

1998/2003

DowElanco(TM)

Heritage\*\*

A selective granular herbicide  
for preemergence weed control in wheat in prairie provinces.

AGRICULTURAL

GUARANTEE: trifluralin.....5% w/w

REGISTRATION NO. 17243  
PEST CONTROL PRODUCTS ACT

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

CAUTION; FAILURE TO FOLLOW LABEL DIRECTIONS MAY RESULT IN ERRATIC  
WEED CONTROL AND/OR CROP INJURY.

AGRICULTURAL CHEMICAL

Do not ship or store with food, feeds, drugs or clothing.

\*\* Heritage is a registered trademark of  
A.E. McKenzie Co. Ltd.  
DowElanco Canada Inc. is a registered user.  
900-004342/00010110

Herbicide

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Herbicide

TABLE OF CONTENTS	PAGE
Precautions	1
First Aid	1
Storage	1
Disposal	2
Returnable Mini-Bulk Bags	2
Non-Returnable	2
Instructions	2
Warnings	2
Application	2

Crop Year	2
Rotational Crop	3
Weed Resistance	3
Directions for Use on Summerfallow	4
Crops Registered	4
Weeds Controlled	4
Heritage Summerfallow Application	4
Land Preparation	4
Application	5
The Fallowblend Operations	5
Spring Tillage for Seedbed Preparation	5
Seeding	5
Directions for Fall Application to Stubble or Summerfallow for Control of Wild Millet	6
Crops Registered	6
Weed Control in Crop Year	6
Recommended Rates of Heritage per Hectare (Fall Application)	6
Land Preparation	6
Application	6
Incorporation	6
Spring Tillage for Seedbed Preparation	7
Seeding	7
Directions for Spring Application to Stubble or Summerfallow for Control of Wild Millet (Green Foxtail) in Wheat	7
Crops Registered	7
Weed Control in Crop Year	7
Recommended Rates of Heritage per Hectare (Spring Application)	8
Land Preparation	8
Application	8
Incorporation	8
Seedbed Preparation	8
Notice to User	9
Notice to Buyer	9

#### PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN

AVOID CONTACT WITH SKIN, EYES OR CLOTHING

AVOID CONTAMINATION OF FOODSTUFFS, FEED AND FISH PONDS

#### FIRST AID:

If swallowed: contact physician if swallowed. Induce vomiting by tickling the back of the throat with a finger or blunt object.

If necessary, give syrup of ipecac at dose of 15 mL to children 1 to 5 years and 15 to 30 mL to older children and adults. Then give at least 300 mL of water to children and 720 mL to adults.

If in eyes: Flush with water. Get medical attention or contact a poison control centre.

If on skin: flush with water.

For further information consult the Material Safety Data Sheet.

#### AGRICULTURAL CHEMICAL

Do not ship or store with food, feeds, drugs or clothing.

**STORAGE:** Store in areas not exposed to high temperatures, prolonged direct sunlight, or moisture. Do not let product remain in the granular applicators under these conditions. After filling the granular applicator, close the lid immediately to avoid prolonged exposure to direct sunlight.

#### DISPOSAL:

**RETURNABLE MINI-BULK BAGS:** Empty bag thoroughly into applicator hopper. Undamaged RETURNABLE containers can be returned to point of purchase. Make any damaged RETURNABLE empty containers unsuitable for further use. Dispose of the empty containers in accordance with Provincial requirements. For information on the disposal of unused, unwanted product and the cleanup of spills, contact the provincial regulatory agency or the manufacturer.

**NON-RETURNABLE:** Empty bag thoroughly into applicator hopper. Make the empty containers unsuitable for further use. Dispose of the empty containers in accordance with Provincial requirements. For information on the disposal of unused, unwanted product and the cleanup of spills, contact the provincial regulatory agency or the manufacturer.

**INSTRUCTIONS:** 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.

#### WARNINGS:

#### APPLICATION

Do not apply Heritage to peat or muck soils, or soils which contain more than 8% organic matter. Do not apply to fields spread with manure within the last 12 months. After this period, ensure the manure has been thoroughly disintegrated and mixed into the soil to a depth of 10-15 cm.

If the swath or stubble is removed by burning, cultivate once to remove the charcoal layer from the soil surface prior to Heritage application. Application to soils subject to prolonged periods of flooding may result in accelerated herbicide breakdown. Additionally, application to wet soils or soils in poor working condition could result in reduced weed control. See Land Preparation section of this label for further precautions.

Do not apply to soils with less than 1% organic matter. Application to eroded knolls or grey-wooded soils with highly

variable texture or organic matter may result in reduced crop stand, delayed development or reduced yields in either the treated crop or rotational crop.

Apply uniformly at the recommended rates. Over-application caused by overlapping, improper calibration, or uneven application, may reduce crop stands in the treated crop or rotational crop.

DO NOT APPLY BY AIR.

To avoid potential injury to future wheat rotational crops, growers should avoid applying Trifluralin and/or Ethalfluralin on the same land at an oilseed/special crop/barley rate for 2 consecutive crops.

CROP YEAR: Applied and incorporated according to directions, Heritage will not harm the treated crop. However, seedling disease, cold weather, deep planting, excessive moisture, high salt concentration, soil compaction, or drought may weaken crop seedlings and increase the risk of injury, which may result in delayed crop development or reduced yields.

To reduce the possibility of injury to the treated crop, use good quality certified seed. Seed shallow into a warm, moist firm seedbed using recommended agronomic practices which will promote rapid and even crop germination and emergence.

Each crop has a specific seeding depth requirement, and seeding deeper than recommended can increase the potential risk of damage to the seedling. Refer to industry or government extension published documents which outline recommended seeding practices/depths for each crop.

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

ROTATIONAL CROP: Applied and incorporated according to label directions, Heritage will not harm rotational crops. However, seedling disease, cold weather deep planting, excessive moisture, high salt concentrations, soil compaction or drought may weaken seedlings and increase the risk of injury, which may result in delayed crop development or reduced yields.

As a precaution, oats, sugarbeets and small-seeded grasses such as timothy, canaryseed grass and creeping red fescue should not be grown in rotation following a crop treated with Heritage.

The persistence of Heritage is influenced by soil moisture, and the majority of breakdown occurs during the growing season. If drought or extended dry periods were present in the previous year, higher levels of Heritage may be present in the soil. To reduce the possibility of injury to rotational crops, seed shallow into a warm moist seedbed using recommended agronomic

practices and seeding depths. As an additional safety precaution seeding rate may be increased slightly. (10%)

Do not seed wheat as a rotational crop on land if Trifluralin and/or Ethalfluralin has been used at an oilseed/special crop/barley rate for two consecutive crops.

Do not direct seed (zero till) a rotational crop into standing stubble on land that has been treated with Trifluralin or Ethalfluralin for the previous crop. A cultivation prior to seeding of the rotational crop is strongly recommended to help aerate the soil, and promote seedbed conditions which will enhance seed germination.

When seeding a rotational crop, use good quality certified seed. Seed shallow into a warm, moist firm seedbed using recommended agronomic practices which will promote rapid and even crop germination and emergence. Avoid deep seeding, loose seedbeds, and seeding into cold soils.

Each crop has a specific seeding depth requirement, and seeding deeper than recommended can increase the potential risk of damage to the seedling. Refer to industry or government extension published documents which outline recommended seeding practices/depths for each crop.

**WEED RESISTANCE:** Populations of green foxtail tolerant to trifluralin have developed in a number of fields in Western Canada which have had a long history of repeated trifluralin use. Trifluralin or ethalfluralin containing products (ie. Advance\* 10G, Treflan\*, Heritage, Triflurex, Rival, Fortress, and Edge\*) will not control trifluralin tolerant green foxtail. To delay selection or reduce the spread of trifluralin tolerant green foxtail, avoid the use of these products repeatedly in the same field, or use a separate herbicide application for control of trifluralin tolerant green foxtail. As a preventative measure, DowElanco strongly recommends rotating the use of herbicides that have different modes of action. Consult provincial extension personnel for more information.

**DIRECTIONS FOR USE ON SUMMERFALLOW:** Heritage is a preemergence herbicide which is blended (mixed into the soil) to provide control of several annual grasses and annual broadleaf weeds during both years of the summerfallow-wheat rotation. HERITAGE CONTROLS SUSCEPTIBLE WEEDS BY KILLING SEEDLINGS AS THEY GERMINATE. It will not control established weeds.

**CROPS REGISTERED:**  
Spring Wheat (includes Semi-Dwarf)  
Durum Wheat

WEEDS CONTROLLED:

Fallow Year

Crop Year

Wild Millet (Green Foxtail)+	Wild Millet (Green Foxtail)+
Wild Oats	Lamb's-quarters
Persian Darnel	Wild Oats++
Barnyard Grass	Wild Buckwheat+++
Wild Buckwheat	Cow Cockle
Lamb's-quarters	Redroot Pigweed
Russian Thistle	

- + Heritage will not control trifluralin tolerant Green Foxtail. See specific recommendations in WARNING section of this label.
- ++ Control of Wild Oats in the crop year may be variable depending on Wild Oat population as well as soil and climatic conditions.
- +++ Some Wild Buckwheat may escape the herbicidal action of Heritage but its growth will be retarded and result in limited competition to the wheat.

NOTE: During the fallow year, susceptible weeds may not be fully controlled until after the second Fallowblend\* operation has established a uniform layer of soil treated with Heritage. During the crop year, Heritage will provide commercially acceptable control of weeds as specified above.

HERITAGE SUMMERFALLOW APPLICATION

RECOMMENDED RATES (KG PER HECTARE) BROWN SOIL ZONE

Date of Application	RATE BASED ON % ORGANIC MATTER (O.M.)	
	1-3% O.M.	4-8% O.M.
May	19 kg	22 kg
June	16 kg	19 kg
July	13 kg	16 kg

LAND PREPARATION: By reducing the number of fallow workings in a season, a greater trash cover is retained which reduces wind erosion and evaporation. The greatest reduction in the number of necessary fallow cultivations in a season may be obtained by applying Heritage just prior to the first spring fallow working.

Heritage may be applied to standing or pre-worked stubble, provided trash is not so heavy as to prevent soil mixing. Heritage may be applied over top of moderate green growth (not affecting soil mixing). If green growth is heavy (interfering

with soil mixing), destroy existing growth before application of Heritage either by cultivation or with the application of a recommended herbicide.

**APPLICATION:** Application of Heritage to summerfallow fields will provide weed control during both years of the summerfallow-wheat rotation. Apply with a properly calibrated granular herbicide applicator that will apply Heritage uniformly.

Calibrate the applicator according to manufacturer's directions and check frequently during application to ensure equipment is working properly. Avoid concentration of the material in narrow bands or strips. Apply Heritage to soil surface and Fallowblend in the same operation if possible (see below for Fallowblend details). Ensure that large clods are broken. When applied as directed, Heritage will not injure wheat grown in rotation after summerfallow; however, an over application caused by overlapping, improper calibration or non-uniform application, may result in reduced crop stand, delayed development or reduced yields.

**THE FALLOWBLEND OPERATIONS:** To Fallowblend, mix Heritage into the soil in two different directions using a field cultivator, deep tillage cultivator, or a disc implement operated at 8-10 km/hr. The first Fallowblend operation must be done within 24 hours of application and the second working should be done no sooner than one week after application. Subsequent workings may be done whenever necessary to destroy resistant weed growth during the remainder of the fallow year. For the first two Fallowblend operations the equipment should be set to work 5-8 cm deep. Subsequent workings should be no deeper than 8 cm.

After completing the two Fallowblend operations, additional operations with a rod weeder or shallow tillage may be required to control resistant weed growth and more uniformly blend Heritage into the soil. These additional cultivations should be as shallow as possible to minimize surface trash burial and evaporation.

Heritage should not be blended with a cultivator when the soil is crusted, lumpy or too wet for good mixing action.

Blending with implements set to cut deeper than 8 cm may result in erratic weed control and crop injury.

**SPRING TILLAGE FOR SEEDBED PREPARATION:** Seedbed preparation should be done using a field cultivator set to cut 5 cm deep (no deeper than the Fallowblend operation), when the soil is warm enough to promote good germination. Avoid transplanting weed seedlings; seed into a weed-free seedbed using a double disc drill or hoe drill set to seed 3 to 6 cm deep.

If a discer or air seeder is used for seeding, separate spring tillage may not be necessary. The discer or air seeder should be set to place seed 3-6 cm deep and the seedbed should be firmly

packed or harrowed after seeding to promote good germination.

SEEDING: To reduce the risk of wheat injury, use quality seed and agronomic practices which will promote good growing conditions - avoid deep seeding, loose seedbeds, and seeding into cold soils. When seeding semi-dwarf wheat, special care should be taken to ensure shallow seeding. Check local recommendations for proper seeding depth.

DIRECTIONS FOR FALL APPLICATION TO STUBBLE OR SUMMERFALLOW FOR CONTROL OF WILD MILLET:

CROPS REGISTERED:

Spring Wheat (includes Semi-Dwarf)  
Durum Wheat

WEED CONTROL IN CROP YEAR:

Wild Millet (Green Foxtail)+

During the crop year, Heritage will provide commercially acceptable control of wild millet (green foxtail).

+ Heritage will not control trifluralin tolerant Green Foxtail. See specific recommendations in WARNING section of this label.

RECOMMENDED RATES OF HERITAGE PER HECTARE  
(FALL APPLICATION)

Date of Application	% Organic Matter	Rate/ hectare
September 1 to freeze-up	2-8%	11 kg

CAUTION: Do not apply Heritage on stubble in the fall for wheat when the crop harvested in the current calendar year was treated with either: Advance 10G, Treflan, Heritage (or other trifluralin products), or Edge (ethalfluralin). This includes applications made in the previous year.

LAND PREPARATION: Heritage may be fall applied to summerfallow, and to standing or pre-worked stubble, provided trash is not so heavy as to prevent soil mixing due to plugging of the implement. Heritage may be applied over top of moderate green growth (not affecting soil mixing). If green growth is heavy (interfering with soil mixing), destroy existing growth before application of Heritage either by cultivation or with the application of a recommended herbicide. If the swath is removed by burning, cultivate once to remove charcoal layer prior to Heritage application.



APPLICATION: Heritage can be applied in the fall between September 1 and prior to soil freeze-up for wild millet control the following year. Apply with a properly calibrated granular herbicide applicator that will apply the granules uniformly. Calibrate the applicator according to manufacturer's directions and check frequently during application to ensure the equipment is working properly. Avoid concentration of the material in narrow bands or strips. Apply Heritage to the soil surface and incorporate in the same operation if possible. Ensure that large clods are broken. Do not delay incorporation more than 24 hours after application. When applied as directed, Heritage will not harm crops that follow in rotation; however, an over application caused by overlapping, improper calibration, non-uniform application, etc., may reduce stands of crops that follow in rotation.

INCORPORATION: To incorporate, blend Heritage into the soil in two different directions using a field cultivator, deep tillage cultivator or disc implement operated at 8-10 km/hr and set to work 5-8 cm deep. The second working should be done in a cross direction at the same depth.

There are two options for fall application of fall-applied Heritage:

1. Two incorporations may be completed in the fall, provided that the second working is delayed at least 3 days after the first working. This allows time for greater release of Heritage onto the soil particles and assures more uniform distribution in the soil. The second blending should be performed in a cross direction to the first and at the same depth. Following two fall incorporations, the field will have to be shallowly tilled in the spring to prepare a good seedbed.
2. To conserve trash cover throughout the winter, one incorporation may be completed in the fall followed by the second incorporation in the spring at the time of seedbed preparation. (See SPRING TILLAGE RECOMMENDATIONS.)

Either option will result in satisfactory weed control provided that all label instructions on application, incorporation, and spring tillage are followed.

Heritage should not be incorporated with a field cultivator when the soil is crusted, lumpy, or too wet for good mixing action.

Incorporation with implements set to cut less than 5 cm deep or more than 8 cm deep may result in erratic weed control or crop damage.

Rod weeders, harrows, or hoe drills, will not properly incorporate Heritage.

SPRING TILLAGE FOR SEEDBED PREPARATION: All spring tillage

following fall application of Heritage should be done when the soil is warm enough to promote germination.

When only one blending is completed in the fall to conserve trash cover; the spring tillage should be done at an angle or cross direction to the fall blending with the implement operated at a 5-8 cm depth.

When both blendings are completed in the fall, shallow spring tillage (no deeper than fall blending) should be completed with a cultivator or disc implement.

Avoid transplanting weed seedlings.

SEEDING: Seed into a firm, moist, weed-free seedbed using a double disc press drill or hoe drill set to seed 3-6 cm deep.

If a discer or air seeder is used for seeding, separate spring tillage may not be necessary. However, care must be exercised, such that the discer or air seeder is set to uniformly place the seed 3-6 cm deep and the seedbed should be firmly packed or harrowed after seeding to promote good germination.

To reduce the risk of wheat injury, use quality seed and agronomic practices which will promote good growing conditions - avoid deep seeding, loose seedbeds, and seeding into cold soils.

When seeding semi-dwarf wheat, special care should be taken to ensure shallow seeding. Check local recommendations for proper seeding depth.

DIRECTIONS FOR SPRING APPLICATION TO STUBBLE OR SUMMERFALLOW FOR CONTROL OF WILD MILLET (GREEN FOXTAIL) IN WHEAT

CROPS REGISTERED:

Spring Wheat (includes Semi-Dwarf)

Durum Wheat

WEED CONTROL IN CROP YEAR

Wild Millet (Green Foxtail+)

Apply Heritage in the spring as a preplant incorporated treatment for the control of wild millet (green foxtail).

+ Heritage will not control trifluralin tolerant Green Foxtail. See specific recommendations in WARNING section of this label.

RECOMMENDED RATES OF HERITAGE PER HECTARE  
(SPRING APPLICATION)

Date of Application	% Organic Matter	Rate/ hectare
Spring (April-May only)	2-6%	11 kg

CAUTION: Do not apply Heritage on stubble in the spring for wheat when the crop harvested the previous year was treated with either Advance 10G, Treflan, Heritage (or other trifluralin products) or Edge (ethalfluralin). This includes applications made in the previous year.

LAND PREPARATION: Heritage may be spring applied to summerfallow, and to standing or pre-worked stubble, provided trash is not so heavy as to prevent soil mixing due to plugging of the implement. Heritage may be applied over top of moderate green growth (not affecting soil mixing). If green growth is heavy (interfering with soil mixing), destroy existing growth before application of Heritage either by cultivation or with the application of a recommended herbicide. If the swath is removed by burning, cultivate once to remove charcoal layer prior to Heritage application.

APPLICATION: Heritage can be applied in the spring between April 15th to the end of May, for wild millet control in the current wheat crop. Apply with a properly calibrated granular herbicide applicator that will apply the granules uniformly. Calibrate the applicator according to manufacturer's directions and check frequently during application to ensure the equipment is working properly. Avoid concentration of the material in narrow bands or strips. Apply Heritage to the soil surface and incorporate in the same operation if possible. Ensure that large clods are broken. Do not delay first incorporation more than 24 hours after application.

INCORPORATION: Incorporate Heritage into the soil in two different directions using a field cultivator, deep tillage cultivator or disc implement operated at 8-10 km per hour and set to work 5-8 cm deep. The first incorporation should occur within 24 hours after application. Incorporate a second time before planting to destroy existing weed growth and insure uniform distribution of Heritage in treated soil. **The second incorporation must be delayed for a minimum of three days following the first incorporation** and can be completed any time prior to planting. To avoid bringing untreated soil to the surface, the second incorporation should not be deeper than the first.

NOTE: When Heritage is applied in April to cold soils, allow at

least 14 days between first and second incorporation. This delay will promote soil warming prior to seeding.

SEEDBED PREPARATION: Seed into a firm, moist weed-free seedbed using a double disc press drill or hoe drill set to 3-6 cm deep.

If a discer or air seeder is used for seeding, this seeding operation can replace the second incorporation. However, care must be exercised, such that the discer or air seeder is set to uniformly place the seed 3-6 cm deep and the seedbed should be firmly packed or harrowed after seeding to promote good seed germination.

Seeding into cold soils may slow wheat emergence and result in increased risk of crop injury. Allow soil to warm before seeding. Follow good agronomic practices to promote rapid, uniform crop emergence. Use quality seed. Avoid deep seeding and loose seedbeds. When seeding semi-dwarf wheat, special care should be taken to ensure shallow seeding. Check local recommendations for proper seeding depth.

NOTICE TO USER: This control product is to be used only in accordance with the directions on this label. It is an offense under the Pest Control Products Act to use a control product under unsafe conditions.

NOTICE TO BUYER: Sellers guarantee shall be limited to the terms set out on the label and, subject thereto, the buyer assumes risk to persons or property arising from the use or handling of this product and accepts the product on that condition.

1 Triflurex is a registered trademark of Makhteshim-Agan of North America Inc.

2 Rival is a Registered trademark of AgrEvo Canada Inc.

3 Fortress is a registered trademark of Monsanto Canada Inc.

\* Advance 10G, Treflan, Edge and Fallowblend are registered trademarks of DowElanco.

\*\* Heritage is a registered trademark of A.E. McKenzie Co. Ltd. DowElanco Canada Inc. is a registered user.

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