AN ALL-AROUND APPROACH TO SUCCESS

Loveland Products is proud to support growers with a broad range of proven products. By combining high performance with high quality, we fit the integrated approach to crop production solutions delivered by Nutrien Ag Solutions.

For a complete list of Loveland Products Canada solutions, visit **lovelandproducts.ca**.

Nutrien Ag Solutions™ | Loveland PRODUCTS

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Nutrien Ag Solutions™

Loveland PRODUCTS

INTEGRATED SOLUTIONS FOR EVERY ACRE

FROM SEEDING THROUGH HARVEST

PARTNERS IN POSSIBILITY

At Nutrien Ag Solutions, we believe in providing the products, services, tools and support growers need in their quest to produce higher yields with reduced environmental impacts.

As the leading provider of agricultural inputs and services across Western Canada, Nutrien Ag Solutions is dedicated to supplying growers with the innovation, technology and expertise they need to get the job done – delivering locally, backed globally.

SEED TREATMENTS • PLANT PERFORMANCE • ADJUVANTS • CROP PROTECTION

CONTENTS

SEED TREATMENTS & INOCULANTS

Seed treatments are products applied to seeds prior to planting. They fall into two categories: seed protection (disease and insect protection) and seed enhancement (products which improve seedling health and promote germination).

	SEED PROTECTANT		SEED ENHANCEMENT	
Product name	**VITAFLO®**	**COVER 2®**	**AWAKEN® ST**	**CONSENSUS® L**
Active ingredients/ analysis	Carbathin + thiram	Ipconazole-triazole + metalaxyl	6-0-1 plus micros and zinc ammonium acetate	Stimulatory seed treatment containing: chitosan, indole-3-butyric acid (IBA) and salicylic acid (SA)
Crops	Wheat, barley, oats	Wheat, barley, oats, rye and triticale	Wheat, barley, oats	Peas, lentils, soybeans
Protects against/ Promotes	• Loose smut, bunt, seeds rots and seedling blights. • Suppression of common root rot at the high rate.	• Seed rots, damping off, seedling blight, smuts, bunt, leaf stripe. • Suppression of common root rot, crown and foot rot.	• Promotes quicker seedling emergence. • Provides a larger, more extensive root system.	• Faster germination. • Better early root development. • Plant stress protection.
Packaging	10 L jugs, 200 L drums	10 L jugs and 115 L drums	9.46 L jugs	250 ml bottles

INOCULANTS

Inoculants are products which enhance the nitrogen-fixing capabilities of pulses and soybeans.

	ESTABLISH® GRANULAR XL	SO-FAST® XL LIQUID
Technology	*Rhizobium leguminosarum* biovar *viceae*, 8 x 107 rhizobia per gram.	*Rhizobium leguminosarum* biovar *viceae* 7.5 x 108 rhizobia per gram.
Crops	Peas, lentils	Peas, lentils
Formulation	Solid core clay granule	Liquid

AWAKEN® ST

NUTRITION THAT GROWS RESULTS

Put nutrients where a germinating crop needs them: on the seed. Powered by proprietary ACA® technology, **AWAKEN ST** is a nutrition-loaded, growth-enhancing seed treatment for today's progressive cereal grower in pursuit of maximum yield and return on investment (ROI).

PRODUCT HIGHLIGHTS[1]

- Promotes quicker seedling emergence.
- Provides a larger, more extensive root system.
- Improves overall plant health and vigour.
- Increases plant population.
- Increases potential yields and ROI.

APPLICATION INSTRUCTIONS

Use of both fungicide and/or insecticide seed treatment along with a nutritional seed treatment can raise the concern of wet seed.

Excessively wet seed can cause bridging, residue build-up and metering issues in some seed cart tanks.

Experience shows that appropriate equipment and immediate, thorough mixing of the treated seed are key to proper distribution and drying of the seed treatments regardless of liquid volume.

Drying times will vary depending on air temp and relative humidity. When Awaken ST is co-applied with another seed treatment – ***properly treated seed will require 30 minutes in warm, dry weather and 2-3 hours in cool, damp weather.***

APPLICATION RATES

CROP	RATE (ml/100 KG SEED)		
	LOW	MED	HIGH
Barley, corn, durum, oats, wheat	260	309	390

PACKAGING

Case: 2 x 9.46 L

Showcasing **AWAKEN ST** (left) vs. untreated (right).

ACETATE

[1] Due to circumstances beyond control (e.g. drought, excess moisture, etc.) all benefits may not be seen every year.

CONSENSUS® L

A UNIQUE SEED TREATMENT FOR PEAS, LENTILS AND SOYBEANS

Designed to promote early germination and quicker root development in soybeans and pulse crops, **CONSENSUS® L** provides faster emergence, healthier stands, plant stress resistance and higher yield potential.

PRODUCT HIGHLIGHTS

CONSENSUS L contains a unique, three-way combination of chitosan, indole-3-butyric acid (IBA) and salicylic acid (SA) leading to:

- Faster germination.
- Better early root development.
- Plant stress protection.

APPLICATION RATES

CONSENSUS L may be applied as a seed treatment by commercial seed treatment facilities or on-farm treating with conventional seed treating equipment to accurately control application rates. Mix thoroughly and treat seed. Use application rates as specified on crops listed in the table.

CONSENSUS L may be mixed with certain other commercial seed treatments. Consult manufacturer for details. Use of the resulting mix must be in accordance with the more restrictive label limitations and precautions. Allow treated seeds to dry as appropriate before further handling. Seed can be treated as much as 120 days ahead of planting.

CROP	RATE (ml/100 KG SEED)		
	LOW	MED	HIGH
Peas, lentils, soybeans	25	45	65

PACKAGING

Case: 20 x 250 ml bottle

CONSENSUS L features a low use rate of 25–65 ml per 100 kg seed and is rhizobia-friendly, making it an excellent companion product for seed treated inoculants, fungicide and insecticide seed-treatment programs.

Soybeans five days after emergence. Untreated (left) vs. treated with **CONSENSUS L** (right). Hamiota, Manitoba, 2015.

Soybeans 15 days after emergence. Untreated (left) vs. treated with **CONSENSUS L** (right). Souris, Manitoba, 2015.

COVER® 2

BROAD-SPECTRUM, READY-TO-USE SEED TREATMENT FUNGICIDE FOR WHEAT, BARLEY, OATS, RYE AND TRITICALE

An excellent combination of systemic and contact fungicides, ipconazole -triazole and metalaxyl for the control or suppression of seed, seedling, and soil-borne diseases of wheat, barley, oats, rye and triticale.

CROP*	DISEASES CONTROLLED	DISEASES SUPPRESSED
Spring & Winter Wheat	• Seed rot caused by seed-borne organisms *(Penicillium spp. and Aspergillus* spp.*)* • Seed rot, damping off and seedling blight caused by seed- and soil-borne *Rhizoctonia solani, Fusarium* spp. and *Cochliobolus sativus* • Seed rot, pre-emergence damping off and seedling blight caused by *Pythium* spp. • Loose smut *(Ustilago tritici).* • Common bunt *(Tilletia caries, T. foetida).*	• Common root rot (*Cochliobolus sativus*) • Crown and foot rot *(Fusarium* spp.*)*
Barley	• Seed rot caused by seed-borne organisms *(Penicillium spp. and Aspergillus* spp.*)* • Seed rot, damping off and seedling blight caused by seed- and soil-borne *Rhizoctonia solani, Fusarium* spp. and *Cochliobolus sativus.* • Seed rot, pre-emergence damping off and seedling blight caused by *Pythium* spp. • True loose smut *(Ustilago nuda)* • Covered smut *(Ustilago hordei)* • False loose smut *(Ustilago nigra)* • Leaf stripe *(Pyrenophora graminea)*	• Common root rot (*Cochliobolus sativus*) • Crown and foot rot *(Fusarium* spp.*)*
Oats	• Seed rot caused by seed-borne organisms *(Penicillium spp. and Aspergillus* spp.*)* • Seed rot damping off and seedling blight caused by seed- and soil-borne *Rhizoctonia solani, Fusarium* spp. and *Cochliobolus sativa.* • Seed rot, pre-emergence damping off and seedling blight caused by *Pythium* spp. • Loose smut *(Ustilago avenae)* • Covered smut *(Ustilago kolleri)*	• Common root rot (*Cochliobolus sativus*) • Crown and foot rot *(Fusarium* spp.*)*

APPLICATION RATE – UNDILUTED (ml/100 kg seed)

- Spring & Winter Wheat*: 325
- Barley*: 325-433
- Oats*: 325
- Rye* and triticale*: 325

* Includes grains, forage and silage.

PACKAGING

Case: 2 x 10 L

Drum: 115 L

VITAFLO®

FUNGICIDE SEED PROTECTANT

An excellent combination of a systemic (carbathiin) and a contact (thiram) fungicide for cereals, flax, corn, pulses and dry beans and soybeans. **VITAFLO®** controls a range of seed-borne seed rots and seedling blights, increasing crop emergence and improving plant stands.

APPLICATION RATES – UNDILUTED (ml/100 kg seed)

- Barley: 230–330[1]
- Wheat: 230–330[1]
- Rye: 230–330[1]
- Oats: 330[1]
- Triticale: 200
- Flax (includes edible oil flax – solin): 525
- Peas: 260–330[2]
- Lentils: 330
- Soybeans: 260
- Corn (field and sweet): 280
- Common dry beans: 260
- Common snap beans: 260

PACKAGING: Case: 2 x 10 L, Drum: 200 L

	VITAFLO 280
Active Ingredients / Analysis	Carbathin + Thiram
Crops	Wheat, Barley, Oats, Pea, Lentil
Diseases Controlled in Wheat	Loose smut, bunt, seeds rots and seedling blights. Suppression of common root rot at the high rate*
Diseases Controlled in Barley	Smut, seed rots and seedling blights including those caused by seed borne Fusarium, barley leaf strip. Suppression of net blotch and common root rot at high rate*
Diseases control in Pea / Lentil	Seed rot and seedling blight caused by ascochyta (Mycosphaerella), Rhizoctonia solani, Fusarium and Pythium spp.

[1] Use 230 ml for partial control of true loose smut in wheat and barley and stem smut in rye. Use 330 ml for the control of seed-borne *Septoria nodorum* on wheat and seed rot and seedling blight caused by *Fusarium spp., Cochliobolus sativus, Pythium spp., Penicillium spp., Aspergillus spp., Alternaria;* also suppression of root rot caused by *Cochliobolus sativus* on cereals (wheat, barley, oats and rye).

[2] Use 260 ml for control of *Rhizoctonia solani* and *Fusarium spp.* Use 330 ml for control of *Mycosphaerella pinodes (Ascochyta).*

*Always consult label for use rates & restrictions

ESTABLISH® XL GRANULAR

SOLID CORE PEA AND LENTIL INOCULANT

Advanced granular formulation technology with a highly effective, more active inoculant strain for increased yield potential of peas and lentils.

ROW SPACING		APPLICATION RATE		AREA TREATED PER 22.6 KG BAG	
cm	inches	kg/ha	lbs/ac	ha	ac
17.8	7.0	5.3	4.7	4.3	10.6
20.3	8.0	4.6	4.1	4.9	12.2
22.9	9.0	4.0	3.6	5.7	13.9
25.4	10.0	3.7	3.3	6.1	15.2
27.9	11.0	3.4	3.0	6.6	16.7
30.5	12.0	3.0	2.7	7.5	18.5

BENEFITS

- A free-flowing clay granular inoculant for convenient application in furrow at seeding.
- Excellent performance under stressed planting conditions.

PACKAGING

1 x 22.6 kg bag

1 x 364 kg mini-bulk Q-Pak

STORAGE

Protect from temperatures above 20°C and keep away from direct sunlight.

APPLICATION RATES

- One bag will treat 10.6 acres (7" rows) to 18.5 acres (12" rows).
- One Q-Pak will treat 170 acres (7" rows) to 296 acres (12" rows).
- Apply granular inoculant directly in furrow at 28.5 grams/1000 linear row feet.

DIRECTIONS FOR USE

1. Apply granular inoculant directly to the furrow at a specified rate.
2. Do not mix granular inoculant with granular pesticides or fertilizers during planting.
3. Product must not be applied at a depth that is less than the planting depth of the seed.
4. For calibration purposes, this product has a bulk density of 0.90 grams per cubic centimeter (56 pounds per cubic foot).

APPLICATION TIPS

- Do not mix inoculant with granular pesticides or fertilizers during planting.
- Remove any unused granules from the hopper box at the end of each day's planting.
- Do not allow granules to sit in a hopper overnight.
- Environmental conditions may affect flowability of the product. Regularly check metering system to ensure proper flow.

SO-FAST® XL LIQUID

LIQUID PEA AND LENTIL INOCULANT

A convenient, EASY-TO-USE liquid inoculant

BENEFITS

- Helps to maximize nodulation.
- Increased fixation of nitrogen for higher yield and protein potential.
- Increased yield potential for pea and lentil crops.

FLOW VALVE SETTING	INOCULANT FLOW RATE		SEED/AUGER FLOW RATE	
	mL	fl oz/min	kg/min	lbs (bu)/min
1	360	12	131	289 (5)
2	860	29	313	690 (11)
3	1340	45	487	1074 (18)
4	1660	56	604	1332 (22)
5	1780	60	647	1426 (24)
6	2030	68	738	1627 (30)

PACKAGING

One case contains 3 x 7.5 L bladders.

STORAGE

Protect from temperatures below 4°C and above 9°C. Do not allow to freeze.

APPLICATION RATES

One case will treat 300 bushels of seed.

DIRECTIONS FOR USE

1. Shake 7.5 L bladder well before using for a minimum of 30 seconds.
2. Replace bladder lid with hose kit.
3. Invert bladder above treatment area so the end of the hose is just above the seed (for accurate application rates, ensure hose is straight when dispensing inoculant).
4. Adjust flow valve to regulate the recommended application rate (see table above).
5. To ensure adequate mixing of seed and inoculant do not run auger at greater than HALF capacity.
6. Assess the application rate several times during inoculation to ensure correct target flow rate.
7. Product formulated to be applied directly to seed.

APPLICATION TIPS

- Inoculated seed should be planted within six hours after application.
- Increased volume of inoculant per bushel of seed is advantageous. Under adverse or stress planting conditions (hot, dry field conditions,) an increased inoculant application rate is suggested.

PLANT PERFORMANCE

Plant-performance products maximize the productivity of a crop through the application of nutrients, hormones, stimulants and organic acids where needed. The correct use of these products can help meet nutrient deficiencies, reduce stress and increase metabolism and photosynthesis, thereby giving your crop the best opportunity to deliver a better grade and higher yield.

The plant-performance portfolio of products from Loveland Products has technologies which work to deliver maximum benefits to the crop.

ATLAS® XC

MAXIMIZE YOUR P & K FERTILIZER INVESTMENT

PRODUCT HIGHLIGHTS

Atlas® XC is a catalyst that increases fertilizer availability, promotes nutrient mineralization to increase existing nutrient availability and supports root growth through biochemical reactions within the plant. By accelerating the breakdown of treated dry fertilizers and helping to convert organic nutrients into inorganic, plant-available forms, **Atlas XC** makes nutrients more available for plant uptake and utilization, leading to increased plant and root growth and provides outstanding ROI. Growers who incorporate **Atlas XC** into their programs often see improved yield responses and increased fertilizer efficiency, year after year.

ANALYSIS

Biochemical fertilizer catalyst

AGRONOMIC CONSIDERATIONS

- Effective in a wide variety of soil types and across different crops.
- Compatible with P & K fertilizers, MESZ, MES, pell lime, sulfate of potash, ammonium sulfate, elemental sulphur and gypsum.
- 12-month storage stability after treating.

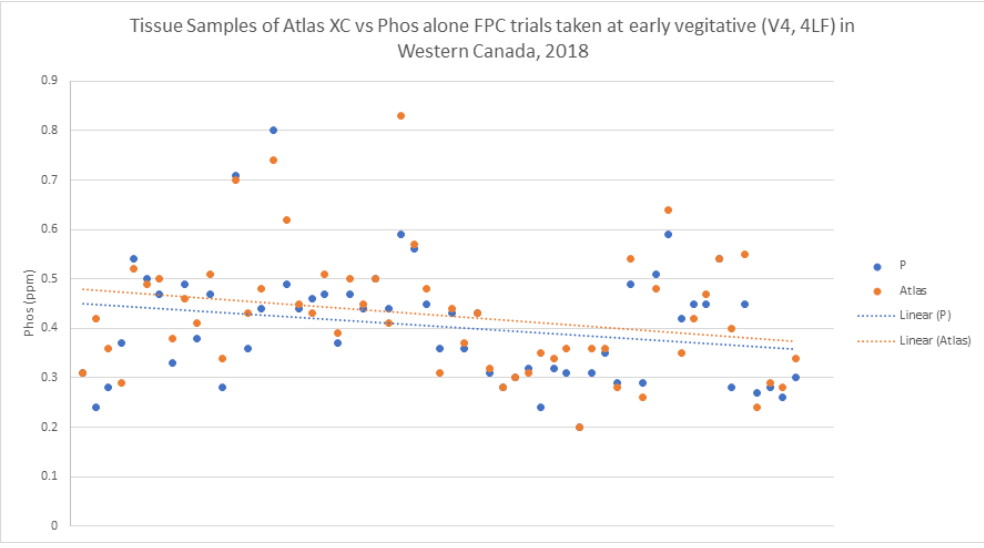
APPLICATION RECOMMENDATIONS: CROP, RATE, TIMING

DRY FERTILIZER BLENDS	RATE
Phosphate (MAP 11-52-0, DAP 18-46-0, MES, MESZ) blends, potassium blends, sulfate of potash (SOP), ammonium sulfate (AMS) and Smart Nutrition™ MAP + MST™	1 L / MT

PACKAGING

DRY FERTILIZER BLENDS	MT Treated
9.46 L Jug (2 jugs per case)	9.46 MT per jug
511 L Tote	511 MT
1022 L Tote	1022 MT

PACKAGING



AWAKEN®

IN-CROP ENHANCED FOLIAR NUTRITION, TO REDUCE PLANT STRESS

PRODUCT HIGHLIGHTS

AWAKEN® is a complex of zinc ammonium acetate with potash and a balanced micronutrient package designed to deliver essential foliar nutrients to help the crop reach its full yield potential.

- Increases photosynthetic activity.
- Creates larger, more robust root system.
- Low odor, pH-neutral formulation.
- Excellent mixing with spray solutions or liquid fertilizers.
- Better overall increase in plant health and vigor.

ANALYSIS

16-0-2 + 0.02% B, 0.15% Cu, 0.15% Fe, 0.15% Mn, 0.0006% Mo, 2.7% Zn

AGRONOMIC CONSIDERATIONS

Do not mix with pesticides or other fertilizers without compatibility test. An adequate test for physical compatibility involves mixing in a small container the proper proportions of product with water and the other ingredients. Agitate and let stand for one hour. If no precipitate forms, apply as follows;

1. Tank mix pesticides as per label directions.
2. Start agitation and add required amount of AWAKEN.
3. Finish filling tank with water. Continue agitation until tank is emptied. Apply the spray mixture as soon as possible.

APPLICATION RECOMMENDATIONS

CROP	RATE	TIMING
All Crops	0.5 L/acre	During periods of plant stress, (phytotoxicity, and environmental stressors).
All Crops	1 L/acre	To maximize crop yield potential, apply with herbicide or alone before reproductive staging.

PACKAGING

PACKAGING	ACRES TREATED
9.46 L Jug (2 jugs per case)	9-18 acres per jug
984 L Tote	984-1968 acres

BOROSOL® 10

A PATENTED AGRONOMICALLY-SUPERIOR BORON

PRODUCT HIGHLIGHTS

Plants take up **Borosol® 10** more rapidly and more completely, preventing and correcting boron deficiencies in crops. The flexibility of Borosol 10 allows it to be mixed with other liquid fertilizers for foliar or soil applications.

ANALYSIS

10% Boron

AGRONOMIC CONSIDERATIONS

For foliar application, it is usually better to make multiple applications of lower rates than to apply the full seasonal amount of one application. Do not exceed the total amount shown for the crop during any one crop season. Apply with enough carrier to thoroughly cover all foliage. Early morning or late evening applications give the best results.

For soil application, this product may be applied in water or fluid fertilizer mixtures. Do not place in direct contact with seed or mix with starter fertilizer solutions. Follow recommendations from soil tests to determine proper rates. Soil-applied boron must be moved into the root zone to be absorbed by the plant. This can be accomplished by irrigation, rainfall or tillage.

APPLICATION RECOMMENDATIONS

CROP	FOLIAR APPLICATIONS L/ ACRE PER APPLICATION	FOLIAR APPLICATIONS DO NOT EXCEED A TOTAL OF THE FOLLOWING L/ YEAR	SOIL APPLICATIONS. (SINGLE APPLICATION) L/ ACRE
Alfalfa and sugar beets	0.9 – 1.45	7.5	3.8 - 11.3
Corn and clover	0.9 – 1.86	5.7	3.8 – 7.65
Barley, oats, wheat and cereals	0.5 – 1.5	5.7	5.5
Canola, flax, soybean and sunflower	0.5 – 1.5	5.7	5.5
Dry beans and sugar beets	0.5 – 1	2	3.8 – 7.6
Potatoes	0.9 – 1.8	4	3.8 – 7.6

PACKAGING

PACKAGING	ACRES TREATED
9.46 L Jug (2 jugs per case)	Refer to rate chart above.
1000 L tote	

LOKOMOTIVE®

A PROPRIETARY POTASSIUM ACETATE FORMULATION DESIGNED FOR MAXIMUM FOLIAR UPTAKE AND MINIMAL PHYTOTOXICITY

PRODUCT HIGHLIGHTS

LOKOMOTIVE® can be applied to most fields and specialty crops to correct potassium deficiency symptoms, enhance growth quality and help crops recover from stressful conditions. **LOKOMOTIVE,** when used in a foliar application, leaves a moist film on the leaf that not only increases safety but also increases the potassium absorption, resulting in higher returns.

LOKOMOTIVE has significant advantages and benefits over other foliar-applied potassium sources, including:

- High analysis and absorption for lower use rates.
- Blend with a wide range of fertilizers and pesticides.
- Non-caustic or corrosive.
- Near-neutral pH.
- Promotes growth, yield and stability.

ANALYSIS

2-0-25

AGRONOMIC CONSIDERATIONS

For maximum efficacy, a pH of 6.0-8.0 is required. LI 700 can be used to acidify conditions at .125%v/v with compatible tank mixes.

CROP	FOLIAR APPLICATION RATE (L/AC)			TIMING
	Low	Mid	High	
Alfalfa	2	3.25	5.5	Apply at crown green up or on regrowth after cutting.
Canola	2	3.25	5.5	Bud to early bloom.
Cereals	2	3	4	Flag to early boot.
Corn	2	3.25	5.5	Apply just prior to tasseling and second application in 7-10 days.
Peas, lentils and dry beans	2	3	4	Late bud to 10% bloom.
Soybeans	2	4	6	Early pod development.
CROP	**SOIL APPLICATION RATES (L/AC)**			**TIMING**
All crops	1.5	3	4.5	Applied with other liquid fertilizer blends, in-furrow, dribble banded or broadcast-applied.

PACKAGING

PACKAGING	ACRES Treated
800 L Tote	Refer to rate chart above.

NITRAIN® 2.0

PROTECT YOUR NITROGEN INVESTMENT

PRODUCT HIGHLIGHTS

Urease is a naturally-occurring enzyme in the soil responsible for breaking down urea when moisture and organic matter are present. **NITRAIN®2.0** nitrogen stabilizer reduces the activity of urease enzymes, giving the soil more time to replace the consumed hydrogen ions. When urea-based fertilizers are treated with **NITRAIN 2.0** nitrogen stabilizer, it helps maintain the proper pH levels to avoid the volatilization losses that can occur.

ANALYSIS

30% NBPT

AGRONOMIC CONSIDERATIONS

NITRAIN 2.0 nitrogen stabilizer is urea-specific and may be used for any nitrogen-consuming plants including row crops, specialty crops, pastures, sod farms, turfgrass, ornamentals and other landscape and nursery plantings. This product is recommended for surface application of urea and urea-containing fertilizers such as pre-plant, pre-emergence, side-dress, top-dress or other post-planting applications.

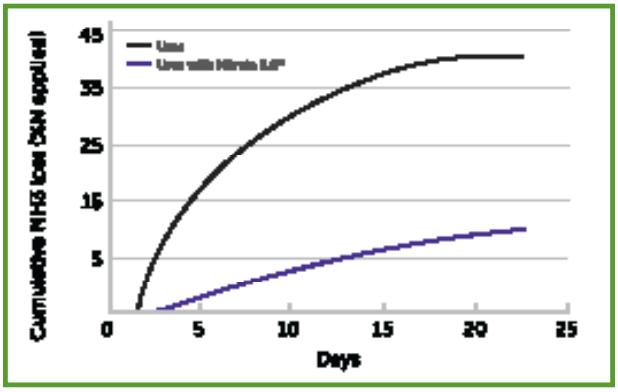
The benefits of **NITRAIN 2.0** nitrogen stabilizer as a urease inhibitor are a result of its ability to retard the hydrolysis of urea and control volatilization, preventing ammonia loss while the urea is on the soil surface or less than two inches deep in the soil. Many factors in the environment contribute to volatilization, such as:

1. High soil moisture.
2. Drying conditions including low humidity, sun and wind.
3. High air and soil temperatures.
4. High pH soils.
5. Low organic matter and lower CEC soils.
6. High amounts of crop residue.
7. Amount of time protection of urea is desired.

APPLICATION RECOMMENDATIONS

Fertilizer	Rate
Urea (46-0-0)	2.1 L/MT
UAN (Liquid nitrogen sources containing 28-32% urea ammonium nitrate)	1.05 L/MT

** When conditions favoring volatility exist, or when longer control is needed, the rate may be increased by 1.0 L/MT.*



Sources: Franzen et al., 2010; Kelly, 2009; Holcomb et al., 2010; and Holt, 2008

**Neither the research institution nor the individual researcher endorse or recommend any product or service.*

PACKAGING

PACKAGING	MT of UAN Treated	MT of Urea Treated
9.46 L Jug (2 per case)	9.0 MT per jug	4.5 MT per jug
1000 L Tote	952 MT	476 MT

RADIATE®

GROW YOUR BEST ACRE WITH RADIATE

PRODUCT HIGHLIGHTS

RADIATE® is a powerful root growth technology that increases your plants' ability to utilize more essential nutrients and water in your fields. Driven by a unique balance of IBA and kinetin, **RADIATE** consistently supports maximum root growth and plant performance.

ANALYSIS

3-indolebutyric acid (IBA).....0.85%

Cytokinin, as kinetin.....0.15%

AGRONOMIC CONSIDERATIONS

RADIATE can be used as a foliar application during the 2-to-6 leaf growth period to jumpstart early season root growth and plant vigour, which can lead to gains in crop productivity.

APPLICATION RECOMMENDATIONS

	FOLIAR APPLICATION	
CROP	**RATE (ml/ACRE)**	**APPLICATION TIMING**
Alfalfa, clover, hay	60 ml	Seedling: Apply at 2-4 trifoliate stage Established crop: At green up.
Canola	60 ml	At 2-8 leaf stage.
Corn	60 ml	At 2-6 leaf stage.
Pulses: Field peas, lentils, dry beans, soybeans	60 ml	At 2-5 trifoliate stage.
Potatoes and sugar beets	60 ml + 60 ml	1st application at 2-4 true leaf stage, 2nd application 10-14 days after first application.
Wheat, barley, oats, rye	60 ml	At 2-4 leaf stage.
Soil (in-furrow applications)		
Barley, corn, grain sorghum, oats, rye, soybean, sugar beets, wheat	90 ml	Apply at planting in the seed furrow or 2 inches below seed or with a strip till machine 3 inches below the seed. Can be applied with or without starter fertilizer.

PACKAGING

PACKAGING	ACRES TREATED FOLIAR	ACRES TREATED IN-FURROW
3.6 L jug (4 jugs per case)	60 acres/jug	40 acres/jug

Showcasing **Radiate** treated canola 291 pods (right) vs untreated 191 pods (left)

SST® 8% CALCIUM

A PROPRIETARY FORMULATION CONTAINING 8% CALCIUM AND 2% SILICA FROM CALCIUM SILICATE

PRODUCT HIGHLIGHTS

SST® 8% calcium is an advanced form of foliar calcium derived from calcium silicate. This proprietary formulation is designed to penetrate green tissue while providing unmatched tank mix compatibility. Use **SST 8% calcium** in a balanced fertility program for all crops requiring calcium.

ANALYSIS

8% calcium + 2% SST silica

AGRONOMIC CONSIDERATIONS

Use a minimum of 189 L of water per ha (20 US gallons of water/acre) with ground spray equipment and 47 L/ha (5 US gallons of water/acre) for aerial application. This product is non-corrosive.

APPLICATION RECOMMENDATIONS

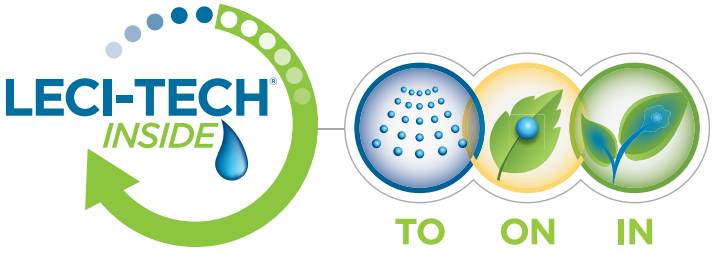
CROP	APPLICATION RATE (L/ACRE)			APPLICATION RECOMMENDATIONS
	LOW	MID	HIGH	
Foliar application	2	3.25	5.5	Apply at crown green up or on regrowth after cutting.
Field row crops	0.5	1.25	2	Frequent applications may be necessary to correct deficiencies once they occur.
Soil application	3.8	5.7	7.6	Can be made pre-plant or side-dress.

PACKAGING

PACKAGE SIZE	ACRES TREATED
9.46 L Jug (2 jugs per case)	Refer to rate chart above.
115 L drum	

ADJUVANTS

Adjuvants are mixed with crop protection or crop nutrition products in the sprayer tank to enhance their performance. Adjuvants help these products get to plants, be better absorbed into plants and be retained by plants. Adjuvants are a critical part of optimizing product performance in order to optimize crop performance.



WHAT IS LECI-TECH®?

Lecithin is a natural-based product derived from soybean seeds and is the workhorse of the **LECI-TECH** product line. **LECI-TECH** is a unique technology that assists overall spray performance by providing an adjuvant system that delivers: To The Plant (drift reduction), On The Plant (droplet retention) and In The Plant (penetration). **LECI-TECH** increases crop safety, is biodegradable and is the best adjuvant technology.

LECI-TECH FAMILY OF PRODUCTS

PRODUCT	ACIDIFIER	ANTIFOAM/ DEFOAM	DEPOSITION AID/STICKER	DRIFT CONTROL	PENETRANT	SPREADER	DESCRIPTION
LI 700®	●		●	●	●	●	**LECI-TECH** non-ionic penetrating surfactant with pH reduction.
LIBERATE®		●	●	●	●	●	**LECI-TECH** 100% active surfactant, neutral pH.
MSO CONCENTRATE WITH LECI-TECH®			●	●	●		**LECI-TECH** blend of methylated seed oil and surfactant
VALID®		●	●	●			**LECI-TECH** deposition aid, drift reduction and defoamer.

ALL CLEAR®

REDUCE THE RISK OF SPRAY TANK CONTAMINATION

Highly effective all-purpose tank cleaner specifically formulated to remove pesticide deposits and other debris, including sticky and oily substances from tanks, hoses, booms and nozzles.

PRODUCT HIGHLIGHTS

Dual modes of action:

- Surfactant to physically remove residues.
  - 250 ml/100 L of water
- Degradant to chemically break down residues.

APPLICATION RATES

- General purpose cleansing (0.25% v/v).
- Decontamination (0.50% v/v)
  - 250 ml/100 L of water
  - 50 ml/10 L for nozzles and filters

PACKAGING

Case: 4 x 3.78 L

USED TO CLEAN

Liberty, Group 4's (MCPA or 2-4, D) florasulam products etc.

DIRECTIONS FOR USE

Immediately after spraying, drain tank, hoses and boom completely. Remove nozzles and screens from boom. Any contamination on the outside should be removed with washing with a fresh **All Clear**/water dilution (50 ml/10 L). Rinse inside of tank of all visible residue. Fill tank ½ full with clean water and add All Clear. Agitate for 15 minutes, flush hoses and tank again.

Clean nozzles, screens and filters using the 50 ml/10 L water rate. Rinse tank with clean water and drain tank completely.

FLUSH®

SPRAYER CLEANER

FLUSH is a cleaning agent to be used for cleaning all pesticides from agricultural, commercial or lawn & garden spraying equipment. FLUSH does not de-activate or breakdown the pesticide.

PRODUCT HIGHLIGHTS

- Ammonia-based tank cleaner for use with certain herbicides.

DIRECTIONS FOR USE

1. Immediately after use, drain and flush tank, booms, hoses and nozzles with clean water.
2. While filling tank with water, add 1/2 litre of FLUSH per 100 litres of water.
3. Agitate and drain system completely.
4. Rinse with a small amount of plain water and drain.

USED TO CLEAN

Simplicity, Varro, Velocity M3, Express, Refine, Muster, spectrum and anything containing thiencarbazone-methyl products etc.

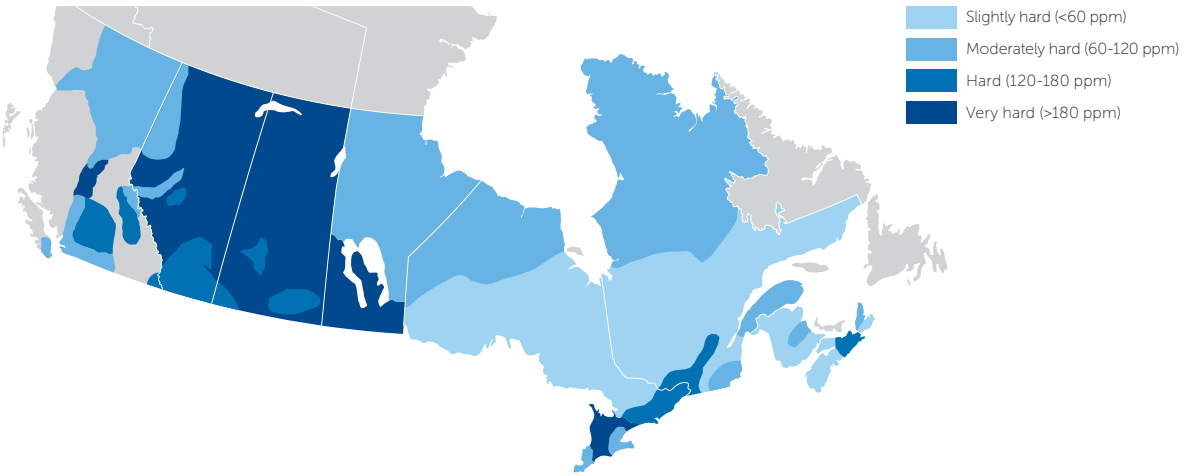
PACKAGING

Case: 2 x 10 L

CHOICE WEATHER MASTER®

UNIQUE CONDITIONING AGENT FOR HARD WATER

Water conditioning agent for use with agricultural chemicals. Designed for hard water conditions, this liquid formulation locks up hard water cations allowing maximum herbicide performance. Choice Weather Master is compatible with all formulations of glyphosate.



PRODUCT HIGHLIGHTS

- Locks up hard water cations that will lower herbicide performance.
- Features a low use rate, relative to ammonium sulphate (AMS).
- Handles and mixes easily, because it's a liquid.
- Handle and use less, because it's concentrated.
- Compatible with all formulations of glyphosate.
- Use where hard water exists to optimize the performance of all weak-acid herbicides (glufosinate ammonium, clopyralid, etc.).
- Uses multiple sequestering and chelating agents.
- Locks up hard water cations which is beneficial when using various negatively charged herbicide formulations.

PACKAGING

Case: 2 x 10 L

APPLICATION RATES

WATER HARDNESS ($Ca CO_3$) PPM	CHOICE WEATHER MASTER (ml/100 L)	CHOICE WEATHER MASTER (L/1000 L)
Up to 300 ppm	300	3
400 ppm	400	4
500 ppm	500	5

LI 700®

PENETRANT, ACIDIFIER, DEPOSITION AID AND DRIFT CONTROL AGENT

Non-ionic penetrating surfactant that reduces off-target spray drift and lowers spray water pH. Unique formulation technology and quality ingredients differentiate **LI 700®** in the market.

PRODUCT HIGHLIGHTS

Reduced drift by reducing production of small droplets.

- Lowers water pH ensuring pesticide efficacy.
- Spreading and adhesion properties ensure the pesticides stay on the leaf.
- Aids in active ingredient penetration through waxy leaf cuticles.
- Can be used with herbicide, fungicide and insecticide sprays.
- Increases spray droplet retention through reduced droplet bounce, shatter and roll-off.

APPLICATION RATES

Add to spray tanks at a rate of 0.25% v/v (2.5 L/1000 L of spray solution).

The acidification technology lowers the pH of spray solutions and its low foaming formulation is spray-tank friendly. 355 ml of **LI 700** per 100 gallon tank will lower the pH two points.

OTHER

Do not use with sulfonylurea (SU) chemistries (Express Refine etc.) and foliar copper fungicides.

PACKAGING

Case: 2 x 10 L Drum: 205 L

LESS DRIFT, MORE COVERAGE, BETTER PENETRATION

WITH LI 700 | WITHOUT LI 700

IMPROVES UPTAKE MOVEMENT AND WEED CONTROL

WITH LI 700 | WITHOUT LI 700

PERFORMANCE MADE EASY

The unique benefits of **LI 700** are simple:

LI 700 improves spray performance and the key is **LECI-TECH®** technolohgy:

- TO THE PLANT — drift reduction with right-sized droplets.
- ON THE PLANT — droplet retention through adhesion and spreading.
- IN THE PLANT — increased penetration without cuticle disruption.

TARGETED TANK MIX PARTNERS

- Glyphosate, and diquat (penetrating surfactant)
- Insecticides (pH reduction)

LIBERATE®

100% NON-IONIC SURFACTANT, DRIFT CONTROL AGENT

An uptake-enhancing surfactant blend designed for use with pesticides that recommend a non-ionic surfactant. Works especially well with systemic chemistries, reducing driftable fines.

PRODUCT HIGHLIGHTS

- TO THE PLANT – drift reduction with right-sized droplets.
- ON THE PLANT – droplet retention through adhesion and spreading.
- IN THE PLANT – increased penetration without cuticle disruption.
- Neutral pH – ideally used with SU herbicides and other pesticides that require a pH 7 (neutral) or higher.
- Can be used with herbicide, fungicide and insecticide sprays.
- Contains antifoam/defoam component and will not cause foaming problems in the spray tank.
  - 100% active spreader/penetrant contains soy oil derivative.
  - Odorless, low-foaming, neutral pH formulation.
  - Provides drift reduction, increased droplet adhesion.
  - Excellent penetration and deposition and is user-friendly.

PACKAGING

Case: 2 x 10 L

APPLICATION RATES

Apply at a rate of 0.1–0.25 v/v (1.0–2.5 L per 1000 L of spray solution).

TANK MIX PARTNER	RATE PER 1000 L SPRAY SOLUTION
Accent	2 L
Accurate (Metsulfuron)	2.5 L
Ally (Metsulfuron)	2 L
Assure II	5 L
Barricade II	2 L
Blitz (Florasulam)	2.5 L/1000 L
Broadside	2 L/1000 L
Curtail M	2.5 L
Deploy/Nufarm Boost	2 L
Distinct	2.5 L
Dual Magnum	1 L
Everest 2.0/Everest 3.0	2.5 L
Express SG/Pro/FX	2 L
Folicur/PALLISER/Fuse	1.25 L
Glyphosate	2.5 L
Lontrel	2.5 L
Nimble (Thifensulfuron/Tribenuron)	2 L
Nuance (Tribenuron)	2.5 L
Pardner	2.5 L
Pursuit	2.5 L
Refine SG/Refine Extra	2 L
Reflex	1 L
RETAIN SG	2 L
Triton C	2.5 L

MSO CONCENTRATE WITH LECI-TECH®

LECI-TECH BLEND OF MODIFIED VEGETABLE OIL AND SURFACTANT

Methylated seed oil containing the highest quality components available.

PRODUCT HIGHLIGHTS

- Enhanced penetration and droplet retention for increased plant uptake.
- Premium emulsifiers and LECI-TECH technology provide uniform mixing and drift reduction.
- Increased plant uptake vs. standard methylated seed oil formulations.
- Improved crop safety vs. standard methylated seed oil formulations.

APPLICATION RATES

Apply 1% v/v or 10 L per 1000 L of spray mixture as follows:

CROP	TANK-MIX HERBICIDES
Soybeans Follow the tank-mix herbicide labels for complete use instructions.	**Duet®,** Odyssey NXT
	Pursuit
	Pursuit + Basagran
	Pursuit + Reflex
	Pinnacle
	Viper + Reflex
Canola Follow the tank-mix herbicide labels for complete use instructions.	**Duet,** Odyssey NXT
	Mizuna®, Solo, Solo NXT
	Pursuit
	Pursuit + Poast Ultra
	Odyssey
	Poast Ultra
Lentils Follow the tank-mix herbicide labels for complete use instructions.	**Duet,** Odyssey NXT
	Mizuna, Solo, Solo NXT
Peas Follow the tank-mix herbicide labels for complete use instructions.	**Duet,** Odyssey NXT
	Pursuit
	Pursuit + Poast Ultra
	Odyssey
	Poast Ultra
Lentils, soybeans, barley, canary seed, chickpea, corn (field and sweet), oats, peas (field), wheat (spring, durum and winter) Pre-seed or pre-emergent use at 200 ml/ac (500 ml/ha).	Heat WG

PACKAGING

Case: 2 x 8 L Drum: 115 L

VALID®

ANTIFOAMING DRIFT-CONTROL AGENT

Non-ionic, non-foaming and shear-tolerant drift control agent containing suspended antifoam/defoamer. May be used as a drift-control adjuvant to enhance deposition, retention and control spray droplet size.

PRODUCT HIGHLIGHTS

- TO THE PLANT — drift reduction with right-sized droplets.
- ON THE PLANT — droplet retention through adhesion and spreading.
- Contains antifoam/defoam system.
- Low use rates.
- Can be used with herbicide, fungicide and insecticide sprays.

APPLICATION RATE

Use in tanks where a penetrating surfactant is not required, but drift control and antifoaming is desired (0.125% v/v).

PACKAGING

4 x 3.78 L

TANK MIX PARTNER

Glufosinate ammonium, other pesticides where foam control and reduced drift are desirable.

CROP PROTECTION

Depending on the challenge, crop protection products take on a variety of roles. Herbicides, insecticides and fungicides are available from Loveland Products to control virtually every insect and plant pest, in addition to crop diseases. By protecting and improving plant health, growers make the most of valuable seed technology, providing crops the greatest opportunity for higher yield and quality.

CROP PROTECTION SELECTOR CHART

CROP	PRE-SEED	HERBICIDE		FUNGICIDE	PRE-HARVEST DESICCATION	POST-HARVEST
		BROADLEAF	GRASS			
Cereals	**STARTUP® BLITZ® BONANZA®[2]**	**CALIBER® 625 BROADSIDE® MOMENTUM™ RETAIN™ SG**	**FOOTHILLS® NG MARENGO®**	**PALLISER™ FITNESS**	**STARTUP**	**STARTUP BLITZ BONANZA[1]**
Canola	**STARTUP BONANZA**	**STARTUP**	**SHADOW® RTM**	**FITNESS**	**STAGE® STARTUP**	**STARTUP BONANZA**
Flax	**STARTUP**		**SHADOW RTM**		**STAGE STARTUP**	**BONANZA**
Forages	**STARTUP**	**CALIBER 625**	**SHADOW RTM**		**STAGE STARTUP**	**BONANZA**
Pulses	**STARTUP**		**SHADOW RTM**		**STAGE STARTUP**	**STARTUP BONANZA**

[1] Barley is fall treatment only
[2] Spring wheat and durum only

BLITZ®

Tackle weeds early with **BLITZ®**. Added to glyphosate, **BLITZ** provides outstanding pre-seed burn down, summerfallow or post-harvest control of emerged, actively growing grass and broadleaf weeds.

ACTIVE INGREDIENT

Florasulam 50 g/L, Group 2

CROPS

Barley, oats, wheat, durum or summerfallow.

FOR CONTROL OF

A wide range of grass and broadleaf weeds. **BLITZ** alone controls or suppresses the weeds listed below, if not resistant to Group 2 herbicides. Applied in a tank mix with glyphosate for enhanced control of weeds.

Controlled: Wild buckwheat, volunteer canola[1], common chickweed, cleavers, cow cockle, wild mustard, shepherd's-purse, smartweed and stinkweed.

[1] Including herbicide-tolerant canola varieties except Clearfield*.

Suppressed: Hemp-nettle, narrow-leaved hawks-beard, redroot pigweed and sow thistle (annual and perennial).

APPLICATION TIMING

- In spring, tank mix with glyphosate and apply prior to seeding.
- In summer, tank mix with glyphosate and apply to summerfallow fields and seeded the following spring.
- In fall, tank mix with glyphosate and apply to stubble or summerfallow fields after August 1 and prior to freeze-up.

TANK MIXES

Glyphosate

APPLICATION RATES

40 ml/ac (100 ml/ha) and glyphosate at 182.2 g a.e./ac (450 g a.e./ha) with 10 U.S. gallons of water per acre (100 L/ha).

PACKAGING

Case: 4 x 3.2 L

USE RESTRICTIONS

Spring: BLITZ herbicide + glyphosate may be applied in the spring prior to seeding and no longer than 48 hours after seeding prior to any crop emergence. Fields treated with **BLITZ** herbicide in the spring may be planted to barley, oats, wheat, durum or summerfallowed.

Summer (prior to August 1): **BLITZ** herbicide + glyphosate may be applied to summerfallow fields and seeded in the following spring to barley, canola, oats, peas or wheat (including durum) or summerfallowed.

Summer (after August 1): **BLITZ** herbicide + glyphosate may be applied to summerfallow fields and seeded in the following spring to barley, oats or wheat (including durum) or summerfallowed.

Fall: BLITZ herbicide + glyphosate may be applied to stubble or summerfallow fields after August 1 and prior to freeze-up and may be seeded to barley, oats or wheat (including durum) or summerfallowed.

Do not use in successive years on the same field.

MIXING INSTRUCTIONS

1. Fill sprayer tank 1/2 full of water.
2. Start sprayer tank agitation.
3. Add the required amount of **BLITZ** herbicide.
4. Add tank mix partner and continue to agitate.
5. Fill the sprayer tank with sufficient water to spray 50–100 L of spray mixture per hectare.
6. Avoid application conditions that can create drift when applying next to sensitive crops (e.g. canola and legumes).
7. Follow sprayer clean-up directions using a recommended tank cleaner.

LIMITATIONS

In rare occasions when the mixing instructions are not followed precisely when using a K-Salt product, flocculation may occur in the tank. This can easily be corrected; if one of the following products is added to the tank (after flocculating occurs) to rectify the situation:

- **CHOICE WEATHER MASTER**
- Ammonium sulphate

BONANZA® 10G

Provides excellent control of a broad spectrum of annual grass and broadleaf weeds. Use this soil-incorporated formulation in a range of management systems.

ACTIVE INGREDIENT
Trifluralin 10%, Group 3

CROPS
Canola, flax, faba bean, lentil, pea, mustard, sunflower, soybean, dry bean, barley, alfalfa and summerfallow.

FOR CONTROL OF
Annual grasses: Bluegrass, barnyard grass, bromegrass, cheatgrass (downy brome), crabgrass, goosegrass, green and yellow foxtail, Persian darnel, stinkgrass and wild oats*.

Annual broadleaf weeds: Carpetweed, chickweed, cow cockle, knotweed, lamb's-quarters, pigweed, purslane and wild buckwheat.

TANK MIXES
Sencor, Lexone, Avadex BW or Basagran.

APPLICATION TIMING AND RATES
Read and follow all label directions. Application timing and rates are dependent on crop, soil organic matter, environment conditions and re-cropping restrictions.

PACKAGING
22.7 kg bags and 454 kg mini-bulk

USE RESTRICTIONS
- Do not apply to soils which contain more than 15% organic matter such as peat or muck soils (maximum 10% organic matter on barley).
- Do not apply to wet soils that are subject to flooding.
- Do not apply to soils that are extremely lumpy, cloddy or in poor working condition.
- For maximum weed control and crop tolerance, follow label directions at all times. Read all directions before applying **BONANZA 10G** granular herbicide.

*Suppression

BONANZA® 480

A liquid herbicide with excellent control of a broad spectrum of annual grass and broadleaf weeds. Use this soil-incorporated formulation in a range of management systems.

ACTIVE INGREDIENT
Trifluralin 480 g/L, Group 3

CROPS
Canola, barley, flax, sunflowers, mustard, lentils, peas, faba beans, soybeans, dry beans and alfalfa establishment (flax and canola cover crops only).

FOR CONTROL OF
Annual grasses: bluegrass, barnyard grass, bromegrass, cheat, crabgrass, goosegrass, green and yellow foxtail, Persian darnel, stinkgrass and wild oats*.

Annual broadleaf weeds: carpetweed, chickweed, cow cockle, knotweed, lamb's-quarters, pigweed, purslane and wild buckwheat.

APPLICATION TIMING AND RATES
Application timing and rates are sensitive to crop, soil organic matter and environmental conditions. Refer to the label for complete instructions.

PACKAGING: Case: 2 x 9.46 L, Tote: 984.1 L

*Suppression

TANK MIXES
Sencor, Lexone, Avadex BW or Basagran

USE RESTRICTIONS
Spring application
Apply in the spring and before the crop or weed emergence. It must be incorporated thoroughly into the soil to control susceptible germinating weeds. The first incorporation must be done no later than 24 hours after application. The second incorporation may be done at the time of seedbed preparation provided it is done at the recommended depth.

Read and follow all incorporation instructions. Spring application is not recommended for flax and lentils.

Fall application
Check application rates and incorporation instructions on label. Ensure timely incorporation. Apply between September 1 and before soil freeze-up for weed control the following year. Two incorporations in the fall are recommended to be followed by shallow tillage (5–8 cm) in the spring before planting. If this is not an option, the first incorporation within 24 hours of spraying can be followed by a second in the spring when the seed bed is being prepared.

BROADSIDE®

A powerful relief at a great price, **BROADSIDE®** combines exceptional weed control with the superior crop safety of Refine* SG and MCPA Ester. In addition, it contains Solumax* technology to improve absorption and allow quick, efficient tank cleaning.

ACTIVE INGREDIENTS
Thifensulfuron-methyl 33.35% Group 2; Tribenuron-methyl 16.65% Group 2; MCPA present as 2-ethylhexyl ester 66 g a.e./L Group 4

CROPS
Spring and winter wheat, durum, barley and oats.

FOR CONTROL OF
Annual smartweed (green smartweed, lady's-thumb), ball mustard, chickweed, common groundsel, corn spurry, cow cockle, dandelion, flixweed, hemp-nettle, kochia, lamb's quarters, narrow-leaf hawk's-beard, redroot pigweed, Russian thistle, shepherd's purse, stinkweed, tartary buckwheat, volunteer canola (2- to 4-leaf; including Clearfield* varieties), volunteer sunflowers, wild buckwheat and wild mustard.

TANK MIXES
Readily tank mixable with a number of wild oat herbicides.

APPLICATION TIMING
3-leaf to flag-leaf stages.

APPLICATION RATES
Each split jug treats 40 acres. The jug contains 4 x 10 acre water soluble packs of Refine SG – 33.75% thifensulfuron methyl plus 16.65% tribenuron methyl plus 7.6 L of MCPA Ester 600. For ground application, add a minimum of 5 gal/ac of water. For aerial application add 2.5 gallons to a maximum 4.5 gal/ac.

PACKAGING
Case: 2 x split jug 7.6 L + 486 g

USE RESTRICTIONS
Spray equipment must be calibrated accurately prior to use. All spray equipment must be thoroughly washed out after use and must not be used for spraying horticultural crops. Do not apply under weather conditions or from spraying equipment that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures. Do not contaminate streams, rivers or waterways with the chemical or used containers.

CALIBER® 625

A fast acting herbicide used to control over 90 broadleaf weeds in legumes and grasses. This easy to use post-emergent features a low use rate, wide window of application and improved tank mix compatibility.

ACTIVE INGREDIENTS
2,4-DB, 625 g/L Group 4

CROPS
Seedling legume and grass forages, cereals, corn and pastures.

FOR CONTROL OF
Stinkweed, ragweed, redroot pigweed, shepherd's-purse, lamb's-quarters, wormseed mustard, ball mustard and wild mustard.

APPLICATION TIMING
From the first to the fourth trifoliate leaf stage.

APPLICATION RATE
0.7 L–1.1 L/ac

PACKAGING
Case: 2 x 10 L

TANK MIXES
May be used as a tank mix. Consult the label of the tank mix partner product and follow the most stringent set of precautions, restrictions and directions for use.

USE RESTRICTIONS
Avoid contamination of ponds, streams, rivers and other water sources. Contains a petroleum distillate which his moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment.

DUET®

Single-pass grassy and broadleaf weed control for CLEARFIELD® branded crops, soybeans, field peas and faba beans.

ACTIVE INGREDIENTS

Imazamox and Imazethapyr - Group 2

CROPS

Clearfield canola, clearfield lentils, clearfield sunflowers, faba beans, fenugreek, field peas, seedling clover (seed production), soybeans.

FOR CONTROL OF

Chickweed, cleavers, cow cockle, flixweed, hemp-nettle, Lamb's quarters, redroot pigweed, round-leaved mallow, Russian thistle, Shepherd's purse, stinkweed, volunteer canola, wild buckwheat, wild mustard, barnyard grass, green foxtail, Persian darnel, volunteer barley, volunteer spring wheat, volunteer tame oats and wild oats.

APPLICATION TIMING

Varies with weed, crop and crop stage. Please see label for details.

APPLICATION RATES

DUET Herbicide: 17 g/ac (43 g/ha)
MSO Concentrate with Leci-Tech® 1.0% v/v
Please see the label for details.

PACKAGING

Case: 692 g (40 ac/case)

USE RESTRICTIONS

Rainfastness – 3 hours.

Avoid application immediately before or after frost or during unseasonably cold weather.

Treat when weeds are actively growing.

Use higher water volume on dense weeds and thicker canopies.

FOOTHILLS® NG

Provides reliable control of tough grassy weeds in spring wheat and durum. **FOOTHILLS® NG** tank mixes with a wide range of broadleaf herbicides for customized weed control. Exceptionally crop-safe, **FOOTHILLS NG** comes pre-mixed with surfactant for added convenience.

ACTIVE INGREDIENT

Clodinafop-propargyl 60 g/L, Group 1

CROPS AND STAGING

Spring Wheat and Durum Wheat - apply prior to the emergence of the 4th tiller.

FOR CONTROL OF

Wild oats, green foxtail, yellow foxtail, barnyard grass, Persian darnel, volunteer oats and volunteer canary seed.

APPLICATION TIMING

WEED	WEED GROWTH STAGE	ADDITIONAL REMARKS
Wild oats	1 to 6 leaf stage on main stem	Prior to emergence of fourth tiller.
Volunteer tame oats	3 to 6 leaf stage on main stem	Prior to emergence of fourth tiller.
Green and yellow foxtail (wild millet, pigeon grass)	1 to 5 leaf stage on main stem	For optimum control, apply prior to emergence of the third tiller and while foxtail is actively growing.
Barnyard grass	1 to 5 leaf stage on main stem	For optimum control, apply before tillering and while barnyard grass is actively growing.
Persian darnel	1 to 5 leaf stage on main stem	For optimum control, apply before tillering and while Persian darnel is actively growing.
Volunteer canary seed	1 to 6 leaf stage on main stem	Prior to emergence of fourth tiller.

When tank mixing with a broadleaf herbicide, insecticide or a fungicide, always refer to the label of the broadleaf partner, insecticide partner or fungicide partner prior to use.

APPLICATION RATES

376 ml/ac (20 ac/jug)

To control Persian darnel in addition to the other grassy weeds listed above:

474 ml/ac (16 ac/jug)

PACKAGING

Case: 2 x 7.57 L, Drum: 121 L

TANK MIXES

Tank mixes with broadleaf weed herbicides, insecticides and fungicides in wheat and barley, including: Target, Dyvel, Buctril, Estaprop, Turboprop, Dichlorprop-D, Lontrel 360, Curtail, 2,4-D Amine, MCPA Ester, MCPA Amine, Ally, Attain, Prestige, Thumper, Decis Flowable, TILT 250E and Refine SG.

USE RESTRICTIONS

Surfactant: Contains a built-in surfactant technology. Do not add SCORE[1] adjuvant, or any other adjuvant to the **FOOTHILLS NG** herbicide mixture.

Pre-harvest interval: Observe minimum interval to harvest of 60 days after treatment. Do not treat wheat underseeded to forages.

[1] Refer to the manufacturer labels for both products for registered crops, rates and mixing instructions.

MARENGO®

Provides post-emergent control of annual grasses in all varieties of spring wheat, hard red wheat, all two and six row varieties of barley (malting, feed) and all varieties of triticale, spring rye and winter rye.

ACTIVE INGREDIENT

Tralkoxydim 400 g/L, Group 1

CROPS

Spring wheat, winter wheat, durum, barley, rye (spring and fall) and triticale.

FOR CONTROL OF

Wild oats, volunteer tame oats, green and yellow foxtail, barnyard grass and Persian darnel.

APPLICATION TIMING

Wild oats, volunteer tame oats: 1 to 6 leaf stage.

Green and yellow foxtail: 1 to 5 leaf stage.

Barnyard grass, Persian darnel: 1 to 4 leaf.

APPLICATION RATES

Apply at a rate of 0.2 L/ac (40 ac/case).

Surfactant note: MARENGO® case contains enough adjuvant for 5 g/ac water volume. Additional surfactant must be purchased to accommodate higher water volumes. Always add **MARENGO** adjuvant, Intake* adjuvant or Turbocharge B adjuvant to the spray solution at a rate of 0.5 L/100 L of spray mixture (0.5% v/v).

PACKAGING

8 L + 5 L co-pack

TANK MIXES

For broad spectrum control of both annual grasses and broadleaf weeds, **MARENGO** herbicide can be tank mixed with a variety of broadleaf weed herbicides including: Buctril M, Attain XC, Partner, Thumper, Dichlorprop/2,4-D Ester, 2,4-D Ester, MCPA Ester, Lontrel + MCPA Ester, Curtail M, Prestige XC, Trophy, Starane or OcTTain XL.

Can be tank-mixed with the following insecticides: Decis Flowable or Matador 120EC.

USE RESTRICTIONS

- Rainfall within one hour will reduce control.
- Do not re-enter treated field for 12 hours.
- Grazing and pre-harvest intervals: Review all labels used in your tank mixture and use the most limiting.
- Do not harvest treated crop within 60 days after application.

MIZUNA®

Strong grass and broadleaf weed control in CLEARFIELD branded crops with worry-free rotation flexibility for next year.

ACTIVE INGREDIENT
Imazamox - Group 2

CROPS
Clearfield canola, Clearfield lentils and Clearfield sunflowers

FOR CONTROL OF
Cleavers, cow cockle, green smartweed, Lamb's quarters, redroot pigweed, round-leaved mallow, Russian thistle, Shepherd's purse, stinkweed, volunteer canola, wild buckwheat, wild mustard, barnyard grass, green foxtail, Japanese brome grass, Persian darnel, volunteer barley, volunteer wheat (durum and spring wheat), volunteer tame oats, wild oats, yellow foxtail.

APPLICATION TIMING
Various with weed, weed stage, crop and crop stage. Please see label for details.

APPLICATION RATES
MIZUNA™ Herbicide 11.7 g/ac (29 g/ha)
MSO Concentrate with Leci-Tech®: 1.0% v/v

PACKAGING
Case: 470 g (treats 40 acres/case)

USE RESTRICTIONS
Rainfastness – 3 hours.

Avoid application immediately before or after frost or during unseasonably cold weather.

Treat when weeds are actively growing.

Use higher water volume on dense weeds and thicker canopies.

MOMENTUM®

Raises the bar in broadleaf weed control for wheat and barley growers. With its tank-mix flexibility, **MOMENTUM®** provides unparalleled, tailor-made performance — especially on those tough-to-control broadleaf weeds like Canada thistle, cleavers, wild buckwheat and kochia.

ACTIVE INGREDIENTS
Clopyralid 90 g a.e./L, Group 4; Fluroxypyr 90 g a.e./L, Group 4

CROPS
Wheat (spring and durum) and barley.

FOR CONTROL OF
Canada thistle, cleavers, kochia, volunteer flax and wild buckwheat

APPLICATION TIMING
Apply to crop from 3-leaf to just before flag-leaf.

APPLICATION RATES AND PACKAGING
Each 8.99 L jug of **MOMENTUM** treats 20 acres (0.45 L/ac). 2 x 8.99 L jugs per case.

	MOMENTUM (jugs)	BROADLEAF PARTNER (jugs)	ACRES PER PACKAGE	GROWTH STAGE
MCPA Ester 600 High	4	3	80	3 leaf to just before flag-leaf.
MCPA Ester 600 Low	2	1	40	3 leaf to just before flag-leaf.
2,4-D Ester 600	2	1	40	4 leaf to early flag-leaf.
Refine SG	2	1	40	3 leaf to just before flag-leaf.

TANK MIXES
To broaden the spectrum of broadleaf weed control, **MOMENTUM** should always be tank mixed with MCPA, 2,4-D or Refine SG. Refer to table above for rates.

Avert/Assert, Axial, Everest 2.0, **FOOTHILLS NG**/ Horizon NG, **MARENGO**, Liquid Achieve, Simplicity, Traxos, Puma Advance or Varro

USE RESTRICTIONS
- Grazing and pre-harvest intervals: Review all labels used in your tank mixture and use the most limiting.
- DO NOT use alone.
- Do not harvest treated crop within 60 days after application.

RETAIN® SG

Featuring the latest Solumax technology, it combines the benefits of Group 2 and Group 4 herbicides to provide post-emergent broadleaf weed control in spring wheat, durum wheat and barley.

ACTIVE INGREDIENTS

Thifensulfuron + 33.35% Tribenuron; Thifensulfuron + 16.65% Tribenuron, Group 2; Fluroxypyr (180 g/L), Group 4; 2,4-D Ester (660 g/L), Group 4

CROPS

Spring wheat, durum wheat and barley.

FOR CONTROL OF

Ball mustard, Canada thistle, chickweed (emerged only 1- to 6-leaf), cleavers (1–4 whorls), corn spurry, cow cockle, common groundsel, flixweed, hemp-nettle, kochia, lady's-thumb, lamb's-quarters, narrow-leaved hawk's-beard, redroot pigweed, Russian thistle, shepherd's-purse, smartweed, stinkweed, sow thistle, volunteer canola, volunteer flax, volunteer sunflower, wild buckwheat and wild mustard.

APPLICATION TIMING

Wheat and barley: Apply at the 4-leaf to flag-leaf stage of the crop. Do not apply later than the flag-leaf stage.

APPLICATION RATES AND PACKAGING

One case treats 40 acres.

TANK MIXES

Can be tank mixed with the following products: Wheat (spring and durum) only, **FOOTHILLS NG**, Horizon NG, Everest 2.0 herbicide, barley and wheat (spring and durum), Puma Super, Puma Advance or Assert.

USE RESTRICTIONS

See component products for more information on restrictions. Use the most limiting restrictions across all components for the list.

SHADOW® RTM

Strong grass control where you need it in field peas, flax, canola, lentils, desi and kabuli chickpeas, dry beans, sunflowers, mustard (oriental, brown and yellow), soybeans and seedling alfalfa.

ACTIVE INGREDIENT

Clethodim 240 g/L, Group 1

CROPS

Chickpeas, dry beans, alfalfa, canola, field peas, potatoes, flax and mustard.

FOR CONTROL OF

Barnyard grass, foxtail (green and yellow), proso millet, wild oats, Persian darnel, quackgrass, volunteer barley, volunteer canary seed, volunteer corn, volunteer oat, volunteer wheat, soybeans, lentils and sunflowers.

APPLICATION RATES

Maximum rate of 40 ac/case for chickpeas and dry beans and maximum rate of 20 ac/case for alfalfa, canola, field peas, potatoes, flax, mustard, soybean, lentils and sunflower.

PACKAGING

Case: 3 L + 9 L co-pack

APPLICATION TIMING

Apply when the annual grasses and volunteer cereals are in the 2 to 6 leaf stage.

TANK MIXES

Flax: Buctril M, Curtail M, MCPA Ester, Lontrel 360

Field Peas: Pursuit

Canola: Muster, Liberty 150SN (LibertyLink varieties only – Prairie Provinces and Peace River Region of BC only) or Pursuit (Imazethapyr-tolerant canola only).

USE RESTRICTIONS

- Rainfall within one hour may reduce control.
- Do not enter treated fields for 12 hours.
- Do not graze or cut treated crops or forage until 60 days after application to annual crops and 30 days after application to seedling alfalfa.
- Pre-harvest intervals vary by crop. Please refer to the label.

STAGE®

Allows the option of straight cutting and minimizes the loss of grade and yield that can occur in swathed crops. Desiccation with **STAGE®** plus **LI 700** promotes faster and more uniform dry down, helping to retain good colour.

ACTIVE INGREDIENT

Diquat 240 g/L (present as dibromide), Group 22

PACKAGING

Case: 2 x 10 L, Drum: 115 L

CROPS

Alfalfa seed, lentils, flax, peas, dry beans, soybeans, faba beans, mustard, sunflowers and chickpeas.

USE RESTRICTIONS

- Rainfall within 15 minutes may reduce effectiveness.
- Allow 24 hours before entering treated field.
- Pre-harvest intervals vary by crop. Refer to the label.

APPLICATION TIMING AND RATES

CROP	APPLICATION METHOD	RATE (L/ac)[1]	WATER VOLUME (L/ac)	APPLICATION TIMING
Alfalfa	Ground	1.0	91–222	When majority of pods are buckskin colour and seeds are firm.
	Aerial	1.1	Minimum 18	
Lentils	Ground	0.7	91–222	When lowermost pods are yellow-brown and rattle.
	Aerial	0.7–0.9	Minimum 18	
Flax	Ground	0.7	91–222	When crop is at 75% boll turn stage.
	Aerial	0.7–0.9	Minimum 18	
Peas	Ground	0.7	91–222	When bottom pods of the majority of the plants are ripe and dry when the seeds detach from the pods.
	Aerial	0.7–0.9	Minimum 18	

[1] Add **LI 700** at 0.25% v/v to every tank.

STARTUP®

A water soluble herbicide for non-selective weed control in pre-seed, in-crop (glyphosate-tolerant crops), pre-harvest and post-harvest applications **STARTUP®** is a glyphosate, 540 grams acid equivalent per litre, present as potassium salt.

ACTIVE INGREDIENT

Glyphosate at 540 g, Group 9

PACKAGING

Case: 2x10 L, Drum: 115 L, Tote: 450 L and 800 L

APPLICATION RATES

Wide range of application rates and uses. Please refer to the product label for the full listing of rates and tank mixes. For applications only using **STARTUP,** refer to the following rate chart:

RATE	GROWTH STAGE	KEY WEEDS CONTROLLED
336–514 ml/ac (0.83–1.27 L/ha)	Weeds up to 6 in (15 cm) in height.	Wild oats, green foxtail, volunteer barley and wheat, downy brome, giant foxtail and Persian darnel. Non Roundup Ready volunteer canola, wild mustard, lady's thumb, stinkweed, kochia[1], cleavers, lamb's-quarters, redroot pigweed, hemp-nettle, flixweed, Russian thistle, vol. flax, common ragweed[2], Canada fleabane[2], wild buckwheat[3] and narrow-leaved hawksbeard[4].
607 ml/ac (1.5 L/ha)	Weeds up to 6 in (15 cm) in height.	All annual grasses listed above plus crabgrass and annual bluegrass. All annual broadleaf weeds listed above plus kochia, prickly lettuce, shepherd's purse, annual sow thistle and narrow-leaved vetch.
943 ml/ac (2.33 L/ha)	Weeds over 6 in (15 cm) in height.	All annual and broadleaf weeds listed above.

[1] Suppression only

[2] DO NOT use these rates on plants greater than 3 in (8 cm) in height

[3] For 3 to 4 leaf stage use 514 ml/ac (1.27 L/ha) rate

[4] For weeds 3–6 in (8–15 cm) in height, use 514 ml/ac (1.27 L/ha) rate

TANK MIX COMPATIBILITY

Herbicides

2,4-D, Aim, Amitrol 240, Assure II, Atrazine, Authority, Authority Charge, Blackhawk**,** Bromoxynil (Brotex 240), Bromoxynil + MCPA (Logic M), Conquer,Dicamba (Oracle, Banvel II), Dyvel DS, Express SG, Express Pro, Express FX, Florasulam (**BLITZ**, PrePass Flex), Heat WG, Inferno Duo, KoAct, MCPA or Pursuit (RR Soybean).

Adjuvants

- **LI 700** (pH reducer) @ 0.25% v/v
- **LIBERATE** (pH neutral) @ 0.25% v/v *(for use with sulfonylurea herbicide tank mixes – Express SG)*
- **CHOICE WEATHER MASTER** *(for hard water applications; 1 jug = 10 jugs AMS)*

MALATHION 85E

An economical, effective insecticide used to control a wide range of insect pests in a wide range of field, fruit and horticultural crops. Because **MALATHION** offers formulation options, growers also have the flexibility to control insect pests in grain storage, orchards and fields.

ACTIVE INGREDIENTS

Malathion 85%, Group 1B

CROPS

Alfalfa, clover, canola, mustard, wheat, barley, oats, rye, canary seed (for seed), sweet clover, flax, lentils, corn (grain, forage), peas, sugar beets, empty bin spray (grain elevators, grain bins, grain box cars), numerous fruit and vegetable crops (check label for complete list).

PACKAGING

Case: 2 x 10 L

FOR CONTROL OF

Insects and mites including alfalfa weevil larvae, aphids, grasshoppers, leafhoppers, lygus bugs, spider mites, spittle bugs, flea beetles, diamondback moth larvae, earworms, European corn borer, army worms, winter grain mites, cereal leaf beetle and sweet clover weevils (refer to label for complete list).

APPLICATION TIMING

May be applied by air or ground equipment. Timing varies depending on type of crop and type of insect to be controlled. Refer to product label.

APPLICATION RATES

Rates vary, according to crop and application method. Please refer to the product label for details.

CROPS	PEST	RATE (ml/ac)	MAXIMUM APPLICATIONS PER YEAR	APPLICATION INSTRUCTIONS
Alfalfa	Alfalfa weevil larvae, alfalfa blotch leafminer, aphids, grasshoppers, leafhoppers, lygus bugs, spider mites, spittle bugs (adult)	445–544	2 per cut max per year	Do not apply to alfalfa in bloom. Apply when 75% of foliage shows feeding damage. 544 ml for leafminer. May be applied by air.
Canola, mustard, rapeseed	Diamondback moth larvae	109–168	1	Treat when bees are absent from field and temperature is above 18°C. May be applied by air.
	Flea beetles, grasshopper	216–346		
Corn (grain or forage)	Earworms, European corn borer	445–544	1	Apply when 10% of ears show silk. Repeat at three to five day intervals until a max of four applications are made. Check with local agricultural authorities for correct timing.
Flax	Grasshoppers	216–346	1	Treat when bees are absent from field and temperature is above 18°C. May be applied by air.
Grain crops (barley, oats, rye wheat)	Armyworms, English grain aphids, grasshoppers, greenbugs, Winter grain mites, cereal leaf beetle	435–544	1	Apply when cereal leaf beetle larvae reach two to three per stem. May be applied by air.
Lentils	Grasshoppers	336	2	Two applications, at seven day intervals. May be applied by air.
Peas (field)	Aphids, leafhoppers, maggots, pea	445	2	Treat when bees are absent from field and temperature is above 18°C.

USE RESTRICTIONS

- For best results, apply when daytime temperatures are above 20°C.
- When spraying forages and pastures, cattle should be removed and returned after spraying.
- Do not apply to any plant in bloom.
- Apply to crops only when bees are absent from fields.
- Refer to label for maximum number of applications per season (dependent on crop).

LAGON® 480 E

One of Canada's leading insecticides. It features reliable performance on a broad spectrum of insects, under a wide range of environmental conditions, and in a wide variety of crops. **LAGON®** combines contact, residual and plant systemic activity for reliable pest control without crop injury.

ACTIVE INGREDIENT

Dimethoate 480 g/L, Group 1B

CROPS

Alfalfa, barley, canary seeds, canola, Christmas trees, cole crops, flax, leafy vegetables, oats, outdoor ornamentals, peas, peppers, potatoes, safflower, soybeans, tomatoes, tree fruit and small fruit crops, wheat, forage crops, pasture and restricted aerial use in forest. See label for specific crops.

FOR CONTROL OF

Aphids, apple maggot, bean beetles, blueberry maggot, flies, grasshoppers, leafhoppers, leafminers, lygus beetles, plant bugs, tarnish plant bugs, thrips, two spotted spider mites and wheat midge. See label for specific insects.

APPLICATION TIMING

When insects are present or first sign of visible damage. See provincial spray guides for economic insect threshold pressure levels. Works well in warm growing conditions.

APPLICATION RATES

Alfalfa, beans, soybeans and potatoes, leafy vegetables, cole crops (110–920 ml/ac), tree fruit and small fruit (500 ml–1.5 L per 1000 L water), outdoor ornamentals and Christmas trees (500 ml–20.8 L per 1000 L water). For best results, use **LI 700** at pH reduction rates. Refer to the label for specific rates.

PACKAGING

Case: 2 x 10 L

USE RESTRICTIONS

- Avoid spraying when bees are present. If spraying honey producing crops, allow at least 10 days before placing hives in crop. Do not use on greenhouse crops.
- Do not graze or harvest for forage for 2–7 days after treatment. Other crops, 2–45 days. See label for specific times. Restricted entry interval, 48 hours.

WARHAWK® 480 EC

Extremely effective control of over 140 insects in more than 50 crops, including cereals, canola, flax and specialty crops.

ACTIVE INGREDIENT

Chlorpyrifos 480 g/L, Group 1B

CROPS

Field crops including; canola, corn (field and sweet), flax, lentil, cereal grains (barley, wheat, oats) sugarbeet, sunflower, potato and horticulture crops.

FOR CONTROL OF

Various insect pests by contact and ingestion.

APPLICATION TIMING AND RATES

Rates vary according to crop, pest(s) and application method. Please refer to the label.

PACKAGING

Case: 2 x 10 L, Drum: 205 L

TANK MIXES

Avenge 200-C, Buctril M, MCPA Ester, Tordon 202 C, Banvel, Glean, MCPA Amine 2,4-D Ester and 2,4-D Amine.

USE RESTRICTIONS

- Contains a petroleum distillate and is extremely toxic to fish and aquatic organisms, toxic to birds and wild mammals. Do not apply directly to aquatic habitats. Buffer zones are required between the point of direct application and the closest downwind edge of sensitive freshwater habitats.
- Toxic to bees exposed to direct treatment, drift, or residues on blooming plants. Do not use on flowering crops or weeds. Do not apply or allow to drift to flowering crops or weeds if bees are visiting the treatment area.
- Do not contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes. Application by aircraft is permitted only where specified in the directions for use. A plantback interval of 30 days must be observed between application and planting of rotational crops, with the exception of radish, Chinese cabbage, pak choi and cole crops for which no plantback restriction is required.

FITNESS®

Proven early control of a wide range of crop diseases.

ACTIVE INGREDIENT

Propiconazole 418 g/L - Group 3

CROPS

Wheat, barley, oats, corn, canola, dry bean, lentils, field peas, chickpeas, faba beans, soybeans canary seed, timothy.

TANK MIXES

Logic M, Brotex 240, Pardner, 2,4-D Amine, 2,4-D Ester, MCPA Amine, MCPA Ester, Foothills NG (wheat only), Horizon NG (wheat only), Axial or Buctril M.

Do not tank mix herbicides for application on oats.

PACKAGING

Case: 4 x 4.8 L

FOR CONTROL OF

CROP	DISEASES	RATE (ml/ac)	TIMING
Wheat (spring, winter, durum)	For suppression of: • Septoria leaf blotch (*Septoria tritici*) • Tan Spot *(Pyrenophora tricitici-repentis)*	60-120	**Early application:** The first sign of disease, usually at the beginning of stem elongation. **Later application:** Before head is half emerged.
	For control of: • Septoria leaf blotch*(Septoria tritici*)	120	
Barley	• Net blotch *(Drechslera teres*)	120	
Oats	• Septoria leaf blotch (*Septoria tritici*)	120	
Canola	• Blackleg (*Leptosphaeria maculans*)	120	Apply during the rosette stage. Between second true leaf and bolting.

PALLISER®

Delivers not only proven broad spectrum leaf disease control on wheat, barley and oats, but also has the flexibility to provide suppression on fusarium head blight.

ACTIVE INGREDIENT

Tebuconazole 432 g/L, Group 3

CROPS

Wheat, barley and oats.

FOR CONTROL OF

Wide range of leaf diseases including tan spot, rusts, scald and blotches depending on crop. Suppression of *Fusarium spp.* head blight in wheat.

APPLICATION TIMING

Leaf diseases: Apply at the first sign or very early stage of disease, up to the end of the flowering stage.

***Fusarium* spp. head blight suppression:** Timing is critical — apply when at least 75% of the wheat heads on the main stem are fully emerged to when 50% of the heads on the main stem are in flower.

PACKAGING

Case: 2 x 9.46 L

APPLICATION RATES

CROP	DISEASES	RATE[1] (ml/ac)
Wheat (spring, winter, durum)	For suppression of: • *Fusarium* head blight (scab) (*Gibberella zeae*/*Fusarium graminearum*) For control of: • Septoria glume blotch (*Stagonospora nodorum*) • Powdery mildew (*Erysiphe graminis*)	118
	• Rusts (leaf, stem, stripe) (*Puccinia triticina, P. graminis, P. striiformis*) • Septoria (leaf blotch) (*Septoria tritici*) • Tan spot (*Pyrenophora tritici-repentis*)	89–118
Barley	• Net blotch (*Pyrenophora teres*) • Spot blotch (*Cochliobolus sativus*) • Scald (*Rhynchosporium secalis*) • Rusts (leaf, stem, stripe) (*Puccinia hordei, P. graminis, P. striiformis*) • Septoria leaf blotch (*Septoria passerinii*) • Powdery mildew (*Erysiphe graminis*)	89–118
Oats	• Crown rust (*Puccinia coronata*) • Stem rust (*Puccinia graminis*)	89

[1] PALLISER is recommended to be used with a registered non-ionic surfactant, such as **LIBERATE**, at 0.125% v/v.

TANK MIXES

Herbicides: Spring wheat and barley – Refine Extra; Spring wheat only – Buctril M

Insecticides: In wheat for control of orange wheat blossom midge – Lorsban 4E

USE RESTRICTIONS

- Do not exceed one application per season.
- Do not allow livestock to graze or feed green forage to livestock until six days after treatment.
- Pre-harvest interval: 36 days.
- Do not enter treated areas within 12 hours of application.

RAMPART®

The low pH of **RAMPART®** allows easy absorption and greater fungicidal activity in plants. As it contains no sodium, **RAMPART** has better uptake.

ACTIVE INGREDIENTS

Mono and di-potassium salts of phosphorous acid

CROPS

Brassica leafy vegetables, grapes and stored potatoes.

FOR CONTROL OF

Late blight, pink rot and downy mildew.

APPLICATION TIMING

Rates vary by crop and disease(s) controlled. Please read the label for details.

APPLICATION RATES

Rates vary by crop and disease controlled. Please read the label for details.

PACKAGING

Case: 2 x 9.46 L, Tote: 1000 L

USE RESTRICTIONS

- Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of four hours.
- Do not use to control aquatic pests as this product is not registered for the control of pests in aquatic systems. Do not contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes. Do not apply by air.