

# Valtera® Cereals

HERBICIDE

Suspension Concentrate  
COMMERCIAL

Pre-seeding application for pre-emergence residual and selective post-emergence weed control or suppression for spring wheat (including durum) and winter wheat.

ACTIVE INGREDIENT:	
Flumioxazin.....	285 g/L
Florasulam .....	20 g /L

Contains 1,2-benzisothiazolin-3-one at 0.02% or 0.04% as a preservative  
OR

Contains 1,2-benzisothiazolin-3-one at 0.008% or 0.01% or 0.03% and 5-chloro-2-methyl-4-isothiazolin-3-one at 0.0004% or 0.0007% or 0.001% and 2-methyl-4-isothiazolin-3-one at 0.0001% or 0.0002% or 0.0004% as preservatives

OR

Contains 5-chloro-2-methyl-4-isothiazolin-3-one at 0.001% and 2-methyl-4-isothiazolin-3-one at 0.0004% or 0.0005% as preservatives

READ THE LABEL AND ACCOMPANYING BOOKLET BEFORE USING

REGISTRATION NO.: 35619  
PEST CONTROL PRODUCTS ACT

**Net Contents: 0.5-bulk Litres**

  
**Nufarm Agriculture Inc.**  
5101, 333 96<sup>th</sup> Avenue NE  
Calgary, Alberta  
T3K 0S3

Product Information: 1-800-868-5444  
24-Hour Emergency Response Number: 1-800-424-9300

## 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. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

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

## TOXICOLOGICAL INFORMATION

There is no specific antidote for this product. Treatment should be based on judgment of the physician in response to reactions of the patient.

## EMERGENCY TELEPHONE NUMBERS

For spills or transportation accidents, Chemtrec, 1-800-424-9300.

For health or environmental emergencies, Propharma Group, 1-877-325-1840

For product and use information, Nufarm Agriculture Inc., 1-800-868-5444.

## PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

Avoid breathing dust and spray mist. Avoid contact with skin, eyes or clothing.

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum/tobacco, smoking/vaping or using the toilet. If the product comes in contact with clothing, remove all contaminated clothing, wash skin with soap and water and dress in clean clothing. Launder contaminated clothing regularly and separately from other laundry. Vehicle cabs must be decontaminated regularly.

DO NOT apply by air.

Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

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

Pre-grazing Intervals:

Following treatment with *Valtera Cereals*, follow these grazing restrictions:

For wheat:

- DO NOT harvest as green feed or permit livestock to graze fields within 26 days after application.
- Do not harvest the treated crop (cut hay/fodder) within 60 days after application.

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

Read and understand the entire label before opening this product. If you have any questions, call the registrant at 1-800-868-5444 or obtain technical advice from the distributor or your provincial or territorial agricultural representative.

### PERSONAL PROTECTIVE EQUIPMENT

Follow the personal protective equipment, engineering controls, and restriction requirements for the appropriate mixer/loader and applicator scenario as described in the table below. These restrictions are required to minimize exposure to the worker.

Equipment	Personal Protective Equipment		Maximum amount of product handled per day
	Mixer/Loader/ Clean-up and Repair	Applicator	
Groundboom – Open Cab	Coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, socks, shoes and protective eyewear (goggles or face shield).	Long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes.	80 L
Groundboom – Closed Cab	Chemical-resistant coveralls over long-sleeved shirt, long pants, chemical-resistant gloves, socks, shoes and protective eyewear (goggles or face shield).	Long-sleeved shirt, long pants, socks and shoes.	208.3 L

## ENVIRONMENTAL PRECAUTIONS

Toxic to aquatic organisms and non-target terrestrial plants. Observe spray buffer zones specified under DIRECTIONS FOR USE. Toxic to small wild mammals. Toxic to certain beneficial arthropods (which may include predatory and parasitic insects, spiders, and mites). Minimize spray drift to reduce harmful effects on beneficial arthropods in habitats next to the application site such as hedgerows and woodland. Care should be taken when using this product in an integrated pest management program where users are relying on the presence of beneficial arthropods.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative filter strip between the treated area and the edge of the water body. Additional guidance can be found on the Runoff Mitigation portion of the Canada.ca website.

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

## DISPOSAL

DISPOSAL OF CONTAINER: 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 or territorial requirements.

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

## STORAGE

Store in original containers in a secure, dry heated storage. **DO NOT freeze** Valtera Cereals. If product is frozen, bring to room temperature and agitate before use. Do not put formulation or dilute spray solution into food or drink containers. Do not store or transport near feed, food, drugs, clothing or domestic water supplies. Not for use or storage in or around the home. Store this product away from food or feed. Do not allow contamination of seeds, plants, fertilizers or other pesticides. If containers are damaged use the product immediately or if a spill occurs contain the spill with absorbent materials and dispose of waste.

## RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management Valtera Cereals contains Group 2 and 14 herbicides. Any weed population may contain or develop plants naturally resistant to Valtera Cereals and other Group 2 and 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 Valtera Cereals or other Group 2 and 14 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in the 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), 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 chemical control practices.
- Monitor treated weed populations for 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 advisor for any additional pesticide resistance-management and/or or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information and to report suspected resistance, contact Nufarm Agriculture, Inc. at 1-800-868-5444 or at [www.nufarm.ca](http://www.nufarm.ca).

## GENERAL INFORMATION

READ THE ENTIRE LABEL BEFORE USE. FAILURE TO FOLLOW LABEL INSTRUCTIONS MAY RESULT IN ERRATIC WEED CONTROL OR CROP DAMAGE. DO NOT APPLY TO CROPS UNDERSEEDED WITH LEGUMES.

*Valtera Cereals* provides pre-emergence residual and selective post-emergence control of labelled grass and broadleaf weeds and assists in the control of glyphosate and acetolactate synthase (ALS) resistant weeds in spring **wheat** (including durum) and winter wheat, when used in accordance with this label. Valtera Cereals combines contact and systemic burndown active ingredients resulting in rapid burndown of foliage and systemic movement of active ingredient to the growing points of the foliage and roots.

The flumioxazin component offers residual control of labelled grass and broadleaf weeds. Seedling weeds are controlled pre-emergence when exposed to sunlight following contact with the soil applied herbicide. The length of residual control is dependent on the application rate as well as on rainfall and temperature conditions. Length of residual control will decrease as temperature and precipitation increase and on soils of high organic matter and/or high clay content.

The florasulam component moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days but on most perennial weeds may not occur for 1 to 2 weeks, depending on growing conditions, weed size, crop competition and weed susceptibility. Extremely cool or cloudy weather at treatment time may slow down activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above ground growth and deterioration of underground plant parts.

Disturbing soil surfaces after application may reduce residual herbicide efficacy. Do not perform any tillage operations after application or weed control will be reduced. Weed control will be reduced if there is mechanical incorporation into the soil or if emerged weeds are controlled by cultivation.

Valtera Cereals must be applied to emerged actively growing weeds **for foliar weed control**. Warm, moist growing conditions promote active weed growth and enhance the activity of Valtera Cereals by allowing maximum foliar uptake and contact activity. Weeds hardened off by cold weather or drought stress may not be adequately controlled or suppressed and re-growth may occur. For best results, ensure thorough spray coverage of target weeds. See "DIRECTIONS FOR USE" section of this label for complete use details.

Dry weather following applications of *Valtera Cereals* may reduce **residual weed control** effectiveness. However, when adequate moisture (**i.e. at least 1 cm (1/4 inch) of rainfall or irrigation**) is received after dry conditions, *Valtera Cereals* will control susceptible germinating weeds **with its soil residual activity**. ***Without an activating rainfall, Valtera Cereals*** may not control weeds that germinate after application or weeds that germinate through cracks resulting from dry soil. Note: Do not irrigate spring wheat between emergence and spike.

Preemergent weed control with Valtera Cereals is most effective when applied to clean, weed-free soil surfaces. Disturbing soil surfaces may reduce herbicide efficacy.

The use of optimal agronomics to support plant establishment will reduce crop injury potential - high quality seed, seed treatment, and using optimal seeding rates, **and seeding the crop between 2.5 – 5 cm (1-2 inches) deep will minimize crop injury potential**. 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 *Valtera Cereals*. Treated soil that is splashed onto newly emerged crops may result in temporary crop injury. Heavy rainfall immediately after application may wash the chemical off the foliage and reduce

the activity of the florasulam component. Do not apply if rainfall is forecast for the time of application.

Do not spray weed foliage to the point of runoff.

Apply only once during a single growing season. Do not use florasulam in crop following a pre-seed application of Valtera Cereals.

Read and carefully observe the cautionary statement and all other information appearing on the labels of all herbicides used.

### Rotational Restrictions

The following rotational crops may be planted after applying *Valtera Cereals* at the listed rate. Planting earlier than the recommended rotational interval may result in crop injury.

<b>Valtera Cereals Rate</b>	<b>Crop</b>	<b>Rotational Interval</b>
246 mL/ha		
	Barley	11 months
	Canola	11 months
	Chickpeas	11 months
	Field corn	11 months
	Field pea	11 months
	Dry common beans <sup>1</sup>	11 months
	Lentils [small red and large green varieties]	11 months
	Soybean	11 months
	Sunflower	11 months
	Wheat (spring, winter)	7 days
	Durum wheat	30 days
	all other crops not listed <sup>2</sup> .	12 months

<sup>1</sup> Common bean varieties vary in their tolerance to herbicides, including to Valtera Cereals. Since not all common bean varieties grown as rotational crops have been tested for tolerance to Valtera Cereals, first seeding common bean varieties to the field previously treated with Valtera Cereals should be limited to a small area to confirm tolerance prior to adoption as a general field practice. Additionally, consult your seed supplier for information on the tolerance of specific varieties of common bean as a rotational crop seeded to field treated with Valtera Cereals.

<sup>2</sup> Successful soil bioassay must be performed prior to planting crops not listed.

**NOTE: when applied in the fall, only plant wheat (spring, durum) the following spring.**

After periods of extended drought, when there is a lack of adequate soil moisture, longer rotational intervals may be needed. A successful soil bioassay should be performed prior to planting potential rotational crops to confirm safety.

## GENERAL DIRECTIONS FOR USE

### SPRAYER AND APPLICATION INFORMATION

**Shake *Valtera Cereals* well before use.**

Apply using ground application equipment only. Before applying *Valtera Cereals*, start with clean, well-maintained application equipment. Nozzles should be uniformly spaced on boom and frequently checked for accuracy. For broadcast application, apply *Valtera Cereals* with ground equipment using standard commercial sprayers equipped with nozzles designed to deliver the desired spray pressure and spray volume.

Equipment with *Valtera Cereals* residues remaining in the system may result in crop injury to the subsequently treated crop. Spray equipment must be cleaned each day following *Valtera Cereals* application. After *Valtera Cereals* is applied, the following steps must be used to clean the spray equipment:

1. Immediately after spraying, completely drain the spray tank, rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
2. Remove all nozzles and screens and rinse them with clean water.
3. Do not contaminate water sources, food or feed by disposal of wastes or cleaning of equipment.
4. First rinse:
  - Spray the inside of tank with clean water and fill the sprayer with at least one tenth of the spraytank volume.
  - Agitate and circulate for 15 minutes, and flush through booms and hoses. Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
  - Drain tank completely.
5. Second rinse:
  - Fill the tank with clean water.
  - Add All Clear Spray Tank Decontaminator, or Clean-Out Spray Tank Cleaner, or 1 L of household ammonia (containing a minimum of 3 % ammonia) per 100 L of water, or similar tank cleaning agent as per manufacturer's recommendations

while filling the tank with clean water.

- Agitate and then flush the boom and hoses with the cleaning solution. Top up with water making sure the tank is completely full. Allow to stand for 15 minutes with agitation. Flush the solution out of the spray tank through the spray booms. Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
- If possible, let the solution stand in the sprayer tank and booms for an extended period of time, overnight if possible.
- After flushing the boom and hoses, drain tank completely.
- Remove nozzles and screens and clean separately with a cleaning agent or an ammonia solution (100 mL in 10 L water).

#### 6. Third rinse:

- Rinse the tank with clean water and flush through the boom and hoses using at least one tenth of the spray tank volume.
- Remove end caps or open ball valves on the ends of each boom section, and flush solution through the boom ends to ensure there is no spray solution trapped between the boom end and the nozzles.
- Drain tank completely.

Do not use ammonia with chlorine bleach. Using ammonia with chlorine bleach will release a gas with a musty odour which may cause eye, nose, throat and lung irritation. Do not clean equipment in an enclosed area.

### MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water. Engage gentle agitation.
2. While agitating, slowly add *Valtera Cereals* to the spray tank. Agitation should create a rippling or rolling action on the water surface.
3. If tank mixing *Valtera Cereals* with other herbicides follow the WAMLEGS [Wettable powders/ flowable, Agitate Anti-flowing 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.
4. Add adjuvants or surfactants, if recommended.
5. Fill the sprayer tank with sufficient water to spray 100 - 300 L of spray mixture per hectare. **Agitation should continue until spray solution has been applied.**
6. Mix only the amount of spray solution that can be applied the day of mixing. *Valtera Cereals* should be applied within 6 hours of mixing.
7. Follow sprayer directions and precautions as outlined above, especially when applying next to sensitive crops (e.g., canola and legumes).
8. Follow sprayer clean-up directions.

## TANK MIXTURES

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

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In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact Nufarm Agriculture, Inc. at 1-800-868-5444 for information before applying any tank mix that is not specifically recommended on this label.

Do not tank mix *Valtera Cereals*, or use in the same field, with flufenacet, metolachlor or s-metolachlor, dimethenamid or dimethenamid-p, alachlor, or acetochlor, as crop injury may occur.

Valtera Cereals can be tank mixed with glyphosate (such as Credit Xtreme Herbicide / Credit K6 Herbicide), 2,4-D, BlackHawk Herbicide, BlackHawk EVO or Goldwing Herbicide for increased control of emerged weeds.

## CARRIER VOLUME AND SPRAY PRESSURE

Pre-emergence Application: To ensure uniform coverage, use between 100 to 300 L of spray solution per hectare for pre-emergence applications. Use higher water volumes if significant crop residue is present. Nozzle selection should meet manufacturer's volume and pressure recommendations for preemergence herbicide application.

Apply the spray mixture uniformly with properly calibrated ground equipment only. Ensure thorough coverage and a uniform spray pattern. **Use 50 mesh filter screens or larger (metal or nylon)**. A spray pressure of 210 - 275 kPa is recommended for flat fan nozzles.

Field sprayer application: **DO NOT** apply when wind speed is less than 1 km/h. Avoid application of this product when winds are gusty. **DO NOT** apply with sprays finer than the American Society of Agricultural and Biological Engineers (ASABE S572.1) Coarse classification. Boom height must be 60 cm or less above the crop or ground.

Use caution when applying under circumstances where possible drift to unprotected persons or food, forage or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

Make application when the wind velocity is 15 km/h or less.

As this pesticide 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 through any type of irrigation system.

This product has potential to leach. Do not apply excessive irrigation.

#### GROWING CONDITIONS

Marginal soil fertility, saline soils, extended periods of cool, waterlogged soil (soils at or near field capacity) conditions, and drought or seedling disease can delay seedling development, emergence and vigour and may result in reduced crop stand and seed yield. On variable fields, it should be expected that under these conditions significantly eroded knolls and side hills may have variable crop emergence and stand. In fields with these conditions, plants may show initial discolouration and can be subject to greater risk of herbicide injury. In most cases, crops will outgrow the symptoms, but in severe situations reduced crop stand, **stunting**, yield, quality or delayed maturity may occur.

**In fields with low organic matter (< 3%), coarse-textured soils or in fields with highly variable soils, gravelly areas, sandy areas, eroded knolls, or those subject to compaction, crop injury may occur when combined with sufficient moisture to move product into the seed zone during seedling development. Fall application of Valtera Cereals is recommended on fields characterized by the above conditions.**

**Under adverse conditions, the plants are less capable of metabolizing any florasulam taken up by the roots which may result in weakened seedlings.**

REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOILS IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

NOTE: Use of this product in any manner not consistent with this booklet may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

**SPRAY BUFFER ZONES:**

A spray buffer zone is NOT required for:

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

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

Method of application	Crop	Spray Buffer Zones (metres) Required for the Protection of:				
		Freshwater Habitat of Depths:		Estuarine/Marine Habitat of Depths:		Terrestrial Habitat:
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer (Coarse)	Wheat (spring, durum, and winter)	1	1	0	0	4

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 (ASABE) category indicated on the labels for those tank mix partners.

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

**TABLE 1. WEEDS CONTROLLED OR SUPPRESSED BY VALTERA CEREALS at 246 mL/ha**

CONTROL
Buckwheat, Wild ( <i>Polygonum convolvulus</i> )
Canola, volunteer ( <i>Brassica napus</i> ) including glyphosate, glufosinate tolerant varieties*
Chickweed, common ( <i>Stellaria media</i> )
Cleavers ( <i>Galium aparine</i> )
Cow cockle ( <i>Vaccaria hispanica</i> ) <sup>1</sup>
Dandelion ( <i>Taraxacum officinale</i> ) <sup>2</sup>
Fleabane, Canada ( <i>Conyza canadensis</i> ) <sup>2</sup>
Kochia ( <i>Kochia scoparia</i> ) including Group 2, 4, and 9 resistant kochia <sup>2</sup>
Lamb's-quarters, common ( <i>Chenopodium album</i> ) <sup>2</sup>
Mustard, wild ( <i>Sinapis arvensis</i> L.) <sup>1</sup>
Nightshade, eastern black ( <i>Solanum ptychanthum</i> ) <sup>2</sup>
Nightshade, hairy ( <i>Solanum sarachoides</i> ) <sup>2</sup>
Palmer amaranth ( <i>Amaranthus palmeri</i> ) <sup>2</sup>
Pigweed, green ( <i>Amaranthus powellii</i> ) <sup>2</sup>
Pigweed, redroot ( <i>Amaranthus retroflexus</i> ) <sup>2</sup>
Ragweed, common ( <i>Ambrosia artemisiifolia</i> ) <sup>2</sup>
Shepherd's purse ( <i>Capsella bursa-pastoris</i> ) <sup>1</sup>
Smartweed ( <i>Polygonum</i> spp.) <sup>1</sup>
Sowthistle, annual ( <i>Sonchus oleraceus</i> )
Stinkweed ( <i>Thlaspi arvense</i> ) <sup>1</sup>
Waterhemp, common ( <i>Amaranthus rudis</i> ), including biotypes resistant to herbicide groups 2, 5 and 9 <sup>2</sup>
SUPPRESSION
Green foxtail ( <i>Setaria viridis</i> ) <sup>2</sup>
Hempnettle ( <i>Galeopsis tetrahit</i> ) <sup>1</sup>
Narrow-leaved hawk's beard ( <i>Crepis tectorum</i> ) <sup>1</sup>
Sowthistle, perennial ( <i>Sonchus arvensis</i> ) <sup>**1</sup>
Thistle, Russian ( <i>Salsola</i> spp.)

\* Including herbicide-tolerant canola varieties except Clearfield canola

\*\* Applications made at advanced leaf stages will reduce product effectiveness.

<sup>1</sup> emerged weeds only (**2-4 leaf**)

<sup>2</sup> pre-emerge to weeds only

## **DIRECTIONS FOR USE IN SPRING (including durum) and WINTER WHEAT (minimum and no-till)**

Use only on no-till or minimum tillage fields where **the previous crop's** residue has not been incorporated into the soil.

When adequate moisture is not received after a *Valtera Cereals* application, weed control may be improved by irrigation with at least ½ to 1 cm (1/5 to ¼ inch) of water. Do not irrigate between emergence and spike.

Weed control will be reduced if there is mechanical incorporation into the soil or by cultivation. Do not perform any tillage **and/or harrowing** 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 seed row.

### **Preemergence Application Timing**

*Valtera Cereals* provides pre and post emergence control of susceptible weeds in spring **wheat, durum** and winter wheat.

### *Burndown Applications (Spring and Fall)*

*Valtera Cereals*, applied as part of a burndown program, may be used for burndown and residual weed control where spring and winter wheat will be planted directly into previous crop residues. Apply to actively growing weeds in the 2-4 leaf stage.

Extreme growing conditions such as drought or near freezing temperature prior to, at or following time of application may reduce weed control and increase the risk of crop injury at all stages of growth. If foliage is wet at the time of application control may be decreased. Under conditions of low crop and high weed density, control may be reduced.

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.

SPRING WHEAT – Spring Application Rate		
Soil Type <sup>1</sup>	RATE (mL/ha)	COMMENTS
Coarse-, medium-, and fine-textured, with <5% organic matter	246	Apply at <b>minimum 7 days</b> prior to planting spring wheat into no-till or minimum tillage fields. <b>Wheat that is seeded less than 2.5 cm (1") deep is at an increased risk of crop injury.</b> Use a minimum of 100 L per hectare of water. See weeds species controlled under “Weeds Controlled or Suppressed by Valtera Cereals at 246 mL/ha”.

<sup>1</sup>: Do not apply on soils with > 5% OM.

DURUM WHEAT – Spring Application Rate		
Soil Type <sup>1</sup>	RATE (mL/ha)	COMMENTS
Coarse-, medium-, and fine-textured, with <5% organic matter	246	Apply at <b>minimum 30 days</b> prior to planting durum wheat into no-till or minimum tillage fields. <b>Wheat that is seeded less than 2.5 cm (1") deep is at an increased risk of crop injury.</b> Use a minimum of 100 L per hectare of water. See weeds species controlled under “Weeds Controlled or Suppressed by Valtera Cereals at 246 mL/ha”.

<sup>1</sup> Do not apply on soils with > 5% OM.

SPRING WHEAT – Fall Application Rate		
Soil Type <sup>1</sup>	RATE (mL/ha)	COMMENTS
Coarse-, medium-, and fine-textured soil, with <5% organic matter	246	Apply prior to freeze up in the fall. The following spring, plant spring wheat into no-till or minimum tillage fields using minimum disturbance seeding systems. Apply at least 7 days prior to seeding. <b>Wheat that is seeded less than 2.5 cm (1") deep is at an increased risk of crop injury.</b> Use a minimum of 100 L per hectare of water. See weeds species controlled under “Weeds Controlled or Suppressed by Valtera Cereals at 246 mL/ha”.

<sup>1</sup>: Do not apply on soils with > 5% OM.

<b>WINTER WHEAT – Fall Application Rate</b>		
<b>Soil Type<sup>1</sup></b>	<b>RATE (mL/ha)</b>	<b>COMMENTS</b>
Coarse-, medium-, and fine-textured soil, with <5% organic matter	246	Apply prior to freeze up in the fall. Apply a minimum of 7 days prior to planting winter wheat into no-till or minimum tillage fields. <b>Wheat that is seeded less than 2.5 cm (1") deep is at an increased risk of crop injury.</b> Use a minimum of 100 L per hectare of water. See weeds species controlled under “Weeds Controlled or Suppressed by Valtera Cereals at 246 mL/ha”.

<sup>1</sup>: Do not apply on soils with > 5% OM.

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