

2023-6080
2025-01-09
Bag Label

GROUP	3	15	HERBICIDES
-------	---	----	------------

FORTRESS® MICROACTIV HERBICIDE

A selective granular herbicide for pre-plant weed control in cereals, oilseed and pulse crops

ACTIVE INGREDIENTS:

TRIALATE - 10%

TRIFLURALIN - 4%

POTENTIAL SKIN SENSITIZER

READ THE LABEL AND ATTACHED BOOKLET BEFORE

USING AGRICULTURAL

REGISTRATION NO. 19521 PEST CONTROL PRODUCTS

ACT NET CONTENTS: 22.7 - 454 kg

IMPORTANT NOTE: Before use, recalibrate application equipment.

Read NOTICE before buying or using. If notice terms are not acceptable, return at once unopened.

Gowan Company
L.L.C
P.O. Box
5569
Yuma, AZ 85366-
5569
1-800-960-4318

NOTE: Populations of green foxtail tolerant to trifluralin have developed in a number of fields in Western Canada which have a long history of repeated trifluralin use. Trifluralin or ethalfluralin containing products (e.g., TREFLAN® MICROACTIV HERBICIDE, FORTRESS® MICROACTIV HERBICIDE, and EDGE® MICROACTIV HERBICIDE) will not control trifluralin-tolerant green foxtail. To delay selection or reduce the spread of trifluralin-tolerant green foxtail, avoid use of these products repeatedly in the same field, or use a separate non-trifluralin herbicide application for control of trifluralin-tolerant green foxtail.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

MAY CAUSE SKIN AND EYE IRRITATION. MAY BE HARMFUL IF SWALLOWED. Wash thoroughly after handling.

Do not take internally.

Do not get in eyes or on skin or on clothing. Launder clothes before reuse.

Wear chemical-resistant coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, chemical-resistant footwear, and a respirator with a NIOSH-approved organic-vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH-approved canister approved for pesticides during mixing loading, clean-up and repair.

For application using ground equipment: Wear chemical-resistant coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical-resistant footwear. Chemical-resistant coveralls, footwear and gloves are not required during application within a closed cab.

For application using aerial equipment: Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Gloves are not required during application within a closed cockpit.

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Restricted-Entry Interval

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

POTENTIAL SKIN SENSITIZER

ENVIRONMENTAL PRECAUTIONS:

Toxic to aquatic organisms

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.

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.

To minimize the release of triallate and trifluralin into the environment due to volatilization, triallate and trifluralin should only be applied when soil temperatures are 4°C or less. To further reduce volatilization to the atmosphere, incorporation into the soil should occur concurrently with application.

CAUTION: Do not graze the treated crops or cut for hay; there are insufficient data available to support such uses.

FIRST AID

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

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

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

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

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

For medical emergencies involving this product, call 1-888-478-0798.

TOXICOLOGICAL INFORMATION

Treat symptomatically.

STORAGE

Keep Fortress Microactiv Herbicide bag closed to prevent spills and contamination.

Store this product away from food or feed.

DISPOSAL

DO NOT reuse this container for any purpose. Thoroughly empty contents of the container into the application device. Make the empty container unsuitable for further use. Dispose of the container in accordance with provincial/territorial requirements.

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

NOTICE TO USER

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

BOOKLET

GROUP	3	15	HERBICIDES
-------	---	----	------------

FORTRESS® MICROACTIV HERBICIDE

A selective granular herbicide for pre-plant weed control in cereals, oilseed and pulse crops

ACTIVE INGREDIENTS:

TRIALATE – 10%

TRIFLURALIN – 4%

POTENTIAL SKIN SENSITIZER

READ THE LABEL AND ATTACHED BOOKLET BEFORE

USING AGRICULTURAL

COMPLETE DIRECTIONS FOR USE

REGISTRATION NO. 19521 PEST CONTROL PRODUCTS

ACT NET CONTENTS: 22.7 - 454 kg

IMPORTANT NOTE: Before use, recalibrate application equipment.

Read NOTICE before buying or using. If notice terms are not acceptable, return at once unopened.

Gowan Company
L.L.C
P.O. Box
5569
Yuma, AZ 85366-
5569
1-800-960-4318

NOTE: Populations of green foxtail tolerant to trifluralin have developed in a number of fields in Western Canada which have a long history of repeated trifluralin use. Trifluralin or ethalfluralin containing products (e.g. TREFLAN® MICROACTIV HERBICIDE, FORTRESS® MICROACTIV HERBICIDE, and EDGE® MICROACTIV HERBICIDE) will not control trifluralin-tolerant green foxtail. To delay selection or reduce the spread of trifluralin-tolerant green foxtail, avoid use of these products repeatedly in the same field, or use a separate non-trifluralin herbicide application for control of trifluralin-tolerant green foxtail.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN.

MAY CAUSE SKIN AND EYE IRRITATION. MAY BE HARMFUL IF SWALLOWED. Wash thoroughly after handling.

Do not take internally.

Do not get in eyes or on skin or on clothing. Launder clothes before reuse.

Wear chemical-resistant coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, chemical-resistant footwear, and a respirator with a NIOSH-approved organic-vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH-approved canister approved for pesticides during mixing loading, clean-up and repair.

For application using ground equipment: Wear chemical-resistant coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks and chemical-resistant footwear. Chemical-resistant coveralls, footwear and gloves are not required during application within a closed cab.

For application using aerial equipment: Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes. Gloves are not required during application within a closed cockpit.

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. The pilot is allowed to load premixed chemicals with a closed system.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Restricted-Entry Interval

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

POTENTIAL SKIN SENSITIZER

ENVIRONMENTAL PRECAUTIONS:

Toxic to aquatic organisms.

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 of 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.

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.

To minimize the release of triallate and trifluralin into the environment due to volatilization, triallate and trifluralin should only be applied when soil temperatures are 4°C or less. To further reduce volatilization to the atmosphere, incorporation into the soil should occur concurrently with application.

CAUTION: Do not graze the treated crops or cut for hay; there are insufficient data available to support such uses.

FIRST AID

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

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

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

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

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

For medical emergencies involving this product, call 1-888-478-0798.

TOXICOLOGICAL INFORMATION

Treat symptomatically.

GENERAL INFORMATION

Fortress® MicroActiv® Herbicide is a pre-plant herbicide to provide long-lasting control of wild oats and wild millet (green and yellow foxtail) and suppression of selective broadleaf

weeds. Fortress MicroActiv Herbicide acts on susceptible seeds in the treated layer as they germinate. Fortress MicroActiv Herbicide does not control established weeds.

Application equipment must be properly calibrated. Application of an excessive rate of granular Fortress Microactiv Herbicide may injure the crop, whereas application of too low a rate may result in poor weed control. Application to a field which is wet, lumpy, rough or ridged may result in over or under application across the field that could cause reduced weed control where rate is too low or promote crop thinning where rate is too high.

When using granular Fortress Microactiv Herbicide, an untreated strip should be left for proof of results. Wild oat control may be evaluated by removing a surface 2.5 to 5 cm of soil at the time of germination to inspect the number of wild oats that were killed before emergence. This product is primarily absorbed by wild oat shoots from the treated layer of the soil. Wild oats are usually controlled before they emerge through the soil. Occasionally, and particularly under dry conditions and/or cool soil temperatures, some wild oats may emerge and reach the 3 to 4 leaf stage before dying. Wild Millet seedlings will generally be controlled as they germinate.

Rainfall of at least 1.5 cm within 2 weeks after seeding in the spring is required to ensure maximum performance.

Under conditions of prolonged cool soil temperatures at the time of germination, or extreme drought in spring, this product may not maintain the usual high standard of weed control.

Weeds Controlled:

- Wild oat
- Wild millet (green and yellow foxtail)

Weeds Suppressed*:

- Lamb's Quarters
- Kochia
- Redroot Pigweed
- Russian Thistle
- Wild Buckwheat

*Suppression is a visual reduction in weed competition (reduced population and/or vigour) as compared to an untreated area. Competition by weeds listed as suppressed that remain in a crop will vary depending upon factors such as crop competition, the number of weed seeds in the soil and the time of weed emergence relative to crop emergence.

Crops Registered:

- Spring Wheat (including durum)
- Spring Barley
- Canola (rapeseed)
- Mustard
- Flax (not including low linolenic acid varieties)
- Lentils (fall application only)
- Field Peas

Other crops should not be treated with this product as injury may occur.

This product should be applied according to the recommendations on this label. See the

"Directions For Use" section for additional information.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, Fortress Microactiv Herbicide is both a Group 3 and a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to Fortress Microactiv Herbicide and other Group 3 or Group 15 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

- ✓ Where possible, rotate the use of Fortress Microactiv Herbicide or other Group 3 or Group 15 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
- ✓ Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- ✓ Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- ✓ Monitor treated weed populations after herbicide application for signs of resistance development (for example, only on weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group.
- ✓ Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- ✓ Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options
- ✓ Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- ✓ For further information or to report suspected resistance, contact Gowan Company at 1-800-960-4318 or at www.gowanco.com.

HOW TO CALIBRATE APPLICATION EQUIPMENT

Granular Fortress Microactiv Herbicide must be applied through a ground broadcast applicator such as a grass seed attachment or a specially designed ground broadcast applicator. This product can also be applied by an airplane capable of applying small quantities of granules evenly.

GROUND EQUIPMENT: It is important that the applicator be calibrated properly to deliver the desired amount of this product to avoid applying too little or too much material. To give even distribution, scatter plates (similar to those used for applying granules in band) must be attached to each delivery tube or outlet in such a manner to give overall coverage. To calibrate, attach cloth or strong plastic bag over each spreader plate or delivery tube. Operate over normal terrain to be treated at 6 to 8 km/h. Collect the granules from all outlets after covering the desired distance.

For example: If a 4.25 m applicator is being used, stake off a distance of 200 m in the field to be treated. After attaching a bag to each outlet, collect the granules while driving the distance. Check to see that each outlet disperses the same amount of granules. Combine all samples and weigh. For the above set of conditions, the quantities of granules that should be collected for the following recommended rates for broadcast treatment are:

Recommended Rate

Amount to be collected	11 kg/ha	14 kg/ha	17 kg/ha
	0.9 kg	1.2 kg	1.5 kg

If more or less than the desired quantity is collected adjust opening accordingly and again collect the granules while driving the staked off distance. Continue this procedure until the proper amount is delivered.

To calibrate applicators using air pressure to disperse the granules, follow directions as outlined by the manufacturer.

DIRECTIONS FOR USE

DO NOT apply more than one application per year.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift.

Discard clothing or other absorbent materials that have been heavily contaminated with the product. DO NOT reuse them.

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

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

This product can be applied prior to the seeding of Spring and Durum wheat, spring barley, rapeseed (including canola), mustard, flax (not including low linolenic acid varieties), lentil, and field pea.

DIRECTIONS FOR USE - AERIAL APPLICATION

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices, or equivalent electronic positioning systems (GPS).

GRANULAR FORTRESS MICROACTIV HERBICIDE RATES (kg/ha)					
Crop	Less than 2% OM	2-4% OM	4-6% OM	6-8% OM	Greater than 8% OM
Wheat (Spring and Durum)	-	11	14	14	17
Spring Barley	11	14	14	17	17
Rapeseed, (including Canola) Flax**, Mustard	14	14	14	17	17

** **DO NOT** use on low linolenic acid varieties of flax OM = Organic Matter

Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even target coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual*, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides.

Do not apply to any body of water. Avoid drifting of granules onto any body of water or other non-target areas.

Do not apply during periods of dead calm or when wind velocity and direction pose a risk of drift. Do not spread when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call Gowan Company at 1-800-960-4318 or obtain technical advice from the distributor or your provincial agricultural representative.

For aerial applications, attachments designed for applying low volumes of granules must be used. Appropriate modifications should be made to equipment to ensure precise application. It is also necessary to properly calibrate equipment to ensure uniformity of application and proper rate.

DIRECTIONS FOR USE – CONVENTIONAL TILLAGE SYSTEMS

FAILURE TO FOLLOW LABEL INSTRUCTION MAY RESULT IN ERRATIC WEED CONTROL OR CROP DAMAGE. USUAL OR STANDARD SEEDING PRACTICES MAY NOT SUFFICE. READ ALL DIRECTIONS CAREFULLY BEFORE APPLYING.

Land Preparation

If existing weed growth is too heavy to allow uniform application and incorporation, destroy established weeds by cultivation or a pre-seed burn-down using glyphosate (or alternate registered herbicide) before application of Fortress MicroActiv Herbicide. All deep tillage must be completed prior to application of Fortress MicroActiv Herbicide. If excessive trash is present, additional tillage or other appropriate trash management practices will be necessary to reduce the trash cover to an acceptable level before application as too much trash can make uniform incorporation difficult.

Application Instructions

Fortress MicroActiv Herbicide can be applied in the fall between September 15 and prior to freeze-up, for weed control the following year, or it may be applied in the spring any time up to seeding.

Apply with a properly calibrated granular herbicide applicator that applies Fortress MicroActiv Herbicide uniformly. Avoid concentration of the material in narrow bands. Calibrate the applicator according to directions in the **How to Calibrate Equipment** section of the label. Check frequently during application to be sure equipment is operating correctly.

Apply Fortress MicroActiv Herbicide to a soil surface free of large clods and incorporate within 24 hours of application unless following the Fall Surface application directions.

Incorporation

To incorporate, work Fortress MicroActiv Herbicide into the soil in two different directions. An even uniform layer of Fortress MicroActiv Herbicide treated soil is required to obtain optimum control of germinating weed seeds. Incorporation should not exceed 5 cm depth. For more effective weed control, it is recommended that the second incorporation be delayed at least 3 days following the first incorporation. The second incorporation following a fall application could be done in the fall or in the spring. If the second incorporation is done in the spring, it may be done anytime up until crop emergence. Spring tillage following fall or spring application of Fortress MicroActiv Herbicide should be done prior to seeding when the soil is warm enough to promote germination.

- Fortress MicroActiv Herbicide should not be incorporated when the soil is crusted, lumpy or too wet for good mixing action.

- Do not incorporate this product more than 5 cm. This can be accomplished by setting the tillage equipment to work the soil not deeper than 7.5 cm to 10 cm.
- Shallow incorporation is necessary to prevent dilution of the product. Dilution of the product through the soil profile may result in decreased weed control.
- Harrowing does not provide effective incorporation if compact soil prevents penetration of harrow teeth or if trash accumulates in the harrow section or if harrows bounce.
- Avoid excessive compaction of the soil layer treated with Fortress MicroActiv Herbicide. Any operation that results in a more shallow or compacted treated layer may allow weeds to emerge. Soils are more susceptible to compaction when they are moist.

Fall Application and Incorporation

Fortress MicroActiv Herbicide can be applied in the fall after September 15 and until soil freeze-up. Applications made before September 15 may result in reduced effectiveness of the herbicide. Apply fall rates shown in the table below and incorporate as described above. The initial incorporation must be done within 24 hours of application. This product must be incorporated into the soil, using suitable tillage equipment, in order to provide weed control. Two incorporation operations at right angles to one another will provide the best distribution of this product in the soil.

GRANULAR FORTRESS MICROACTIV HERBICIDE FALL TILLAGE APPLICATION RATES (kg/ha) (Incorporated)						
Crop	Less than 2% OM	2-4% OM	4-6% OM	6-8% OM	Greater than 8% OM	Seeding Depth
Wheat (Spring and Durum)	-	11	14	14	17	6-7.5cm*
Spring Barley	11	14	14	17	17	6-7.5cm*
Lentils	11	14	17	17	17	As desired
Rapeseed, (including Canola) Flax**, Mustard	14	14	14	17	17	As desired
Field peas	14	17	22	22	22	As desired

*This seeding depth will ensure placement below the treated layer. DO NOT SEED DEEPER THAN 7.5 cm.

** Does not include low linolenic acid varieties.

OM = Organic Matter.

Fall Surface Application

Where fields are prone to water and/or wind erosion, and fall tillage is therefore undesirable, Fall Surface applications should be made when average soil temperature at the 5 cm depth is

4°C or less and within 3 weeks of soil freeze up. This situation generally occurs by October 1 across the prairies.

Apply at rates shown in the table below. Applications should be made to standing stubble, chemical fallow or summerfallow fields in a state of low soil erodibility. Avoid smooth, hard-packed soil conditions in summerfallow which may allow granules to drift.

Incorporate once in the spring and seed at right angle to the direction of incorporation. Surface applications should not be made to fields covered with snow or excessive crop residue, which will not allow granule contact with soil. Under excessively warm and/or wet conditions between application and crop emergence, control may be reduced.

For best results on heavy wild oat infestations, use the incorporated treatment only.

Soil colour may not be a precise indication of soil organic matter content. Ensure that the application rate chosen from the table below is appropriate for your soil type.

GRANULAR FORTRESS MICROACTIV HERBICIDE FALL SURFACE APPLICATION RATES (kg/ha)						
Crop	Less than 2% OM	2-4% OM	4-6% OM	6-8% OM	Greater than 8% OM	Seeding Depth
Wheat (Spring and Durum)	-	11	14	14	14	6-7.5cm*
Spring Barley	11	14	14	17	17	6-7.5cm
Rapeseed, (including Canola) Flax**, Mustard	14	14	14	17	17	As desired
Lentils	11	14	17	17	17	As desired
Field Peas	14	17	22	22	22	As desired

*This seeding depth will ensure placement below the treated layer. DO NOT SEED DEEPER THAN 7.5 cm.

** Does not include low linolenic acid varieties

OM = Organic Matter.

Spring Application and Incorporation

Fortress MicroActiv Herbicide can be applied and incorporated in the spring prior to seeding. Apply Fortress MicoActiv Herbicide as soon as there are good soil working conditions early in the spring and complete the first incorporation within 24 hours. For best results, the second incorporation should be delayed for three days, and may be done any time until crop

emergence. Under conditions of prolonged cool soil temperatures or extreme drought a longer delay may be utilized to maximize control. If a second incorporation is conducted after seeding it should be done with a harrow or other suitable tillage equipment adjusted to a depth so as not to disturb the seed. If ridging is a problem after seeding, harrowing is recommended to eliminate the ridging and ensure uniform distribution of the herbicide.

SPRING GRANULAR FORTRESSMICROACTIV HERBICIDE RATES (kg/ha)					
Crop	Application Timing	Less than 2% OM	2-4% OM	4-6% OM	Greater than 6% OM
Wheat (Spring and Durum)	Before Seeding	-	-	11	14
Spring Barley	Before Seeding	-	11	14	17
Rapeseed, (including Canola) Flax*, Mustard	Before Seeding	14	14	17	17
Field Peas	Before Seeding	17	17	22	22

* Does not include low linolenic acid varieties
OM= Organic Matter

DIRECTIONS FOR USE – DIRECT SEEDING SYSTEMS

Direct seeding is defined as seed placement into standing stubble (including chemical fallow) with minimum soil disturbance and maximum surface residue retention. Fortress MicroActiv Herbicide for weed control in direct-seeding systems is intended for use on soils which have been in a low disturbance, direct-seeding system with <30% soil disturbance for at least two consecutive years. In the year of seeding, a one pass, direct-seeding operation with minimal soil disturbance (<30%) is recommended.

Land Preparation

Straw and chaff residue management begins at harvest. Chopping, spreading and even distribution of straw and chaff residues is an effective method of straw management. Uneven distribution of crop residues may create plugging or hairpinning during the seeding operation. Poor and uneven crop emergence, cold wet soils, soil nutrient tie-up and delayed and uneven maturity may also be a result of inadequate trash management.

A preseeding burn-off herbicide treatment is required to eliminate weed competition prior to crop emergence. Refer to the appropriate labels. Fortress MicroActiv Herbicide will not control emerged weeds.

Application Instructions

Fortress MicroActiv Herbicide for weed control in direct-seeding systems is intended for use on soils which have been in a low disturbance, direct-seeding system (i.e. <30% soil disturbance) such as a zero-tillage system, for at least two consecutive years prior to application.

Apply Fortress MicroActiv Herbicide uniformly with a properly calibrated granular herbicide applicator. Avoid concentration of the herbicide in narrow bands. Calibrate the applicator according to the manufacturer's directions and check frequently during application to ensure equipment is operating correctly. A single harrow operation assists in managing straw residue to ensure good herbicide soil contact. Avoid excessive soil disturbance.

Seeding Instructions

Use direct-seeding equipment seeding at a uniform depth to ensure seed-soil contact and rapid crop emergence. Minimum soil disturbance ensures a uniform herbicide layer at the soil surface

Fall Application

Fortress MicroActiv Herbicide for weed control in direct-seeding systems may be applied in the fall between October 1 and prior to soil freeze-up for weed control the following year. Apply Fortress MicroActiv Herbicide at the fall rates shown in the table below. Use a harrow operation to manage crop residue and ensure herbicide soil contact.

DIRECT SEEDING FALL GRANULAR FORTRESS MICROACTIV HERBICIDE RATES (kg/ha) (Surface)					
Crop	Less than 2% OM	2-4% OM	4-6% OM	Greater than 6% OM	Seeding Depth
Wheat (Spring and Durum)	-	11	14	14	6-7.5cm*
Spring Barley	11	14	14	17	6-7.5cm*
Rapeseed, (including Canola) Flax**, Mustard	14	14	14	17	As desired
Lentils	-	14	17	17	As desired
Field Peas	-	17	22	22	As desired

*This seeding depth will ensure placement below the treated layer. DO NOT SEED DEEPER THAN 7.5 cm.

** Does not include low linolenic acid varieties

OM = Organic Matter.

Note: Weed control may be slightly reduced in direct seeding systems as compared to in conventional tillage systems with incorporation.

Spring Application

Fortress MicroActiv Herbicide for weed control in direct-seeding systems may be applied in the spring. Spring applications should be made at the spring application rates listed below and applied as early as field conditions permit and at least 10 days prior to seeding. The shallow harrow incorporation should be performed within 24 hours of application.

SPRING GRANULAR FORTRESSMICROACTIV HERBICIDE RATES (kg/ha)					
Crop	Application Timing	Less than 2% OM	2-4% OM	4-6% OM	Greater than 6% OM
Wheat (Spring and Durum)	Before Seeding	-	-	11	14
Spring Barley	Before Seeding	-	11	14	17
Rapeseed, (including Canola) Flax*, Mustard	Before Seeding	14	14	17	17
Field Peas	Before Seeding	17	17	22	22

NOTE

FOR THE BEST RESULTS ON SPRING APPLICATIONS, DELAY A SECOND INCORPORATION FOR AT LEAST 48 HOURS FOLLOWING THE FIRST.

Under conditions of prolonged cool soil temperatures or extreme drought a longer delay may be utilized to maximize control.

IMPORTANT SEEDING REQUIREMENTS

1. For Wheat or Barley, hoe drills and double disc press drills can be used on all soil types that are indicated in the rate charts.
2. Wheat or barley may be seeded into an application of this product using a discer seeder or air seeder, only in the Red River Valley of Manitoba in soils with greater than 4 percent organic matter. If an air seeder is used it must be equipped with a depth control device to ensure accurate seed placement, otherwise crop injury may occur.
3. Do not apply this product to soil which is to be seeded to wheat under the following conditions: in Fall to soil with less than 2 percent Organic Matter or in Spring to soil with less than 4 percent Organic Matter as indicated in the rate charts.
4. Substantial thinning in wheat and barley following treatment has been known to occur especially under conditions of heavy rainfall and/or cold weather after application and before crop emergence. THE SEED MUST BE PLACED BELOW THE GRANULAR FORTRESS MICROACTIV HERBICIDE TREATED SOIL LAYER. Thinning may reduce crop yield but in most cases it is more than offset by tillering. DO NOT SEED DEEPER THAN 7.5 cm.
5. To ensure an even crop stand, increase the usual seeding rate of wheat or barley by 10 percent, especially if soil conditions are cold or dry.

ATTENTION

Some wheat or barley injury may be noted on eroded knolls.

Under normal conditions Fortress Microactiv Herbicide carryover will not harm crops grown in rotation. As a precaution, domestic oats, sugarbeets and small-seeded annual grasses such as Timothy, Canary Seed Grass and Creeping Red Fescue should not be grown in rotation following a Fortress Microactiv Herbicide treated crop.

Do not apply Fortress Microactiv Herbicide for wheat on land which has been treated with trifluralin since June 1 of the previous year.

For additional information on this or other Gowan agricultural products, call Gowan Company at: 1-800-960-4318.

STORAGE

Store this product away from food or feed.

Keep Fortress Microactiv Herbicide bag closed to prevent spills and contamination.

DISPOSAL

DO NOT reuse this container for any purpose. Thoroughly empty contents of the container into the application device. Make the empty container unsuitable for further use. Dispose of the container in accordance with provincial/territorial requirements.

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

NOTICE TO USER

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