierce Herbicide, start with clean, well maintained application equipment. The spray tank, as well as all hoses and booms, must be cleaned to ensure no residue from the previous spraying operation remains in the sprayer. Some pesticides, including but not limited to, the sulfonylurea and phenoxy herbicides are active at very small amounts and can cause crop injury when applied to susceptible crops. The spray equipment must be cleaned according to the manufacturer's directions for the last product used before the equipment is used to apply Fierce Herbicide. If two or more products were tank mixed prior to Fierce Herbicide application, the most restrictive cleanup procedure should be followed.

### MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. To ensure a uniform spray mixture, pre-slurry the required amount of Fierce Herbicide with water prior to addition to the spray tank. Use a minimum of 3.8 litres (1 gallon) of water per 283 g (10 oz) of Fierce Herbicide.
3. While agitating, slowly add the pre-slurried Fierce Herbicide to the spray tank. Agitation should create a rippling or rolling action on the water surface.
4. If tank mixing Fierce Herbicide with other labelled herbicides follow the WAMLEGS [Wettable powders/ flowable, Agitate Anti-foaming compounds/buffers, Microcapsule suspension, Liquid and soluble, Emulsifiable concentrates, High load Glyphosates, Surfactants] mixing order system:
  - Add water soluble bags first
  - Followed by dry formulations, flowables, emulsifiable concentrates and then solutions.

- Prepare no more spray mixture than is required for the immediate spray operation.
4. Add any required adjuvants.
  5. Fill spray tank to desired level with water. **Agitation should continue until all spray solution has been applied.**
  6. Mix only the amount of spray solution that can be applied the day of mixing. Fierce Herbicide should be applied within 6 hours of mixing.

## **APPLICATION METHOD**

Fierce Herbicide is applied by ground. Application equipment should be clean and in good repair. Nozzles should be uniformly spaced on boom and frequently checked for accuracy. Apply Fierce Herbicide, and Fierce Herbicide tank mixes, with ground equipment using standard commercial sprayers equipped with flat fan (preplant or preemergence applications only) designed to deliver the desired spray pressure and spray volume.

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

## **CARRIER VOLUME AND SPRAY PRESSURE**

**Preemergence Application (Conventional Tillage):** To ensure uniform coverage, use 100 to 300 L of spray solution per hectare for conventional tillage applications. Nozzle selection should meet manufacturer's volume and pressure recommendations for preemergence herbicide application.

**Burndown Application (Prior to Crop Emergence):** To ensure thorough coverage in burndown applications, use 150 to 600 L spray solution per hectare. Use 200 to 600 L per hectare if dense vegetation or heavy crop residue is present. Nozzle selection should meet manufacturer's volume and pressure recommendations for postemergence herbicide application. Do not use flood jet nozzles.

## **SPRAYER CLEANUP**

Spray equipment, including mixing vessels and nurse tanks, must be cleaned each day following Fierce Herbicide application. After Fierce Herbicide is applied, the following steps must be used to clean the spray equipment:

1. Completely drain the spray tank, rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
2. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
3. Top off tank, add 3.8 litres of 3% household ammonia (or equivalent) for every 378.5 L of water, circulate through sprayer for 5 minutes, and then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes. If diaphragms are being used on the spray boom, loosen diaphragms before flushing the spray system, allowing cleaning solution to spray through the open diaphragm. If spray lines have any end caps, they must be loosened before flushing the system, allowing cleaning solution to spray through the loosened caps. To enhance removal of Fierce Herbicide from the spray system, add a tank cleaner in place of ammonia and allow the cleaning solution to remain in the pressurized spray system (spray tank, hoses and boom) for 8 hours before flushing the system for a minimum of 15 minutes.
4. Drain tank completely.
5. Add enough clean water to the spray tank to allow all hoses, booms, screens and nozzles to be flushed for 2 minutes.

6. Remove all nozzles and screens and rinse them in clean water.

Spray equipment, including all tanks, hoses, booms, screens and nozzles, should be thoroughly cleaned before it is used to apply postemergence pesticides. Equipment with Fierce Herbicide residue remaining in the system may result in crop injury to the subsequently treated crop.

**BUFFER ZONES:**

Spot treatments using hand-held equipment do not require a buffer zone. Use of low-clearance hooded or shielded sprayers that prevent spray contact with crop or foliage, and soil drench or soil incorporation do not require a buffer zone.

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

Method of application	Crop	Buffer Zones (metres) Required for the Protection of:				
		Freshwater Habitat of Depths:		Marine Habitat of Depths:		Terrestrial habitat
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Bare ground on non-crop areas	5	3	5	3	20*
	Soybean, chickpea, field pea, lentil, field corn, wheat, and fallow land	4	2	3	2	10

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

The buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

**ROTATIONAL RESTRICTIONS**

The following rotational crops may be planted after applying Fierce Herbicide at the listed rate range. Planting earlier than the recommended rotational interval may result in crop injury.

Fierce Herbicide rate	Crops	Rotational Intervals
210-315 g/ha	Soybean, chickpea, field pea	Immediately



	Field corn, spring wheat	7 days
	Winter wheat	7 days
	Lentil	6 months
	Barley, durum wheat, oats and alfalfa *	11 months
	Canola, mustard seed	12 months
	Successful soil bio-assay must be performed prior to planting crops not listed above.	

\*At rates higher than 210 g/ha, follow a 12 month rotational interval.

## GENERAL DIRECTIONS FOR USE

### When used in accordance with this label, Fierce Herbicide:

- Provides residual control of susceptible weeds in labeled crops.
- Provides additional burndown activity when used as part of a burndown program in labeled crops.
- Can be used on farms for non-selective vegetation control to maintain bare ground non-crop areas that must be kept weed free.

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

### Burndown Application (Spring or Fall)

Apply Fierce Herbicide as part of a burndown program to actively growing weeds. Applying Fierce Herbicide under conditions that do not promote active weed growth will reduce herbicide effectiveness. Do not apply Fierce Herbicide when weeds are under stress due to drought, excessive water, temperature extremes, disease or low humidity. Weeds under stress tend to become less susceptible to herbicidal action. Fierce Herbicide is most effective when applied under warm sunny conditions.

Burndown applications should be made in combination with other foliar herbicides such as glyphosate or other tank-mix partners.

Reduced residual weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

### Rainfastness

Fierce Herbicide is rainfast one hour after application. Do not apply Fierce Herbicide if rain is expected within one hour of application or postemergence efficacy may be reduced.

### Soil Characteristics

Application of Fierce Herbicide to soils with high organic matter and/or high clay content may require higher dosages than soils with low organic matter and/or low clay content. Application to cloddy seedbeds can result in reduced weed control.

### CROP FAILURE

If the crop treated with Fierce Herbicide is lost due to a catastrophe, such as hail or other forms of

inclement weather, soybeans, wheat, chickpeas, field peas and lentils can be replanted immediately, provided a fall application of no more than 315 g/ha of Fierce Herbicide was used on the lost crop. If a spring application of Fierce Herbicide was made wheat, chickpeas, and field peas can be seeded immediately if the application of Fierce herbicide did not exceed 210g/ha and a minimum of 7 days has elapsed since application, if this rate was exceeded but did not surpass 315g/ha soybeans can be seeded immediately. Crop injury may occur if these restrictions are not followed.

#### **GENERAL USE PRECAUTIONS**

- Do not apply this product when weather conditions favor spray drift from treated areas.
  - Do not apply during low-level inversion conditions, including fog.
  - DO NOT apply using aerial application equipment.
  - Do not apply to frozen or snow covered soil.
  - Do not use on durum wheat.
  - Mechanical incorporation into the soil will reduce residual weed control. Do not perform any tillage operations after application or weed control will be reduced.
  - 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.
- 
- Do not apply more than 315 g of Fierce Herbicide per hectare during a single growing season.
  - Do not irrigate when crops are emerged or cracking.
  - DO NOT apply using aerial application equipment. Use ground application equipment only
  - Moisture is necessary to activate Fierce Herbicide in soil for residual weed control. Dry weather following applications of Fierce Herbicide may reduce effectiveness. However, when adequate moisture is received after dry conditions, Fierce Herbicide will control susceptible germinating weeds. Fierce Herbicide may not control weeds that germinate after application but before an activating rainfall/irrigation or weeds that germinate through cracks resulting from dry soil.
  - When adequate moisture is not received after a Fierce Herbicide application, weed control may be improved by irrigation with at least 1.5-2.5 cm of water.
  - If there is mechanical incorporation into the soil or if emerged weeds are controlled by cultivation, residual weed control will be reduced.

#### **Pregrazing Intervals:**

Following treatment with Fierce Herbicide, follow these grazing restrictions:

For field corn:

- DO NOT permit livestock to graze fields within 93 days after application.
- DO NOT harvest as green feed or silage within 93 days after application.

For soybeans:

- DO NOT harvest as green feed or permit livestock to graze fields within 21 days after application.
- DO NOT cut hay/fodder within 50 days after application.

For wheat (spring and winter):

- DO NOT harvest as green feed or permit livestock to graze fields within 42 days after application.
- DO NOT cut hay/fodder within 52 days after application.

For all other crops:

- DO NOT graze, cut or feed treated crops to livestock.

**Important:** Crop injury may occur from applications made to poorly drained soils and/or applications made under cool, wet conditions. Severe crop injury can result when soils are flooded or saturated following application of Fierce Herbicide. Risk of crop injury can be minimized by using on well drained soils, planting crops at least 4 cm deep, using high quality seed and completely covering seeds with soil prior to preemergence applications. Treated soil that is splashed onto newly emerged crops may result in temporary crop injury. Long periods of drought followed by rainfall may result in temporary crop injury due to excess product absorption. Sandy, low organic matter areas of a field, such as hilltops may be subject to reduced crop tolerance to Fierce Herbicide.

**Table 1. Weeds Controlled by Fierce Herbicide in Labeled Crops**

WEEDS CONTROLLED	APPLICATION RATE (g/ha)
------------------	-------------------------

Common lamb's-quarters ( <i>Chenopodium album</i> ) Common ragweed ( <i>Ambrosia artemisiifolia</i> ) Common Waterhemp ( <i>Amaranthus tamariscinus</i> ) Dandelion ( <i>Taraxacum officinale</i> ) Eastern black nightshade ( <i>Solanum ptycanthum</i> ) Green foxtail including Group 1 and 2 resistant ( <i>Setaria viridis</i> ) Green pigweed ( <i>Amaranthus powellii</i> ) Hairy nightshade ( <i>Solanum sarachoides</i> ) Large crabgrass ( <i>Digitaria sanguinalis</i> ) Palmer amaranth, ( <i>Amaranthus palmeri</i> ) Pennsylvania smartweed ( <i>Polygonum pennsylvanicum</i> ) Redroot pigweed ( <i>Amaranthus retroflexus</i> ) Velvetleaf ( <i>Abutilon theophrasti</i> ) Wild buckwheat ( <i>Polygonum convolvulus</i> ) Wild mustard, including Group 2 resistant ( <i>Sinapis arvensis</i> ) Kochia ( <i>Kochia scoparia</i> ) including Group 2, 4, and 9 resistant kochia Canada fleabane ( <i>Conyza canadensis</i> ) Common chickweed ( <i>Stellaria media</i> ) Annual sowthistle ( <i>Sonchus oleraceus</i> ) Common Barnyard grass ( <i>Echinochloa crusgalli</i> ) Cleavers ( <i>Galium aparine</i> )  <i>Suppression only:</i> Volunteer canola ( <i>Brassica napus</i> ) including glyphosate, glufosinate and Imidazolinone tolerant varieties Wild oats ( <i>Avena fatua</i> ) Russian thistle ( <i>Salsola spp.</i> ) Downy brome ( <i>Bromus tectorum</i> ) Japanese brome ( <i>Bromus japonicas</i> )	210-315*
--	----------

\*: Use the 315 g/ha rate on fine-medium texture soils for season-long residual control

## DIRECTIONS FOR USE IN SOYBEAN (Pre-Plant and Preemergence)

### TIMING TO SOYBEANS

Fierce Herbicide may be applied to soybeans early pre-plant, prior to planting or preemergence (after planting). Preemergence application of Fierce Herbicide must be made within 3 days after planting and prior to soybean emergence. Application after the soybeans have begun to crack, or are emerged, will result in severe crop injury. Application should not be made when soybeans have begun to crack.

### Burndown Applications (Spring and Fall)

Fierce Herbicide, applied as part of a burndown program, may be used for residual weed control where soybeans will be planted directly into a stale seedbed, cover crop, or in previous crop residues. For control of emerged weeds, tank mix with glyphosate, present as isopropyl amine or potassium salt. Reduced weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

For fall burndown: Application should be made in the fall, just before freeze-up and when winter annuals and perennial weeds are still growing to allow for optimum herbicide absorption and activity.

Applications made after a killing frost will result in reduced perennial and winter annual weed control. Do not apply to snow covered or frozen soil. Abnormally warm winters may reduce the length of weed control observed in the spring.

### USE PRECAUTIONS

- Do not use Fierce Herbicide in soybeans in the same field that flufenacet, alachlor, metolachlor or dimethenamid will be used preemergence, or soybean injury may occur.
- Do not irrigate when soybeans are cracking.

<b>SOYBEAN – Application Rates</b>	
<b>APPLICATION RATE (g/ha)<sup>1</sup></b>	<b>COMMENTS</b>
210	Preemergence: Apply prior to weed emergence.  Postemergence: When weeds are already emerged, apply Fierce Herbicide as a tank mix <sup>2</sup> with a glyphosate product, present as isopropyl amine or potassium salt, at 1.2 kg a.e./ha.
315	Use the 315 g/ha rate on fine-medium texture soils for season-long residual control

<sup>1</sup> Refer to Table 1 for list of controlled weeds.

<sup>2</sup>: Refer to the respective tank mix partner label for additional recommendations, restrictions and precautions. Follow the most restrictive application directions for each of the tank mix partners.

### TANK MIX PARTNERS

#### Burndown Activity

Fierce Herbicide may be tank mixed with other herbicides for increased burndown activity, additional residual broadleaf and/or additional grass control. Completely read and follow the label of any potential tank mix partner with Fierce Herbicide. When using tank mixtures, use conditions must be in accordance with the most restrictive of the label limitations and precautions on either herbicide label. Refer to tank mix partner’s label for adjuvant recommendations. Recommended tank mix partners include glyphosate, Liberty 200 SN, Gramoxone and Select.

#### Additional Residual Broadleaf and Grass Control

Fierce Herbicide can be tank mixed with other products for the control of annual broadleaf and grass weeds, such as FirstRate, Sencor, Lorox, Pursuit, Prowl and Classic. Do not apply with Axiom, Dual II Magnum, Boundary, Frontier, or Integrity or injury may occur.

#### Round Up Ready Program

Fierce Herbicide may be applied as part of a burndown program or preemergence in conventional tillage programs, at 210 to 315 g/ha, to reduce early season weed competition from labeled weeds in Roundup Ready programs. A sequential post emergence application of glyphosate will be required to control weeds not controlled by Fierce Herbicide.

### DIRECTIONS FOR USE IN CHICKPEA and FIELD PEA

## APPLICATION TIMING

### Preemergence Applications (Spring)

Fierce Herbicide provides preemergence control of susceptible weeds in chickpea and field pea. Apply Fierce Herbicide with ground equipment prior to planting or within 3 days after planting and prior to emergence. Application after the chickpeas or field peas have begun to crack, or are emerged, will result in severe crop injury.

### Burndown Applications (Spring and Fall)

Fierce Herbicide, applied as part of a burndown program, may be used for residual weed control where chickpea and field pea will be planted directly into previous crop residues. For control of emerged weeds, tank mix with glyphosate, present as isopropyl amine or potassium salt. Reduced weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

For fall burndown: Application should be made in the fall, just before freeze-up and when winter annuals and perennial weeds are still growing to allow for optimum herbicide absorption and activity. Applications made after a killing frost will result in reduced perennial and winter annual weed control. Do not apply to snow covered or frozen soil. Abnormally warm winters may reduce the length of weed control observed in the spring.

<b>CHICKPEA and FIELD PEA – Spring Application Rates</b>	
<b>APPLICATION RATE (g/ha)<sup>1</sup></b>	<b>COMMENTS</b>
210	When weeds are already emerged, apply Fierce Herbicide as a tank mix <sup>2</sup> with a glyphosate product, present as isopropyl amine or potassium salt, at 900g a.e./ha for field peas and 1.2kg a.e./ha for chickpeas.

<sup>1</sup> Refer to Table 1 for list of controlled weeds.

<sup>2</sup> Refer to the respective tank mix partner label for additional recommendations, restrictions and precautions. Follow the most restrictive application directions for each of the tank mix partners.

<b>CHICKPEA and FIELD PEA – Fall Application Rates</b>	
<b>APPLICATION RATE (g/ha)<sup>1</sup></b>	<b>COMMENTS</b>
210	When weeds are already emerged, apply Fierce Herbicide as a tank mix <sup>2</sup> with a glyphosate product, present as isopropyl amine or potassium salt, at 900g a.e./ha for field peas and 1.2kg a.e./ha for chickpeas.  Applications should be made prior to ground freeze and must not be made on top of snow cover.
315	Use the 315 g/ha rate on fine-medium texture soils  Applications should be made prior to ground freeze and must not be made on top of snow cover.

<sup>1</sup> Refer to Table 1 for list of controlled weeds.

<sup>2</sup> Refer to the respective tank mix partner label for additional recommendations, restrictions and precautions. Follow the most restrictive application directions for each of the tank mix partners.

## DIRECTIONS FOR USE IN LENTIL [Small Red and Large Green Varieties]

### Fall Burndown Applications (With Glyphosate)

Fierce Herbicide, applied as part of a burndown program, may be used for residual weed control where lentils will be planted directly into previous crop residues. For control of emerged weeds, tank mix with glyphosate, present as isopropyl amine or potassium salt. Reduced weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

Application should be made in the fall, just before freeze-up and when winter annuals and perennial weeds are still growing to allow for optimum herbicide absorption and activity. Applications made after a killing frost will result in reduced perennial and winter annual weed control. Do not apply to snow covered or frozen soil. Abnormally warm winters may reduce the length of weed control observed in the spring.

### CROP TOLERANCE

Lentil varieties vary in their tolerance to Fierce Herbicide. Testing has shown that small-seeded red and large-seeded green varieties are most tolerant to applications of Fierce Herbicide. Other seed classes of lentils should not be planted into areas treated with Fierce Herbicide.

Environmental conditions, such as saturated soils, and abnormally cool, wet weather after seeding may also increase lentil injury following a fall application of Fierce Herbicide. Fierce Herbicide is a very active herbicide and the user should exercise caution until gaining familiarity with this product.

<b>LENTILS [Small Red and Large Green Varieties] – Fall Application Rates</b>	
<b>APPLICATION RATE (g/ha)<sup>1</sup></b>	<b>COMMENTS</b>
210	When weeds are already emerged, apply Fierce Herbicide as a tank mix <sup>2</sup> with a glyphosate product, present as isopropyl amine or potassium salt, at 1.2 kg a.e./ha.  Applications should be made prior to ground freeze and must not be made on top of snow cover.
315	Use the 315 g/ha rate on fine-medium texture soils for season-long residual control.  Applications should be made prior to ground freeze and must not be made on top of snow cover.

<sup>1</sup> Refer to Table 1 for list of controlled weeds.

<sup>2</sup> Refer to the respective tank mix partner label for additional recommendations, restrictions and precautions. Follow the most restrictive application directions for each of the tank mix partners.

## DIRECTIONS FOR USE IN FIELD CORN (only for minimum and no-till)

## TIMING TO FIELD CORN

### Preemergence Applications

Fierce Herbicide provides preemergence control of susceptible weeds in field corn. Apply Fierce Herbicide with ground equipment between 7 and 30 days prior to planting field corn into no-till or minimum tillage fields, unless application is made as part of fall burndown program.

### Burndown Applications (Spring and Fall)

Fierce Herbicide, applied as part of a burndown program, may be used for residual weed control where field corn will be planted directly into previous crop residues. For control of emerged weeds, tank mix with glyphosate, present as isopropyl amine or potassium salt. Reduced weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist. Do not apply to frozen or snow covered soil.

## USE PRECAUTIONS

- Use only on no-till or minimum tillage fields where last year's crop residue has not been incorporated into the soil. Crop injury may occur from applications made to poorly drained soil and/or applications made under cool, wet conditions. Severe crop injury will result when soils are flooded following applications of Fierce Herbicide.
- Do not irrigate when corn is emerging to 2-leaf.
- Weed control will be reduced if there is mechanical incorporation into the soil or if emerged weeds are controlled by cultivation. Do not perform any tillage operations after application or weed control will be reduced. No-till planters that incorporate the soil during planting may result in decreased weed control in the row.
- Do not use on soils with less than 1% organic matter unless activation rainfall has occurred between application and planting.
- Do not use on popcorn, sweet corn, or corn grown for seed.
- Apply only once during a single growing season.
- Do not apply to fine-textured soils, peat or muck soil.

**Important:** Crop injury may occur from applications made to poorly drained soils and/or applications made under cool, wet conditions. Severe crop injury will result when soils are flooded following application of Fierce Herbicide.

Field Corn (minimum and no-till) – APPLICATION RATES	
APPLICATION RATE (g/ha) <sup>1</sup>	COMMENTS
210	Preemergence: Apply prior to weed emergence between 7 and 30 days prior to planting field corn in the spring, into no-till or minimum tillage fields. Application may also be made in the fall, prior to planting.  Postemergence: When weeds are already emerged, apply Fierce Herbicide as a tank mix <sup>2</sup> with a glyphosate product, present as isopropyl amine or potassium salt, at 1.2 kg a.e./ha.

<sup>1</sup> Refer to Table 1 for list of controlled weeds.

<sup>2</sup>: Refer to the respective tank mix partner label for additional recommendations, restrictions and precautions. Follow the most restrictive application directions for each of the tank mix partners.



## TANK MIX PARTNERS

### Burndown Activity

Fierce Herbicide may be tank mixed with other herbicides for increased burndown activity, additional residual broadleaf and/or additional grass control. Completely read and follow the label of any potential tank mix partner with Fierce Herbicide. When using tank mixtures, use conditions must be in accordance with the most restrictive of the label limitations and precautions on either herbicide label. Refer to tank mix partner's label for adjuvant recommendations. Recommended tank mix partners include glyphosate, 2,4-D, atrazine, dicamba and the end-use products Gramoxone 200 SL (paraquat), Simadex Simazine Flowable/Princep Nine-T Herbicide/Simazine 480 Herbicide (simazine).

<b>DIRECTIONS FOR USE IN SPRING AND WINTER WHEAT (only for minimum and no-till)</b>
---

### TIMING TO WHEAT (Spring and Winter)

#### Preemergence Applications (Spring)

Fierce Herbicide provides preemergence control of susceptible weeds in spring wheat. Apply Fierce Herbicide with ground equipment at minimum 7 days prior to planting spring wheat into no-till or minimum tillage fields. Wheat must be planted a minimum of 2.5 cm (1 inch) deep to ensure crop safety. Do not use on Durum wheat.

#### Burndown Applications (Spring and Fall)

Fierce Herbicide, applied as part of a burndown program, may be used for residual weed control where wheat will be planted directly into previous crop residues. For control of emerged weeds, tank mix with glyphosate, present as isopropyl amine or potassium salt. Reduced weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

### USE PRECAUTIONS

- Use only on no-till or minimum tillage fields where last year's crop residue has not been incorporated into the soil. Crop injury may occur from applications made to poorly drained soil and/or applications made under cool, wet conditions. Severe crop injury will result when soils are flooded following applications of Fierce Herbicide.
- Do not irrigate wheat between emergence and spike.
- Weed control will be reduced if there is mechanical incorporation into the soil or if emerged weeds are controlled by cultivation. Do not perform any tillage operations after application or weed control will be reduced. No-till planters that incorporate the soil during planting may result in decreased weed control in the row.
- Do not apply to fine-textured soils, peat or muck soil.

<b>Spring and Winter Wheat (minimum and no-till) – APPLICATION RATE</b>	
<b>APPLICATION RATE (g/ha)<sup>1</sup></b>	<b>COMMENTS</b>

210	<p>Preemergence: Apply prior to weed emergence, and at minimum 7 days prior to planting wheat into no-till or minimum tillage fields. Application prior to planting spring wheat may also be made in the preceding fall.</p> <p>Postemergence: When weeds are already emerged, apply Fierce Herbicide as a tank mix<sup>2</sup> with a glyphosate product, present as isopropyl amine or potassium salt, at 1.2 kg a.e./ha.</p>
-----	---

<sup>1</sup> Refer to Table 1 for list of controlled weeds.

<sup>2</sup>: Refer to the respective tank mix partner label for additional recommendations, restrictions and precautions. Follow the most restrictive application directions for each of the tank mix partners.

Fierce is a registered trademark of Valent U.S.A. LLC

All other products mentioned are the trademarks or registered trademarks of their respective companies.

# Fierce<sup>®</sup> Herbicide

Wettable Granules  
COMMERCIAL

**FOR CONTROL AND/OR SUPPRESSION OF CERTAIN WEEDS IN SOYBEAN,  
CHICKPEA, FIELD PEA, LENTIL (SMALL RED AND LARGE GREEN VARIETIES),  
FIELD CORN AND WHEAT (Spring and Winter)**

**ACTIVE INGREDIENTS:**

Flumioxazin.....	33.5%
Pyroxasulfone.....	42.5%

**READ THE LABEL BEFORE USE**

**KEEP OUT OF REACH OF CHILDREN**

REGISTRATION NO.: 31117 PEST CONTROL PRODUCTS ACT

**WARNING  
EYE AND SKIN IRRITANT**

**Net Contents: 85 g - Bulk**

Valent Canada, Inc.  
201-230 Hanlon Creek Blvd.  
Guelph, ON N1C 0A1  
Phone: 519-767-9262

## 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.

## FIRST AID

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

**IF 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 the person to fresh air. If the 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 SWALLOWED:** Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

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

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL OR POISONING CALL  
1-800-892-0099***

## TOXICOLOGICAL INFORMATION

There is no specific antidote for this product. Apply symptomatic therapy.

## PRECAUTIONS

**KEEP OUT OF THE REACH OF CHILDREN.** Harmful if inhaled or absorbed through the skin. Causes eye irritation. **DO NOT** get in eye. May irritate skin. Avoid contact with skin.

Follow mixer/loader and applicator scenario on attached label.

In addition, wear coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, socks and shoes, goggles or face shield during clean-up and repair activities.

## **ENVIRONMENTAL PRECAUTIONS**

This product is toxic to aquatic organisms, small wild mammals, certain beneficial insects and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE. Do not contaminate water when disposing of equipment washwaters.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

## **STORAGE**

Do not contaminate water, food or feed by storage. Keep pesticide in original container. Store in a cool, dry, secure place. Do not put formulation or dilute spray solution into food or drink containers. Do not store or transport near feed or food. Not for use or storage in or around the home. To prevent contamination, store this product away from food or feed.

## **DISPOSAL**

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 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 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.