

# MANITOU™ DF

Herbicide

FOR CONTROL OF CERTAIN GRASSES AND BROADLEAF WEEDS

**ACTIVE INGREDIENT:**

Metribuzin: 4-Amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-5(4H)-one.....

**% BY WEIGHT**

75.0%

**OTHER INGREDIENTS:**

25.0%

**TOTAL:**.....

100.0%

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**FIRST AID**

**IF SWALLOWED:** Call a poison control center 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 center 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 center or doctor for 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 center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.

**NOTE TO PHYSICIAN:** Treat patient symptomatically.

EPA Reg. No.: 89168-30-91395



**Distributed By:**  
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Loveland, CO 80538

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

May be harmful if swallowed or absorbed through skin. Causes moderate eye irritation.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical resistant Category Selection Chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made out of any waterproof material
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Do not contaminate feed or food. Keep out of reach of children.

Obtain prompt medical aid if poisoning should occur.

**Symptoms of Poisoning:** The compound does not cause any definite symptoms that would be diagnostic. Poisoning is accompanied by breathing difficulties and sedation.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water, or to areas where surface water is present, or to inter-tidal areas below the mean high water mark. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment wash waters or rinsate.

**GROUND WATER ADVISORY**

Metribuzin is a chemical which can travel (seep or leach) through soil and can contaminate ground water which may be used as drinking water. Metribuzin has been found in ground water as a result of agricultural use. Users are advised not to apply Metribuzin where the water table (ground water) is close to the surface and where the soils are very permeable, i.e., well-drained soils such as loamy sands. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

**Exception:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Applicators and other handlers must use chemical-resistant gloves such as butyl rubber, or nitrile rubber, or neoprene rubber, or natural rubber
- Shoes plus socks

**NON-AGRICULTURAL REQUIREMENTS**

Do not enter or allow others to enter the treated area until sprays have dried. If soil incorporation is required following the application, do not enter or allow others to enter the treated area (except those persons involved in the incorporation) until the incorporation is complete. If the incorporation is accomplished by watering-in, do not enter or allow others to enter the treated area until the surface is dry following the watering-in.

**Engineering Controls:** When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS."

**IMPORTANT:** Read these entire Directions and Conditions of Sale before using MANITOU DF.

## PRODUCT INFORMATION MIXING

When using MANITOU DF make sure the sprayer is completely clean, free of rust or corrosion which occurs from winter storage. Examine strainers and screens to be sure the sprayer is clean from previously used pesticides.

Any tank mixes containing MANITOU DF should be kept agitated and sprayed out immediately. Do not allow tank mixes to stand for prolonged periods of time.

The proper mixing procedure for MANITOU DF alone or in tank mix combinations with other herbicides is:

1. Fill the spray tank  $\frac{1}{4}$  to  $\frac{1}{3}$  full with clean water.
2. Add labeled rate of MANITOU DF while recirculating and with agitator running.
3. Follow the triple rinse procedure described under STORAGE AND DISPOSAL to insure that all product is removed from the container.
4. Mix thoroughly and add clean water to fill spray tank to desired level.
5. Add the other herbicide to tank last and agitate thoroughly.
6. Continue agitation during application and until sprayer tank is empty.

When an adjuvant is to be used with this product, ALTITUDE CROP INNOVATIONS, LLC, suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

## SOIL TEXTURE

As used on this label, **coarse soils** are loamy sand or sandy loam soils. **Medium soils** are loam, silt loam, silt, sandy clay, or sandy clay loam. **Fine soils** are silty clay, silty clay loam, clay, or clay loam. Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

## RESTRICTIONS

Do not allow sprays to drift on to adjacent desirable plants.

Do not rotate any crop not listed on this label for 18 months following application of MANITOU DF.

Do not use on other crops grown for food or forage. Observe all cautions and limitations on labeling of all products used in mixtures.

## PRECAUTIONS

Apply this product only as specified on this label.

**For all uses:** Low-pressure and high-volume hand-wand equipment is prohibited.

## CHEMIGATION

MANITOU DF is labeled for application through sprinkler irrigation equipment to potatoes, soybeans, tomatoes, and asparagus as directed on this label. Refer to the crop sections of this label for labeled rates, weeds controlled or suppressed, restrictions, and special precautions.

Apply this product only through sprinkler including center pivot, lateral move, or solid set irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

**Calibration: Center Pivot and Self-Propelled Lateral Move Systems:** Sprinkler irrigation systems must be accurately calibrated for application of MANITOU DF. Greater accuracy in calibration (and distribution) will be achieved by injecting a larger volume of a more dilute mixture of product and water per hour. Follow the steps below to calibrate center pivot and lateral move systems.

1. Determine number of minutes required to make one complete revolution while applying  $\frac{1}{4}$  to  $\frac{3}{4}$  inch of water per acre.
2. With the system at operating pressure determine the exact number of minutes required to inject one gallon of water.
3. Divide the time required for one revolution (step 1) by the time required to inject one gallon (step 2). This gives total gallons of product-water mixture to be added to nurse tank.
4. Add required amount of water to nurse tank and start the agitation system. Then add sufficient MANITOU DF at the labeled rate (See RECOMMENDED BROADCAST APPLICATIONS) to the nurse tank.

**EXAMPLE:** If 20 hours (1200 minutes) were required for one revolution and if 2 minutes were required to inject one gallon, then a total of 600 gallons of product-water mixture are required ( $1200/2 = 600$ ); to treat 135 acres at  $\frac{2}{3}$  lb./acre, 90.5 lb. of MANITOU DF are required.

If you have questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers, or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Maintain continuous agitation in the injection nurse tanks during the herbicide application sufficient to keep herbicide in suspension.

Apply specified dosage in ¼ to ¾ inch of water (¼ to ½ inch of water on sandy soils) per acre as a continuous injection in center pivot and lateral move systems or in the last 15 to 30 minutes of set in permanent solid set sprinkler systems. Application of more than the quantity of irrigation water recommended on this label may result in decreased product performance by removing the chemical from the zone of effectiveness. Where sprinkler distribution patterns do not overlap sufficiently, unacceptable weed control may result. Where sprinkler distribution patterns overlap, excessive crop injury may result. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. To ensure that lines are flushed and free of remaining pesticide, an indicator dye may be injected into the lines to mark the end of the application period.

Use a minimum of 1 part water to 1 part herbicide for injection. The use of a larger volume of water will insure greater accuracy and more uniform distribution.

#### **AERIAL DRIFT REDUCTION ADVISORY INFORMATION**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.
3. Where states have more stringent regulations, they should be observed.
4. The applicator should be familiar with and take into account the information covered in the AERIAL DRIFT REDUCTION ADVISORY INFORMATION.

**INFORMATION ON DROPLET SIZE:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see WIND, TEMPERATURE AND HUMIDITY, and TEMPERATURE INVERSIONS).

#### **CONTROLLING DROPLET SIZE:**

- Volume-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure-Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles-Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation-Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type-Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**BOOM LENGTH:** For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

**APPLICATION HEIGHT:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**SWATH ADJUSTMENT:** When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.)

**WIND:** Drift potential is lowest between wind speeds of 2 to 10 mph; however, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**TEMPERATURE AND HUMIDITY:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**TEMPERATURE INVERSIONS:** Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**SENSITIVE AREAS:** MANITOU DF should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

#### **APPLICATION OF MANITOU DF WITH HERBICIDE SPRAY EQUIPMENT**

Use a standard low pressure (20 to 40 ps) herbicide boom sprayer equipped with suitable nozzles and screens no finer than 50-mesh in nozzle and in-line strainers. Agitate thoroughly before and during application with bypass agitation.

**GROUND APPLICATION:** Apply the proper rate of MANITOU DF in a minimum of 10 to 40 gallons of spray mixture per acre broadcast.

**BANDED APPLICATION:** Use proportionally less MANITOU DF per acre in a band versus a broadcast application. For band application, use ¼ to 1 gallon of spray mix per inch of band width regardless of row spacing.

**Examples:** (1) To treat a 15-inch band on rows 30 inches apart, use one-half of the broadcast rate of MANITOU DF. (2) To treat a 14-inch band on rows 42 inches apart, use one-third of the broadcast rate of MANITOU DF.

**AERIAL APPLICATION:** Where permitted, apply specified rate in a minimum of 2 to 10 gallons of spray mixture per acre. Do not apply aerially when wind speed is greater than 10 mph.  
**NOTE:** Do not apply aerially when MANITOU DF is tank mixed with Lasso®.

**For All Applications of MANITOU DF:** Sprayer must be accurately calibrated before applying MANITOU DF. Check sprayer during application to be sure it is working properly and delivering a uniform spray pattern. As the volume of spray mixture decreases per acre, the importance of accurate calibration and uniform application increases. Avoid over application, misapplication, and boom and spray swath overlapping that will increase spray dosage. (Crop injury may occur as a result.) Avoid spray skips and gaps which allow weeds to grow in untreated soil. Do not apply when weather conditions favor spray drift and/or when sensitive or cool season crops, such as cole crops, onions, peas, or strawberries are present in adjacent fields or in areas where wheat is growing in coarse-textured soils.

**SPRAYER CLEANUP:** Spray equipment must be thoroughly cleaned to remove remaining traces of herbicide that might injure other crops to be sprayed. Drain any remaining spray solution of MANITOU DF from the spray tank and dispose of according to label disposal instructions. Rinse the spray tank and refill with water adding a heavy-duty detergent at the rate of one cup per 20 gallons of water. Recycle this mixture through the equipment for 5 minutes and spray out. Repeat this procedure twice. Fill the spray tank with clean water, recycle for 5 minutes, and spray out. Clean pump and nozzle screens thoroughly. Wash away any spray mixture from the outside of spray tank, nozzles, or spray rig. All rinse water must be disposed of in compliance with local, state, and Federal guidelines.

#### **APPLICATION OF MANITOU DF IN FLUID FERTILIZERS**

MANITOU DF may be applied in fluid fertilizer solutions to alfalfa and soybeans by following the appropriate mixing procedures and compatibility check. When using tank mix combinations, be sure all components are compatible.

Compatibility checks of MANITOU DF and tank mix combinations which include MANITOU DF should be made for each batch of fluid fertilizer because of the variability of these fertilizers.

##### **Compatibility Check:**

1. Premix 2 teaspoons of MANITOU DF with 8 teaspoons of water (1:4 ratio) in a quart jar by adding the water first and follow with MANITOU DF. Mix thoroughly. If a second herbicide is to be used, double the amount of water (1:8 ratio) and add the second herbicide after mixing MANITOU DF first.
2. Then pour 1 pint of fluid fertilizer into the quart jar and shake well.
3. Allow to stand for 5 minutes.

THIS COMPATIBILITY CHECK SHOULD ONLY BE USED WHEN MIXING WITH FLUID FERTILIZERS.

**Interpretation of Results:** If the solution in the jar appears to be uniform without signs of agglomeration or without a separation of an oily film on top of the fertilizer, the mixture may be used. If not, repeat the compatibility check using twice the amount of water or add a compatibility agent to the water. If separation occurs but the mixture can be resuspended by shaking, then application is possible with good agitation in the spray tank.

##### **Tank Mixing Guidelines:**

1. Add the required amount of water and compatibility agent (if required) to the tank. Start agitation system while adding MANITOU DF and follow by adding the fluid fertilizer and agitate.
2. If a second herbicide is to be used, follow as above in 1, but use twice the amount of water. Start agitation and add MANITOU DF and follow by adding the second herbicide and then continue filling the tank with fluid fertilizer.
3. Maintain continuous agitation to assure uniform spray mixture until the tank is emptied.

#### **COMMERCIAL IMPREGNATION AND APPLICATION OF MANITOU DF ON DRY BULK FERTILIZER**

Dry bulk fertilizer may be impregnated or coated with MANITOU DF for application to established alfalfa and to soybeans. All recommendations, restrictions, cautions, and special precautions on this label must be followed along with state regulations relating to dry bulk fertilizer blending, impregnating, and labeling.

**IMPREGNATION:** To impregnate, use a system consisting of a belt, conveyor, or closed drum which is used for dry bulk fertilizer blending. Any commonly used fertilizer can be impregnated with MANITOU DF except ammonium nitrate or fertilizers containing ammonium nitrate, potassium nitrate, or sodium nitrate. Do not use on powder limestone.

Apply using a minimum of 200 lb. dry bulk fertilizer per acre and up to a maximum of 450 lb. per acre. To impregnate or coat dry bulk fertilizer, mix MANITOU DF with sufficient water to form a sprayable slurry. The delivery nozzles must be directed to deliver a fine spray toward the fertilizer for thorough coverage while avoiding spray contact with mixing equipment. Uniform impregnation of MANITOU DF to dry bulk fertilizer will vary and if the absorptivity is not adequate, an absorptive powder may be added to produce a dry, free-flowing mixture. Micro-Cel E (Johns-Manville Product Corporation) is the recommended absorbent powder. When another herbicide is used with MANITOU DF, mix and impregnate immediately.

Apply immediately after impregnation unless experience has shown that impregnated fertilizer can be stored without becoming lumpy and difficult to spread.

**RATES:** Select the labeled rate of MANITOU DF per acre from the appropriate section of this label and refer to the formula below to determine the amount of MANITOU DF which is to be impregnated on a ton of dry bulk fertilizer based on the amount of fertilizer which will be distributed on one acre.

$$\frac{\text{Lb. MANITOU DF}}{\text{Acre}} \times \frac{2000 \text{ Lb. Fertilizer}}{\text{Acre}} = \frac{\text{Lb. MANITOU DF}}{\text{Ton of Fertilizer}}$$

**APPLICATION:** Uniform application is essential for satisfactory weed control. Accurate calibration of fertilizer application equipment is essential for uniform distribution to the soil surface. The recommended method of application is to apply ½ the labeled use rate and overlap 50 percent or to double apply by spitting the middles to obtain the best distribution pattern.

If fertilizer materials are excessively dusty, use diesel oil or other suitable additive to reduce dust prior to impregnation as dusty fertilizer will result in poor distribution during application. Crop injury and/or poor weed control may occur where the impregnated fertilizer is not uniformly applied.

**INCORPORATION AND COMBINATION USES:** When MANITOU DF is to be used in combination with another herbicide, follow directions on this label for combinations, rates, crops, incorporation, and special precautions.

**SOYBEANS (Except California)**

MANITOU DF herbicide tank mix combinations are directed for preplant incorporated applications, preemergence surface applications, Split-Shot applications, and Extended Split-Shot application. MANITOU DF is also directed as an overlay application following a preplant incorporated application of a recommended grass herbicide and alone as a preemergence surface application. All these applications can be applied with ground equipment and some can be applied with aerial spray equipment. In addition, MANITOU DF can be applied as a post-emergence directed spray to soybeans in certain states.

**SPECIAL PRECAUTIONS (Soybeans):** Injury to soybeans may occur when MANITOU DF is used under the following conditions:

1. When soils have a calcareous surface area or a pH of 7.5 or higher.
2. Due to the sensitivity of certain soybean varieties, MANITOU DF is not recommended for use on Allona, AP 55, AP 71, Asgrow 6520, Burlington, Coker 102, Coker 156, Dassel, GL 3202, Govan, Maple Amber, NB 3665, NKS 1884, Paloma 350, Portage, Regal, Semmes, Terra-Vig 505, Terra-Vig 606, Tracy, Vansoy, and Vinton 81. Consult your ALTITUDE CROP INNOVATIONS, LLC Representative or your seed supplier for information on the tolerance to MANITOU DF of newly released soybean varieties prior to use of MANITOU DF.
3. When applied in conjunction with soil-applied organic phosphate pesticides.
4. Over application of boom overlapping may result in stand loss and soil residues.
5. Uneven application or improper incorporation can decrease the level of weed control and/or increase the level of injury.
6. When applied to any soil with less than ½% organic matter.
7. Soil incorporation deeper than recommended.
8. When sprayers are not calibrated accurately.
9. When heavy rains occur soon after application, especially in poorly drained areas where water may stand for several days.
10. When soybeans are planted less than 1½ inches deep, particularly in preemergence application.

**Activation:** A minimum amount of soil moisture is required to activate MANITOU DF. In areas of low rainfall, applications to dry soil should be followed with light irrigation of ¼ acre inch of water. Do not apply heavy irrigation immediately after application. As with many surface-applied herbicides, weed control and crop tolerance may vary with rainfall and/or soil texture.

**Grazing and Feeding Treated Vines:** Treated vines may be grazed or fed to livestock 40 days after application when MANTOU DF is applied alone or with Treflan®, Dual®, Prowl®, or Lasso®.

Do not use treated vines for feed or forage when MANITOU DF is applied with Sonalan®, linuron plus Lasso, or linuron plus Dual.

**WEEDS CONTROLLED BY MANITOU DF AND MANITOU DF HERBICIDE TANK MIX COMBINATIONS**

C= Control	S= Suppression or Erratic Control				P= Poor or No Control				O= No information (Control may range from poor to excellent)										
1= MANITOU DF Alone 2= MANITOU DF Split-Shot 3= MANITOU DF plus Treflan	4= MANITOU DF plus Dual 5= MANITOU DF plus Prowl 6= MANITOU DF plus Lasso				7= Extended Split-Shot 8= MANITOU DF plus Sonalan 9= MANITOU DF plus linuron plus (Lasso or Dual)														
<b>ANNUAL BROADLEAF WEEDS</b>											<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Black Nighthshade ( <i>Solanum nigrum</i> )	P	P	P	C	P	C	C	P	S	S									
Bristly Starbur ( <i>Acanthospermum hispidum</i> )	C	C	C	C	C	C	C	C	C	C									
Buffalobur ( <i>Solanum rostratum</i> )	C	C	C	P	P	P	C	P	C	C									
Carpetweed ( <i>Mollugo verticillata</i> )	C	C	C	C	C	C	C	C	C	C									
Cocklebur ( <i>Xanthium pensylvanicum</i> )	S	C	S	S	S	S	S	S	S	S									
Copperleaf, Hophornbeam ( <i>Acalypha ostryaefolia</i> )	C	C	C	C	C	C	C	C	C	C									
Florida Beggarweed ( <i>Desmodium tortuosum</i> )	C	C	C	C	C	C	C	C	C	C									
Florida Pusley ( <i>Richardia scabra</i> )	C	C	C	C	C	C	C	C	C	C									
Galinsoga ( <i>Galinsoga spp.</i> )	C	C	C	C	C	C	C	C	C	C									
Horseweed Marestalk ( <i>Conyza canadensis</i> )	O	O	O	O	O	O	O	O	O	O									
Jimsonweed ( <i>Datura stramonium</i> )	C	C	C	C	C	C	C	C	C	C									

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1= MANITOU DF Alone 2= MANITOU DF Split-Shot 3= MANITOU DF plus Treflan	4= MANITOU DF plus Dual 5= MANITOU DF plus Prowl 6= MANITOU DF plus Lasso				7= Extended Split-Shot 8= MANITOU DF plus Sonalan 9= MANITOU DF plus linuron plus (Lasso or Dual)					
<b>ANNUAL BROADLEAF WEEDS</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	
Knotweed ( <i>Polygonum spp.</i> )	C	C	C	C	C	C	C	C	C	
Kochia ( <i>Kochia scoparia</i> )	C	C	C	C	C	C	C	C	C	
Lambsquarters ( <i>Chenopodium spp.</i> )	C	C	C	C	C	C	C	C	C	
Morningglory, Ivyleaf ( <i>Ipomoea hederacea</i> )	P	P	S	P	P	P	P	P	P	
Morningglory, Pitted ( <i>Ipomoea lacunosa</i> )	P	P	S	P	P	P	P	P	P	
Morningglory, Smallflower ( <i>Jacquemontia tamnifolia</i> )	P	P	C	P	P	P	P	P	P	
Morningglory, Tall ( <i>Ipomoea purpurea</i> )	P	P	S	P	P	P	P	P	P	
Pigweeds ( <i>Amaranthus spp.</i> )	C	C	C	C	C	C	C	C	C	
Prickly Sida/Teaweed ( <i>Sida spinosa</i> )	C	C	C	C	C	C	C	C	C	
Purslane ( <i>Portulaca oleracea</i> )	C	C	C	C	C	C	C	C	C	
Ragweed, Common ( <i>Ambrosia artemisiifolia</i> )	C	C	C	C	C	C	C	C	C	
Redweed ( <i>Melochia corchorifolia</i> )	C	C	C	C	C	C	C	C	C	
Russian Thistle ( <i>Salsola kali</i> )	C	C	C	C	C	C	C	C	C	
Sesbania ( <i>Sesbania spp.</i> )	C	C	C	C	C	C	C	C	C	
Shepherdspurse ( <i>Capsella bursa-pastoris</i> )	C	C	C	C	C	C	C	C	C	
Sicklepod ( <i>Cassia obtusifolia</i> )	C	C	S	C	S	C	C	S	S	
Smartweeds ( <i>Polygonum spp.</i> )	C	C	C	C	C	C	C	C	S	
Spotted Spurge ( <i>Euphorbia Maculata</i> )	C	C	P	C	P	C	C	P	O	
Spurred Anoda ( <i>Anoda cristata</i> )	C	C	C	C	C	C	C	C	O	
Sunflower ( <i>Helianthus spp.</i> )	C	C	S	S	S	S	C	S	P	
Velvetleaf ( <i>Abutilon theophrasti</i> )	C	C	C	C	C	C	C	C	C	
Venice Mallow ( <i>Hibiscus trionum</i> )	C	C	C	C	C	C	C	C	C	
Wild Mustard ( <i>Brassica spp.</i> )	C	C	C	C	C	C	C	C	C	

**WEEDS CONTROLLED BY MANITOU DF AND MANITOU DF HERBICIDE TANK MIX COMBINATIONS**

C= Control	S= Suppression or Erratic Control				P= Poor or No Control		O= No information (Control may range from poor to excellent)			
1= MANITOU DF Alone 2= MANITOU DF Split-Shot 3= MANITOU DF plus Treflan	4= MANITOU DF plus Dual 5= MANITOU DF plus Prowl 6= MANITOU DF plus Lasso				7= Extended Split-Shot 8= MANITOU DF plus Sonalan 9= MANITOU DF plus linuron plus (Lasso or Dual)					
<b>ANNUAL GRASSES</b>										
	1	2	3	4	5	6	7	8	9	
Barnyardgrass ( <i>Echinochloa crus-galli</i> )	S	C	C	C	C	C	C	C	C	
Bluegrass ( <i>Poa annua</i> )	C	C	C	C	C	C	C	C	C	
Broadleaf Signalgrass ( <i>Brachiaria platyphylla</i> )	C	C	C	C	C	C	C	C	O	
Browntop Millet ( <i>Panicum ramosum</i> )	C	C	C	P	C	S	C	O	O	
Crabgrass ( <i>Digitaria spp.</i> )	C	C	C	C	C	C	C	C	C	
Crowfootgrass ( <i>Dactyloctenium aegyptium</i> )	C	C	C	C	C	C	C	O	O	
Cupgrass ( <i>Echinochloa gracilis</i> )	P	C	P	P	P	P	C	O	O	
Foxtails ( <i>Setaria spp.</i> )	S	C	C	C	C	C	C	C	C	
Goosegrass ( <i>Elymus indica</i> )	C	C	C	C	C	C	C	C	C	
Johnsongrass, Seedling ( <i>Sorghum halepense</i> )	C	C	C	C	C	C	C	C	O	
Junglerice ( <i>Echinochloa colonum</i> )	C	C	C	C	C	C	C	C	O	
Nutsedge, Yellow ( <i>Cyperus esculentus</i> )	P	P	P	C	P	C	C	P	O	
Panicum, Fall ( <i>Panicum dichotomiflorum</i> )	P	C	C	C	C	C	C	C	C	
Panicum, Texas ( <i>Panicum texanum</i> )	P	C	C	P	C	S	S	C	O	
Red Rice ( <i>Oryza sativa</i> )	P	C	C	C	P	C	C	O	O	
Sandbur ( <i>Cenchrus spp.</i> )	P	C	C	P	C	S	S	O	O	
Shattercane ( <i>Sorghum bicolor</i> )	P	C	C	P	P	P	P	C	O	
Sorghum, Volunteer ( <i>Sorghum spp.</i> )	P	C	C	P	P	P	P	O	P	
Sprangletop ( <i>Leptochloa spp.</i> )	P	C	C	P	P	P	P	O	P	
Stinkgrass ( <i>Eragrostis spp.</i> )	P	C	C	P	P	P	P	O	P	
Wheat, Volunteer ( <i>Triticum spp.</i> )	P	P	P	P	P	P	P	O	P	
Witchgrass ( <i>Panicum capillare</i> )	P	C	C	C	C	C	C	C	O	

**Rate Ranges:** Where a rate range is shown, use a lower rate on soils that are coarse textured or low in organic matter. Use a higher rate on soils that are relatively fine textured or high in organic matter.

**Replanting:** If replanting is necessary in fields treated with MANITOU DF as directed on this label, the field may be replanted to soybeans. When replanting, a minimum of tillage is recommended. Do not apply a second treatment as injury to soybeans may occur.

**MANITOU DF ALONE**

**MANITOU DF (Alone) Pre-emergence Application:** The following rates of MANITOU DF may be applied preemergence to soybeans through center pivot or lateral move sprinkler irrigation systems that apply water in a uniform manner. Refer to CHEMIGATION section of this label for directions.

MANITOU DF can be applied broadcast or banded. This application may be made during planting or as a separate operation after planting but before crop emergence. See the PRODUCT INFORMATION section in the front of this label.

Do not apply to sand soils or to sandy loam or loamy sand soils containing less than 2% organic matter. Do not incorporate into soil or apply more than once per season.



**LB. OF MANITOU DF PER ACRE**

SOIL TEXTURE	ORGANIC MATTER		
	Less than 2%	2 TO 4%	Over 4%
<b>Coarse Soils</b> (Sandy loam, loamy sand)	Do not use <sup>3</sup>	½	⅔
<b>Medium Soils</b> <sup>1</sup> (Loam, silt loam, silt, sandy clay, sandy clay loam)	⅓ to ⅔	⅔ to ⅝	⅝ to 1
<b>Fine Soils</b> <sup>1</sup> (Silty clay, silty clay loam <sup>2</sup> , clay, clay loam)	⅔ to ⅝	⅝ to 1	1 to 1 ⅙
<b>Mississippi Delta Only</b>	1	1 ⅙	1 ⅓

<sup>1</sup> For control of lambsquarters, redroot pigweed and wild mustard, and for suppression of green, yellow, and giant foxtails on alkaline (calcareous) soils in Nebraska, Minnesota, South Dakota, and North Dakota only, apply MANITOU DF at rates of ⅙ lb./acre on medium soils and ⅓ to ½ lb./acre on fine soils regardless of soil organic matter percentage (use ½ lb. only where soil pH is less than 7.5 and weed pressure is heavy). The ⅓ lb./acre rate of MANITOU DF alone can be applied regardless of soil pH. For control of other weeds listed on this label use MANITOU DF at full rates directed in the table above, but note that crop injury may occur on soils having a calcareous surface area or a pH of 7.5 or higher.

<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

<sup>3</sup> Refer to the appropriate section of this label for use of MANITOU DF on soybeans in coarse soils with 0.5% or more organic matter in certain states.

**USES OF MANITOU DF HERBICIDE IN COMBINATION WITH OTHER HERBICIDES  
SEQUENTIAL APPLICATION OF SCEPTER® FOLLOWING MANITOU DF**

If needed, application of MANITOU DF alone or in a registered tank mix according to directions on this label, may be followed by an early post-emergence application of Scepter herbicide (1.5 lb./gal liquid or 70 DG) for control of cocklebur. Apply ⅙ to ⅓ pint of Scepter (0.7 to 1.4 ounces of Scepter 70 DG) in a minimum of 20 gals. of water per acre. Use ⅙ pint of Scepter (0.7 ounce of Scepter 70DG) if cocklebur are less than 3 inches tall or have fewer than 3 leaves and are actively growing. For cocklebur less than 6 inches tall and actively growing, use ⅓ pint of Scepter (1.4 ounces of Scepter 70 DG) per acre. Do not use Scepter when soybeans or cocklebur have been subjected to stress conditions such as temperature or moisture extremes. Do not exceed a total of ⅔ pint of Scepter (2.8 ounces of Scepter 70 DG) per acre in one season. Wait at least 10 days after application of Scepter before cultivating.

When preparing the spray mixture with Scepter, add 2 pts. of nonionic surfactant approved for use on growing crops and containing at least 80% active ingredient per 100 gallons of mixture. Apply crop oil concentrate (COC) at the rate specified on the COC label.

Use Scepter only in the states where it is registered as listed on the product label.

Apply Scepter at least 90 days before harvest of soybeans. Do not graze or feed soybean forage, hay, or straw to livestock.

Refer to the Scepter label for additional cautions and precautions, directions, limitations, and information on environmental hazards and planting of rotational crops.

**SPLIT-SHOT APPLICATION**

A preplant incorporated application of MANITOU DF tank mixed with either Treflan, Lasso, Dual, Prowl or Sonalan and followed by a preemergence surface application of MANITOU DF alone after planting but prior to soybean emergence will control more broadleaf and grass weeds in soybeans than when either herbicide is used alone.

Refer to the Treflan, Lasso, Dual, Prowl or Sonalan labels, and to appropriate sections of this label for directions on soil preparation, herbicide application, incorporation techniques, herbicide rates, weed species controlled, and restrictions for using tank mix combinations of MANITOU DF. Carefully observe the SPECIAL PRECAUTIONS section concerning the use of MANITOU DF in tank mix combinations on soybeans.

When a Split-Shot application of MANITOU DF with Prowl, Treflan, or Sonalan is used, the preplant incorporated tank mix may be applied up to 21 days prior to planting soybeans; with Dual or Lasso, the preplant incorporated tank mix may be applied up to 14 days prior to planting.

On medium- and fine-textured soils with greater than 2% organic matter, a rate range is labeled for the MANITOU DF preemergence overlay application. Use the higher rate (a) in fields with a history of severe broadleaf weed pressure, (b) when the time between preplant incorporated tank mix and preemergence overlay applications approaches the maximum stated above, and/or (c) when the organic matter content of the soil is at the upper end of the indicated range.

For black nightshade control, refer to the appropriate sections of the Lasso, Dual, or Sonalan labels for specific instructions.

**SPLIT-SHOT APPLICATION**

Preplant Incorporated Tank mix Application		– FOLLOWED BY –		Preemergence Overlay Application			
SOIL TEXTURE <sup>1</sup>	Rate of Combination Product/Acre	Plus	Rate of MANITOU DF lb/Acre	Rate of MANITOU DF lb./ Acre			
				ORGANIC MATTER			
				Less than 2%	2% to 4%	Over 4%	
<b>Coarse (light)</b> sand, loamy sand, sandy loam	Treflan 1 pt. -OR- Lasso 2 to 2½ qt. -OR- Dual 1¼ to 1½ pt. -OR- Prowl 1½ pt. -OR- Sonalan 1¼ to 2 pt.	Plus	½ - followed by	½	½	½ to ⅓	
<b>Medium</b> Loam, silt loam, sandy clay loam, silt, sandy clay	Treflan 1½ pt. -OR- Lasso 2½ to 3 qt. -OR- Dual 1½ pt. -OR- Prowl 1½ pt. -OR- Sonalan 1¼ to 2½ pt.	Plus	½ - followed by -OR- ⅓ <sup>2</sup> - followed by	½ ½	⅓ to ⅓ ⅓ to ⅓	⅓ to ⅓ (⅓ to 2/3 <sup>3</sup> )	
<b>Fine (heavy)</b> Silty clay loam*, clay loam, silty clay, clay	Treflan 2 pt. -OR- Lasso 2½ to 3 qt. -OR- Dual 2 to 2½ pt. -OR- Prowl 1½ to 2 pt. -OR- Sonalan 2¼ to 3 pt.	Plus	⅓ - followed by -OR- ½ <sup>2</sup> - followed by	½ ½	⅓ to ⅓ ⅓ to ⅓	⅓ to ⅓ (⅓ to ⅓ <sup>3</sup> )	

\* Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

<sup>1</sup> On coarse-textured soils, do not use on sand soils with less than 1% organic matter or on loamy sand or sandy loam soils with less than 0.5% organic matter. However, on coarse-textured soils with a calcareous surface area or a pH of 7.5 or higher, do not use on sand soils with less than 2% organic matter or on loamy sand or sandy loam soils with less than 1% organic matter.

<sup>2</sup> Use this lower rate of MANITOU DF in the preplant incorporated tank mix on soils having a calcareous surface area or a pH of 7.5 or higher and in those situations where soils within a field vary extremely in texture or organic matter content.

<sup>3</sup> Reduce this preemergence overlay rate of MANITOU DF by 1/6 lb./acre when using SPLIT-SHOT application on soils with over 4% organic matter and which have a calcareous surface area or a pH of 7.5 or higher.

**EXTENDED SPLIT-SHOT APPLICATION**

Early Preplant Tank Mix Application (Surface-Applied or Shallow Incorporated)				Preemergence Overlay Application					
SOIL TEXTURE <sup>1</sup>	Rate of Combination Product/Acre	Plus	Rate of MANITOU DF lb/Acre	Followed By	Rate of Combination Product/Acre	Plus	Rate of MANITOU DF lb./ Acre		
							ORGANIC MATTER		
							½ to 2%	2% to 4%	Over 4%
<b>Coarse (light)</b> sand, loamy sand, sandy loam	Dual 1⅓ pt. Or Lasso 1½ to 2 qt.	Plus	½ to ⅓	Dual Or Lasso	⅓ pt.  1½ qt.	Plus	½	⅓ to ⅓	⅓
<b>Medium</b> Loam, silt loam, sandy clay loam, silt, sandy clay	Dual 1¾ pt. Or Lasso 2 to 3 qt.	Plus	2½ to ⅓	Dual Or Lasso	¾ pt.  1 to 2 qt.	Plus	⅓	⅓ to ⅓	⅓ to ⅓
<b>Fine (heavy)</b> Silty clay loam*, clay loam, silty clay, clay	Dual 2 pt. Or Lasso 2 to 3 qt.	Plus	2 ⅓ to ⅓	Dual Or Lasso	1 pt.  1 to 2 qt.	Plus	⅓	⅓ to ⅓	⅓ to ⅓

\* Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

<sup>1</sup> On coarse-textured soils, do not use on sand soils with less than 1% organic matter. However, on coarse-textured soils with a calcareous surface area or a pH of 7.5 or higher, do not use on sand soils with less than 2% organic matter or on loamy sand or sandy loam soils with less than 1% organic matter.

<sup>2</sup> Use this lower rate of MANITOU DF in the early preplant tank mix on soils having a calcareous surface area or a pH of 7.5 or higher and in those rare situations where soils within a field vary extremely in texture or organic matter content.

**EXTENDED SPLIT-SHOT APPLICATION**  
(Includes No-Till, Reduced-Till, Ridge-Till, Mulch-Till)

An early preplant (surface-applied or shallow incorporated) application of MANITOU DF tank mixed with either Dual or Lasso followed by a preemergence surface application of MANITOU DF tank mixed with Dual or Lasso after planting but prior to soybean emergence will control more broadleaf and grass weeds in soybeans than either herbicide used alone.

An Extended Split-Shot application will decrease the need for tillage and/or contact herbicides for the control of existing vegetation prior to planting, while providing residual control of weeds after planting.

When an Extended Split-Shot application of MANITOU DF with Dual or Lasso is used, the preplant tank mix combination may be applied 15 to 30 days prior to planting soybeans. Follow directions on the label accompanying the product for Split-Shot applications from 0 to 14 days before planting.

Where a rate range is labeled, use the higher rates in (a) fields with a history of severe weed pressure, (b) when the time between early preplant tank mix and preemergence overlay applications approaches the maximum 30 days, (c) when the organic matter content of the soil is at the upper end of the indicated range, (d) when heavy crop residues are present on the soil surface, and/or (e) when the early preplant tank mix application is shallow incorporated (e.g. use 2 to 2½ qt. Lasso in the early preplant tank mix when surface applied and use 2½ to 3 qt. Lasso when the tank mix is to be lightly incorporated).

When weeds exceed 1 to 1 ½ inches in height or diameter at application, use a contact herbicide such as Round-Up® or Gramoxone®.

Refer to the Dual or Lasso label and to appropriate sections of this label for additional information on soil preparation, herbicide application, weeds controlled, precautions, restrictions, limitations, and sprayer clean up.

**MANITOU DF PLUS SONALAN**

**MANITOU DF plus Sonalan Overlay Application:** MANITOU DF may be applied as a preemergence overlay application following a preplant incorporated application of Sonalan 3 EC. Consult the Sonalan label for specific directions on use, recommendations, restrictions, and any additional weeds not specified on this label.

**MANITOU DF plus Sonalan Tank mix Application:** Incorporate the tank mixture into the top 1 to 2 inches of soil within 21 days before planting according to label directions for Sonalan.

Apply MANITOU DF plus Sonalan preplant incorporated if furrow irrigation is used or when a period of dry weather after application is expected. If soybeans are planted on beds, apply and incorporate the tank mixture after bed formation.

**Mixing:** Refer to the PRODUCT INFORMATION section in the front of this label.

**Application:** Sonalan should be uniformly applied and thoroughly mixed into the soil within 2 days after application. For specific application information, refer to the APPLICATION under PRODUCT INFORMATION section in the front of this label.

**SPECIAL PRECAUTIONS (MANITOU DF plus Sonalan):** For additional precautions, restrictions, limitations, incorporation, and sprayer clean-up information, refer to the appropriate sections of this label and the Sonalan label.

For black nightshade control, refer to the Sonalan label for specific rates and application instructions.

BROADCAST RATES		
SOIL TEXTURE	MANITOU DF Lb./Acre	Sonalan 3EC Pt./Acre
Coarse <sup>1</sup> (Sandy loam, loamy sand)	1/3	1¼ to 2
Medium <sup>2</sup> (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/2	1¾ to 2½
Fine <sup>3</sup> (Silty clay, silty clay loam <sup>2</sup> , clay, clay loam)	2/3	2¼ to 3

<sup>1</sup> Do not use on coarse soils with less than 1% organic matter.

<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

<sup>3</sup> For control of lambsquarters, redroot pigweed, wild mustard, and green and yellow foxtails on alkaline (calcareous) soils in Minnesota, Nebraska, South Dakota, and North Dakota only, apply MANITOU DF at rates of 1/3 lb./acre on medium soils and 1/2 to 2/3 lb./acre on fine soils regardless of soil organic matter percentage (use 1/2 lb. only where soil pH is less than 7.5 and weed pressure is heavy). The 1/2 lb. rate of MANITOU DF in tank mix combination with Sonalan can be applied regardless of soil pH. For control of other weeds not listed on the label, use MANITOU DF at full rates directed in the table above, but note that crop injury may occur on soils having a calcareous surface area or a pH of 7.5 or higher.

**MANITOU DF PLUS TREFLAN**

**MANITOU DF and Treflan Overlay Application:** MANITOU DF may be applied as a preemergence broadcast or band overlay application following a preplant incorporated treatment of Treflan. Consult the Treflan label for specific directions for use, recommendations, restrictions, and any additional weeds not specified on the label.

**MANITOU DF plus Treflan Tank mix Application:** A single application of a tank mix combination of MANITOU DF and Treflan EC will control more broadleaf and grass weeds in soybeans than when either herbicide is used alone.

Prepare the soil surface by deep plowing, offset disking, or tandem disking prior to the application of the herbicide combination. The soil surface should be well prepared and free of clods and trash.

This MANITOU DF plus Treflan tank mix combination may be applied and incorporated into the soil up to 10 days before planting.

**Mixing:** Refer to the PRODUCT INFORMATION section in the front of this label.

**Application:** For specific application information, refer to the PRODUCT INFORMATION section in the front of this label.

Apply MANITOU DF plus Treflan to the soil surface and incorporate in the same operation if possible. Variable weed control may result from delayed incorporation if MANITOU DF plus Treflan are applied to a wet, warm soil surface or if the wind velocity is 10 miles per hour or higher. Use machinery that mixes MANITOU DF plus Treflan thoroughly with the soil. Incorporation may be delayed up to 24 hours after application. Shallow incorporation with implements set to cut less than 2 inches deep may result in erratic weed control. Do not use spike or spring-tooth harrows alone for incorporation.

BROADCAST RATES		
SOIL TEXTURE	MANITOU DF Lb./Acre	Treflan EC Pt./Acre
Coarse <sup>1</sup> (Sandy loam, loamy sand)	1/3	1
Medium (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/2	1 1/2
Fine <sup>2</sup> (Silty clay, silty clay loam <sup>2</sup> , clay, clay loam)	2/3	2

<sup>1</sup> Do not use on coarse soils with less than 1% organic matter.  
<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.  
<sup>3</sup> For control of lambsquarters, redroot pigweed, wild mustard, and green and yellow foxtails on alkaline (calcareous) soils in Minnesota, Nebraska, South Dakota, and North Dakota only, apply MANITOU DF at rates of 1/3 lb./acre on medium soils and 1/2 to 2/3 lb./acre on fine soils regardless of soil organic matter percentage (use 1/2 lb. only where soil pH is less than 7.5 and weed pressure is heavy). The 1/2 lb. rate of MANITOU DF in tank mix combination with Treflan can be applied regardless of soil pH. For control of other weeds not listed on the label, use MANITOU DF at full rates directed in the table above, but note that crop injury may occur on soils having a calcareous surface area or a pH of 7.5 or higher.

**Incorporation Equipment:**

1. Set PTO-driven equipment (tillers, cultivators, hoes) to cut 2 to 3 inches deep and space rotors to provide a clean sweep of the soil. PTO equipment should not be operated at a speed greater than 4 miles per hour.
2. Set disk to cut 4 to 6 inches deep and operate twice in different directions at 4 to 6 miles per hour.
3. Set mulch treader and other similar disk-type implements to cut 3 to 4 inches deep and operate twice in different directions at 5 to 8 miles per hour.

**For Coarse- and Medium-Textured Soils Only:**

4. Set rolling cultivator to cut 2 to 4 inches deep and operate twice at 6 to 8 miles per hour. Set bed conditioner (Do-All) to cut 2 to 4 inches deep and operate at 4 to 6 miles per hour.

**SPECIAL PRECAUTIONS (MANITOU DF plus Treflan):** Seedling disease, cold weather, excessive moisture, high salt concentration, or drought may weaken soybean seedlings and increase possibility of damage from the tank mix. Do not plant soybeans deeper than 2 inches.

In the Central United States, do not plant sorghum or oats for 12 months where the tank mix has been applied unless 20 inches or more of irrigation and/or rainfall (total) was used to produce the crop. If less than 20 inches total water was used to produce the crop during the year, do not plant either crop for 18 months after the tank mix application. Cool, wet weather conditions during the early stage of growth may increase the possibility of injury to sorghum.

**RESTRICTION:** Do not rotate any crop not listed on this label for 18 months after tank mix application.

For additional precautions, restrictions, limitations, and sprayer clean-up information, refer to the appropriate section of this label. Do not use this tank mix combination on soils containing charcoal in Arkansas, Louisiana, and Mississippi.

**MANITOU DF PLUS DUAL**

**MANITOU DF plus Dual Overlay Application:** Apply a preplant incorporated treatment of Dual 8E as directed on that product label for use on soybeans. Follow with a preemergence treatment of MANITOU DF as directed on this label for use on soybeans.

**MANITOU DF PLUS DUAL TANK MIX APPLICATIONS**

**Preplant Incorporated Application:** Incorporate the tank mixture into the top 2 inches of soil within 14 days before planting using a disk, harrow, rolling cultivator, or similar implement.

Apply MANITOU DF plus Dual preplant incorporated if furrow irrigation is used or when a period of dry weather after application is expected. If soybeans are planted on beds, apply and incorporate the tank mixture after bed formation.

**Preemergence Application:** Dry weather following preemergence application of MANITOU DF plus Dual tank mixture may reduce effectiveness. If weeds develop, cultivate uniformly with shallow tillage equipment such as a rotary hoe that will not damage soybeans.

**Mixing Instructions:** Refer to the PRODUCT INFORMATION section in the front of this label.

**BROADCAST RATES MANITOU DF Plus DUAL  
Tank Mix Preemergence Applications**

SOIL TEXTURE	MANITOU DF Lb./Acre	Dual 8E Pt./Acre
<b>0.5% TO 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>1</sup> (Sandy loam, loamy sand)	1/3	1 1/4
<b>Medium</b> (Loam, silt loam, silt)	1/2	1 1/2
<b>Fine</b> (Silty clay loam <sup>2</sup> , sandy clay loam, silty clay, sandy clay, clay loam, clay)	2/3	2
<b>Mississippi Delta Only</b> (Silty clay, clay)	1	2
<b>Over 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>1</sup> (Loamy sand, sandy loam)	1/2	1 1/2
<b>Medium</b> (Loam, silt loam, silt)	2/3	2
<b>Fine</b> (Silty clay loam <sup>2</sup> , sandy clay loam, silty clay, sandy clay, clay loam, clay)	2/3 to 5/6	2 to 2 1/2
<b>Mississippi Delta Only</b> (Silty clay, clay)	1	2 to 2 1/2

<sup>1</sup> Do not use on sand soils. Do not apply MANITOU DF and Dual overlay or tank mix preemergence on loamy sand with less than 2% organic matter.  
<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

**BROADCAST RATES MANITOU DF Plus DUAL  
Tank Mix Preplant Incorporated Applications**

SOIL TEXTURE	MANITOU DF Lb./Acre	Dual 8E Pt./Acre
<b>0.5% TO 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>1</sup> (Sandy loam, loamy sand)	1/3	1 1/4
<b>Medium</b> (Loam, silt loam, silt)	1/2	1 1/2
<b>Fine</b> (Silty clay loam <sup>2</sup> , sandy clay loam, silty clay, sandy clay, clay loam, clay)	2/3	2
<b>Mississippi Delta Only</b> (Silty clay, clay)	2/3 to 5/6	2
<b>Over 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>1</sup> (Loamy sand, sandy loam)	1/3	1 1/2
<b>Medium</b> (Loam, silt loam, silt)	1/2	2
<b>Fine</b> (Silty clay loam <sup>2</sup> , sandy clay loam, silty clay, sandy clay, clay loam, clay)	2/3	2 to 2 1/2
<b>Mississippi Delta Only</b> (Silty clay, clay)	2/3 to 5/6	2 to 2 1/2

<sup>1</sup> Do not use on sand soils. Do not apply MANITOU DF and Dual overlay or tank mix preemergence on loamy sand with less than 2% organic matter or crop injury may occur.  
<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

**SPECIAL PRECAUTIONS (MANITOU DF and Dual):** For additional precautions, restrictions, limitations, and sprayer clean-up information, refer to the appropriate sections of this label and the Dual label.

**MANITOU DF PLUS PROWL**

**MANITOU DF plus Prowl Overlay Application:** Apply a preplant incorporated treatment of Prowl as directed on that product label for use on soybeans. Follow with a preemergence treatment of MANITOU DF as directed on this label for use on soybeans.

**MANITOU DF plus Prowl Tank mix Application**

**Preplant Incorporated Application:** Prepare the soil by plowing or disking to mix previous crop residues into the soil to a depth of 4 to 6 inches.

For specific application information refer to the PRODUCT INFORMATION section in the front of this label.

Incorporate the tank mixture into the top 1 or 2 inches of soil within 7 days after application according to label directions for Prowl. Mechanical incorporation is not required if a rain of one-quarter inch or more occurs within 7 days after application. Soybeans must be planted no later than 7 days after application of the tank mixture.

**Preemergence Application:** Except for minimum and no-tillage systems, the seed bed should be firm and free of trash and clods.

For specific application information refer to the PRODUCT INFORMATION section in the front of this label. **Do not apply Prowl preemergence north of Interstate 80.** This application must be made after planting and before crop emergence. Do not incorporate.

If cultivation is necessary because of soil crusting, soil compaction, or weed germination before rain or irrigation, use shallow tilling equipment such as a rotary hoe that does not damage soybeans.

**Mixing Instructions:** Refer to the PRODUCT INFORMATION section in the front of this label.

For information on applying MANITOU DF plus Prowl Overlay Application: in fluid or dry fertilizer refer to the APPLICATION OF MANITOU DF IN FLUID FERTILIZERS or COMMERCIAL IMPREGNATION and APPLICATION OF MANITOU DF ON DRY BULK FERTILIZER under the PRODUCT INFORMATION section in the front of this label.

#### SOUTHERN STATES AND EASTERN COASTAL PLAINS

For use only in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, Southeastern Missouri "Bootheel" Region and Coastal Plains of Delaware, Maryland\*, New Jersey\*, and Virginia\*.

\*MANITOU DF plus Prowl is not recommended for use on soils with less than 2% organic matter in the coastal plain of New Jersey or the Delmarva Peninsula.

BROADCAST RATES MANITOU DF Plus Prowl Tank mix Applications		
SOIL TEXTURE	MANITOU DF Lb./Acre	Prowl Pt./Acre
<b>Coarse</b> <sup>1</sup> (Sandy loam, loamy sand)	1/3	1 1/2
<b>Medium</b> (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/2	1 1/2
<b>Fine</b> (Silty clay, silty clay loam <sup>2</sup> , clay, clay loam)	2/3	1 1/2 to 2

<sup>1</sup> Do not use on sand soils. Do not use on loamy sand or sandy loam containing less than 1% organic matter.  
<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in certain regions of the U.S.

Do not use on muck or peat soils

NORTHEASTERN AND NORTH CENTRAL STATES For use only in Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Nebraska, New York, North Dakota, Ohio, Pennsylvania, South Dakota, Wisconsin, and Missouri (except the "Bootheel" Region).		
BROADCAST RATES MANITOU DF Plus Prowl Tank mix Applications		
SOIL TEXTURE	MANITOU DF Lb./Acre	Prowl Pt./Acre
<b>0.5% TO 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>1</sup> (Sandy loam, loamy sand)	1/3	1
<b>Medium</b> (Loam, silt loam, sandy clay, sandy clay loam)	1/2	1 1/2 to 2
<b>Fine</b> (Silty clay, silty clay loam <sup>2</sup> , clay, clay loam)	1/2 to 2/3	1 1/2 to 2
<b>Over 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>1</sup> (Sandy loam, loamy sand)	1/2	1 1/2
<b>Medium</b> (Loam, silt loam, sandy clay, sandy clay loam)	1/2 to 2/3	1 1/2 to 2
<b>Fine</b> (Silty clay, silty clay loam <sup>2</sup> , clay, clay loam)	2/3 to 3/4	2 to 2 1/2

<sup>1</sup> Do not use on sand soils. Do not use on loamy sand or sandy loam containing less than 1% organic matter. Where a range of rates is shown for medium and fine soils, use the higher rate if heavy weed infestations are anticipated.  
<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in certain areas of the U.S.

Do not use on muck or peat soils.

**SPECIAL PRECAUTIONS (MANITOU DF and Prowl):** Soil incorporation deeper than recommended will reduce weed control and can result in crop injury.

For additional precautions, restrictions, limitations, and sprayer clean-up information, refer to the appropriate sections of this label and the Prowl label.

#### MANITOU DF PLUS LASSO MANITOU DF Plus Lasso Tank Mix Application

##### PREEMERGENCE

MANITOU DF may be used in a tank mix combination with Lasso as a preemergence band or broadcast application to soybeans in accordance with the specified soil types and dosages.

For specific information regarding spray equipment, dilution rates, mixing, directions for use, methods of application, limitations, and restrictions, refer to the appropriate section of this label.

Refer to the Lasso label for pertinent recommendations, directions for use, restrictions, and any additional weeds not specified on this label.

Do not use on muck soils.

APPLICATION RATES AND DIRECTIONS MANITOU DF Plus Lasso Tank mix Preemergence Application (Broadcast Rates)			
SOIL TEXTURE	MANITOU DF Lb./Acre	Plus	Lasso Qt./Acre
0.5% TO 3% ORGANIC MATTER			
Coarse <sup>1</sup> (Sandy loam)	1/3	Plus	1 1/2 to 2
Medium <sup>2</sup> (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/2	Plus	1 1/2
Fine <sup>2</sup> (Silty clay, silty clay loam <sup>3</sup> clay, clay loam)	2/3	Plus	2
Mississippi Delta Only (Silty clay to heavy clay)	1 1/3	Plus	2 to 2 1/2
Over 3% ORGANIC MATTER			
Coarse <sup>1</sup> (Sandy loam)	1/2	Plus	1 1/2 to 2
Medium <sup>2</sup> (Loam, silt loam, silt, sandy clay, sandy clay loam)	2/3	Plus	1 1/2 to 2
Fine <sup>2</sup> (Silty clay, silty clay loam <sup>3</sup> clay, clay loam)	2/3 to 3/4	Plus	2 to 2 1/2
Mississippi Delta Only (Silty clay to heavy clay)	1 1/3	Plus	2 to 2 1/2

<sup>1</sup> Do not use MANITOU DF plus Lasso on sand or loamy sand soils with less than 2% organic matter.  
<sup>2</sup> For control of lambsquarters, redroot pigweed, wild mustard, green and yellow foxtails on alkaline (calcareous) soils in Minnesota, Nebraska, South Dakota, and North Dakota only, apply MANITOU DF at rates of 1/3 lb./acre on medium soils and 1/2 to 1/2 lb./acre on fine soils regardless of soil organic matter percentage (use 1/2 lb. only where soil pH is less than 7.5 and weed pressure is heavy). The 1/2 lb./acre rate of MANITOU DF in tank mix combination with Lasso can be applied regardless of soil pH. For control of other weeds use MANITOU DF at full rates listed in the table above, but note that crop injury may occur on soils having a calcareous surface area or a pH of 7.5 or higher.  
<sup>3</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

**PREPLANT INCORPORATED:** For specific application information, refer to the PRODUCT INFORMATION section in the front of this label.

Apply MANITOU DF plus Lasso preplant incorporated if furrow irrigation is used or when a period of dry weather after application is expected. If soybeans are planted on beds, apply and incorporate the tank mixture after bed formation. Apply within 7 days prior to planting and shallowly incorporate into the upper 1 to 2 inches of soil.

Do not use on muck soils.

APPLICATION RATES MANITOU DF Plus Lasso Tank mix Preplant Incorporated Applications (Broadcast Rates)		
SOIL TEXTURE	MANITOU DF Lb./Acre	Lasso Qt./Acre
Coarse <sup>1</sup> (Loamy sand [over 2% organic matter], sandy loam)	1/3	2 to 2 1/2
Medium (Loam, silt loam, silt)	1/2	2 1/2 to 3
Fine <sup>2</sup> (Silty clay loam <sup>2</sup> , sandy clay loam, silty clay, sandy clay, clay loam, clay)	2/3	2 1/2 to 3
Mississippi Delta Only (Silty clay to heavy clay)	2/3 to 3/4	2 1/2 to 3

<sup>1</sup> Do not use MANITOU DF plus Lasso on sand or loamy sand soils with less than 2% organic matter.  
<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

**SPECIAL PRECAUTIONS (MANITOU DF Plus Lasso):** For additional precautions, restrictions, limitations, and sprayer clean-up information, refer to the appropriate sections of this label and the Lasso label.

#### MANITOU DF PLUS COMMAND®

MANITOU DF may be applied in combination with Command 4EC as a preplant or shallow incorporated application for the control of certain weeds in soybeans. Consult the Command 4EC label for specific directions on use, recommendations, restrictions, and any additional weeds not specified on this label.

**Mixing:** Refer to the PRODUCT INFORMATION section in the front of this label.

**Application:** MANITOU DF plus Command 4EC may only be applied with ground equipment as a preplant or shallow incorporated application. MANITOU DF plus Command 4EC should be immediately incorporated into the top 1 to 3 inches after application unless surface is dry. On dry soils, incorporate into the top 1-3 inches within 3 hours of tank mix application.

Do not apply this tank mix within 1000 feet of towns and subdivisions, commercial vegetable, fruit, nurseries, or greenhouse operations.

A minimum of 15 gallons spray volume per acre is recommended with appropriate nozzle types and sizes to produce a coarse spray droplet. The use of an approved agricultural drift reducing additive is recommended for application volumes of 15-40 gallons per acre. The use of an approved agricultural drift reducing additive is required at spray volumes of 10 to 15 gallons per acre.

**NOTE:** Off-site movement of Command spray drift or vapors can cause foliar whitening or yellowing of some vegetation. Prior to application of Command, read and strictly follow all precautions, restrictions and application instructions as set forth in that label.

For additional information on application, refer to the PRODUCT INFORMATION section in the front of this label and the Command label.

**WEEDS CONTROLLED**

<b>Annual Broadleaves:</b>			
Bristly Starbur Carpetweed Copperleaf Florida Beggarweed Florida Pusley	Galinsoga Jimsonweed Knotweed Lambsquarters Pigweeds	Prickly Sida/Teaweed Purslane Common Ragweed Redweed Sesbania	Smartweeds Spurred Anoda Velvetleaf Venice Mallow Wild Mustard
<b>Annual Grasses:</b>			
Barnyardgrass* Bluegrass Broadleaf Signalgrass	Crabgrass* Foxtails (Green, Giant, Yellow*, Robust Purple) Goosegrass	Johnsongrass (seedling)* Fall Panicum* Texas Panicum	Witchgrass

\* Use 2 pt./Acre Command 4EC on coarse- and medium-textured soils with high populations of these weeds.

**APPLICATION RATES MANITOU DF Plus Command 4EC Tank mix  
Preplant Incorporated Application (Broadcast Rates)**

SOIL TEXTURE	MANITOU DF Lb./Acre	Command 4 EC Pt./Acre
<b>0.5% TO 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>2</sup> (Sandy loam, loamy sand)	1/3	1 1/2 to 2
<b>Medium</b> (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/2 to 2/3	1 1/2 to 2
<b>Fine</b> (Silty clay, silty clay loam <sup>3</sup> , clay, clay loam)	1/2 to 2/3	1 1/2 to 2
<b>Over 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>2</sup> (Sandy loam)	1/3	1 1/2 to 2
<b>Medium</b> (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/2 to 2/3	1 1/2 to 2
<b>Fine</b> (Silty clay, silty clay loam <sup>3</sup> , clay, clay loam)	1/2 to 2/3	1 1/2 to 2

<sup>1</sup> Crop injury may occur on soils having a calcareous surface area or a pH of 7.1 or higher.

<sup>2</sup> Do not use on coarse soils with less than 1% organic matter.

<sup>3</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

**SPECIAL PRECAUTIONS (MANITOU DF plus Command):**

Observe all cautions and limitations on labeling of all products used in mixtures.

**USE RESTRICTIONS**

Do not rotate to wheat, oats, barley, rye, alfalfa, or seed corn in the fall of the year of application or in the spring of the following year as crop injury may occur.

Do not apply when weather conditions favor drift. Do not use treated vines for feed or forage.

Do not apply aerially or through irrigation equipment.

**MANITOU DF PLUS COMMENCE®**

**MANITOU DF Plus Commence Tank Mix Early Preplant Incorporated Application:** MANITOU DF in a tank mix with Commence 5.25 EC may be applied broadcast preplant incorporated up to 30 days before planting soybeans for the control of certain broadleaf weeds and grasses. Refer to the Commence herbicide label for additional directions for use, weeds controlled, recommendations, restrictions, and limitations not specified on this label.

**Mixing:** Refer to the PRODUCT INFORMATION section on this label.

**Application:** For information on applying MANITOU DF, refer to the PRODUCT INFORMATION section on this label.

**APPLICATION RATES MANITOU DF Plus Commence 5.25 EC Tank mix  
Early Preplant Incorporated Application<sup>1</sup>**

SOIL TEXTURE	MANITOU DF Lb./Acre	Commence 5.25 EC Pt./Acre
<b>0.5% TO 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>2</sup>	1/2	1 1/2 to 2
<b>Medium</b>	2/3	2 to 2 1/4
<b>Fine</b>	2/3	2 2/3
<b>Over 3% ORGANIC MATTER</b>		
<b>Coarse</b> <sup>2</sup>	1/2	1 1/2 to 2
<b>Medium</b>	2/3	2 to 2 1/4
<b>Fine</b>	1	2 2/3

<sup>1</sup> For use on soils with a pH of 7.5 or lower.

<sup>2</sup> Do not use on coarse soils with less than 1% organic matter.



**Restrictions and Limitations:** Do not apply aerially or through irrigation equipment.

Do not apply when weather conditions favor drift. Do not allow sprays to drift onto adjacent desirable plants. Do not use treated vines for feed or forage.

Do not rotate to wheat, barley, alfalfa, or seed corn in the fall of the year of application or in the spring of the following year as crop injury may occur.

Do not rotate any crop not listed on this label for 18 months following application of MANITOU DF.

**MANITOU DF plus Commence Tank Mix Preplant Incorporated:** MANITOU DF may be tank mixed with Commence 5.25 EC for preplant incorporated application to control certain weeds in soybeans. Refer to the PRODUCT INFORMATION section of this label for information on mixing, application, restrictions, special precautions, and weeds controlled by MANITOU DF. See appropriate sections of the Commence 5.25 EC herbicide label for additional precautionary statements, and directions for use, recommendations, and additional weeds controlled.

<b>APPLICATION RATES AND DIRECTIONS MANITOU DF Plus Commence Tank Mix Preplant Incorporated Application (Broadcast Rates)</b>			
SOIL TEXTURE	MANITOU DF Lb./Acre	Commence 5.25EC Pt./Acre	
<b>0.5% TO 3% ORGANIC MATTER</b>			
<b>Coarse<sup>2</sup></b> (Sandy loam, loamy sand)	1/3	1 1/8 to 2	
<b>Medium</b> (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/3 to 1/2	2 to 2 1/4	
<b>Fine</b> (Silty clay, silty clay loam <sup>3</sup> , clay, clay loam)	1/3 to 1/2	2 3/8	
<b>Over 3% ORGANIC MATTER</b>			
<b>Coarse<sup>2</sup></b> (Sandy loam, loamy sand)	1/3	1 1/8 to 2	
<b>Medium</b> (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/3 to 1/2	2 to 2 1/4	
<b>Fine</b> (Silty clay, silty clay loam <sup>3</sup> , clay, clay loam)	1/2 to 2/3	2 3/8	

<sup>1</sup> Crop injury may occur on soils having a calcareous surface area or a pH of 7.1 or higher.

<sup>2</sup> Do not use on coarse soils with less than 1% organic matter.

<sup>3</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

**USE RESTRICTIONS (MANITOU DF plus Commence):** Do not rotate to wheat, barley, alfalfa, or seed corn in the fall of the year of application or in the spring of the following year as crop injury may occur.

Do not rotate any crop not listed on this label for 18 months following application of MANITOU DF.

Do not apply when weather conditions favor drift. Do not use treated vines for feed or forage.

Do not apply aerially or through irrigation equipment.

Do not allow sprays to drift onto adjacent desirable plants.

#### MANITOU DF PLUS FREEDOM®

MANITOU DF may be tank mixed with Freedom 3 EC for preplant incorporated application to control certain weeds in soybeans. Refer to the PRODUCT INFORMATION section of this label for information on mixing, application, restrictions, special precautions, and weeds controlled by MANITOU DF. See appropriate sections of the Freedom 3 EC herbicide label for additional precautionary statements, directions for use, recommendations, and additional weeds controlled.

<b>APPLICATION RATES AND DIRECTIONS MANITOU DF Plus Freedom Tank Mix Preplant Incorporated Application (Broadcast Rates)</b>			
SOIL TEXTURE	MANITOU DF Lb./Acre	Plus	Freedom 3 EC Qt./Acre
<b>0.5% TO 3% ORGANIC MATTER</b>			
<b>Coarse<sup>1</sup></b> (Sandy loam)	1/3	Plus	2 3/4 to 3 1/2
<b>Medium<sup>2</sup></b> (Loam, silt loam, silt, sandy clay, sandy clay loam)	1/2	Plus	2 3/4 to 3 1/2
<b>Fine<sup>2</sup></b> (Silty clay, silty clay loam <sup>3</sup> , clay, clay loam)	2/3	Plus	3 1/2 to 4
<b>Mississippi Delta Only</b> (Silty clay to heavy clay)	1 1/3	Plus	3 1/2 to 4 1/2
<b>Over 3% ORGANIC MATTER</b>			
<b>Coarse<sup>1</sup></b> (Sandy loam)	1/2	Plus	3 to 3 1/2
<b>Medium<sup>2</sup></b> (Loam, silt loam, silt, sandy clay, sandy clay loam)	2/3	Plus	3 1/2 to 4
<b>Fine<sup>2</sup></b> (Silty clay, silty clay loam <sup>3</sup> , clay, clay loam)	2/3 to 3/4	Plus	3 1/2 to 4 1/2
<b>Mississippi Delta Only</b> (Silty clay to heavy clay)	1 1/3	Plus	3 1/2 to 4 1/2

<sup>1</sup> Do not use MANITOU DF plus Freedom on sand or loamy sand soils with less than 2% organic matter.

<sup>2</sup> For control of lambsquarters, redroot pigweed, wild mustard, green and yellow foxtails on alkaline (calcareous) soils in Minnesota, Nebraska, South Dakota, and North Dakota only, apply MANITOU DF at rates of 1/3 lb./acre on medium soils and 1/2 to 2/3 lb./acre on fine soils regardless of soil organic matter percentage (use 1/2 lb. only where soil pH is less than 7.5 and weed pressure is heavy). The 1/3 lb./acre rate of MANITOU DF in tank mix combination with Freedom can be applied regardless of soil pH. For control of other weeds use MANITOU DF at full rates directed in the table above, but note that crop injury may occur on soils having a calcareous surface area or a pH of 7.5 or higher.

<sup>3</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

Do not use on muck soils.

Do not allow sprays to drift onto adjacent desirable plants.

### MANITOU DF PLUS CANOPY® PLUS A GRASS HERBICIDE

A tank mix combination of MANITOU DF plus Canopy 75 DF plus a registered and recommended grass herbicide (Dual, Lasso, Prowl, Sonalan, or Treflan) is recommended for control of the following weeds in soybeans:

WEEDS CONTROLLED			
<b>Annual Broadleaves:</b>			
Bristly Starbur	Galinsoga	Prickly Sida/Teaweed	Shepherdspurse
Carpetweed	Jimsonweed	Purslane	Smartweed
Cocklebur	Knotweed	Ragweed, Common	Spurred Anoda
Copperleaf, Hophornbeam	Kochia	Redweed	Velvetleaf
Florida Beggarweed	Lambsquarters	Russian Thistle	Venice Mallow
Florida Pusley	Pigweed	Sesbania	Wild Mustard
<b>Annual Grasses:</b>			
Barnyardgrass	Crabgrass	Johnsongrass (seedling)	Sandbur
Bluegrass	Crowfootgrass	Junglerice	Sprangletop
Broadleaf Signalgrass	Foxtails	Panicum, Fall	Stinkgrass
Browntop Millet	Goosegrass	Panicum, Texas	

Tank mix combinations which include Dual, Lasso, or Prowl can be applied broadcast or preplant incorporated broadcast. When Sonalan or Treflan are used in the tank mix, apply preplant incorporated broadcast. Refer to the table below for labeled rates of each product to be used in tank mix combinations:

APPLICATION RATES AND DIRECTIONS			
MANITOU DF Plus Canopy 75 DF Plus a Grass Herbicide (Broadcast Rates)			
Product	SOIL TEXTURE <sup>1</sup>		
	Coarse <sup>2</sup>	Medium	Fine
MANITOU DF (lb./acre)	½	½ to ½ <sup>3</sup>	½ to ¾ <sup>3</sup>
Canopy DF (oz./acre)	3	3	3 to 4
Treflan (pt./acre)	1	1½	2
Dual (pt./acre)	1¼ to 1½	1½ to 2	2 to 2½
Prowl (pt./acre)	1½	1½ to 2	1½ to 2½
Lasso (qt./acre)	2 to 2½	2½ to 3	2½ to 3
Sonalan (pt./acre)	1¼ to 2	1¼ to 2½	2¼ to 3

<sup>1</sup> Do not use on soils with a pH greater than 7.0.  
<sup>2</sup> Refer to SOIL TEXTURE paragraph on this label for specific soil classification.  
<sup>3</sup> Use the lower rate of MANITOU DF in preplant incorporated tank mix as in those situations where soils within a field vary extremely in texture or organic matter content.

**IMPORTANT:** If weeds escape in fields treated with these tank mix combinations, post-emergence application of a registered and recommended herbicide will be needed for control.

**SPECIAL PRECAUTIONS:** For additional precautions, restrictions, limitations, and sprayer clean-up information, refer to the appropriate sections of the labels for MANITOU DF and Canopy 75 DF.

**RESTRICTION:** Do not use treated vines for feed or forage.

Refer to the PRODUCT INFORMATION section of this label for mixing and application directions.

### MANITOU DF PLUS COMMAND PLUS A GRASS HERBICIDE

MANITOU DF may be applied with Command 4EC and a grass herbicide (Treflan, Lasso, Dual, Prowl, or Sonalan) for the control of certain broadleaf weeds and grasses in soybeans. This combination will provide improved control of heavy infestations of velvetleaf, jimsonweed, and common ragweed. MANITOU DF and Command 4EC plus a grass herbicide may be applied preplant incorporated broadcast. Consult the Command, Treflan, Lasso, Dual, Prowl, or Sonalan labels for specific directions for use, recommendations, restrictions, and additional weeds controlled not specified on this label.

**Mixing:** Refer to the PRODUCT INFORMATION section in the front of this label.

**Application:** For specific application information, refer to the PRODUCT INFORMATION section in the front of this label.

**WEEDS CONTROLLED**

**Annual Broadleaves:**

Bristly Starbur Carpetweed Copperleaf, Hophornbeam Florida Beggarweed Florida Pusley	Galinsoga Jimsonweed Knotweed Kochia Lambsquarters	Pigweeds Prickly Sida/Teaweed Purslane Ragweed, Common Redweed	Russian Thistle Sesbania Shepherdspurse Sicklepod Smartweeds	Spotted spurge Spurred Anoda Velvetleaf Venice Mallow Wild Mustard
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**Annual Grasses:**

Barryardgrass Bluegrass Broadleaf Signalgrass Browntop Millet	Crabgrass Crowfootgrass Foxtails Goosegrass	Johnsongrass (seedling) Panicum, Fall Witchgrass
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MANITOU DF and Command plus Treflan, Lasso, Dual, Prowl, or Sonalan will provide suppression (reduce the competition) of cocklebur and sunflower.

**APPLICATION RATES AND DIRECTIONS  
MANITOU DF Plus Command Plus a Grass Herbicide (Broadcast Rates)**

Product	SOIL TEXTURE <sup>1</sup>		
	Coarse	Medium	Fine
MANITOU DF (lb/acre)	½	½ to ½ <sup>2</sup>	½ to ½ <sup>2</sup>
Command 4EC <sup>3</sup> (pt/acre)	½ to ¾	½ to ¾	½ to ¾
Treflan (pt/acre)	1	1½	2
Dual (pt/acre)	1¼ to 1½	1½ to 2	2 to 2½
Prowl (pt/acre)	1½	1½ to 2	1½ to 2½
Lasso (qt/acre)	2 to 2½	2½ to 3	2½ to 3
Sonalan (pt/acre)	1¼ to 2	1¾ to 2½	2¼ to 3

<sup>1</sup> Refer to SOIL TEXTURE paragraph on this label for specific soil classification. On coarse-textured soils with a calcareous surface area or a pH of 7.5 or higher, do not use on loamy sand or sandy loam soils with less than 1% organic matter.

<sup>2</sup> The higher rate of MANITOU DF is labeled for the control of sicklepod and hemp sesbania. Use the lower rate of MANITOU DF in the preplant incorporated tank mix on soils having a calcareous surface area or a pH of 7.5 or higher, and in those situations where soils within a field vary extremely in texture or organic matter content.

<sup>3</sup> Higher rate is labeled under moderate to heavy weed infestations.

**MANITOU DF PLUS SCEPTER PLUS A GRASS HERBICIDE**

MANITOU DF may be applied with Scepter herbicide and a grass herbicide (Treflan, Lasso, Dual, Prowl, or Sonalan) for the control of certain broadleaf weeds and grasses in soybeans. MANITOU DF and Scepter plus Treflan or Sonalan may be applied preplant incorporated broadcast. MANITOU DF and Scepter plus Lasso, Dual or Prowl may be applied preplant incorporated, preemergence broadcast or in a band application.

Consult the Scepter, Treflan, Lasso, Dual, Prowl, or Sonalan labels for specific directions for use, recommendations, restrictions, and additional weeds controlled not specified on this label.

**Mixing:** Refer to the PRODUCT INFORMATION section in the front of this label.

**Application:** For specific application information, refer to the PRODUCT INFORMATION section in the front of this label.

**Weeds Controlled:** MANITOU DF plus Scepter plus Treflan, Lasso, Dual, Prowl, or Sonalan will control the following broadleaf weeds and grasses:

**WEEDS CONTROLLED**

<b>Annual Broadleaves:</b>			
Bristly Starbur Buffalobur Carpetweed Cocklebur Coffee Senna Copperleaf, Hophornbeam Florida Beggarweed Florida Pusley	Galinsoga Jimsonweed Knotweed Kochia Lambsquarters Morningglory, pitted Morningglory, smallflower Pigweeds	Prickly Sida/Teaweed Purslane Ragweed, Common Redweed Russian Thistle Sesbania Shepherdspurse Sicklepod	Smartweeds Spotted spurge Spurred Anoda Sunflower Velvetleaf Venice Mallow
<b>Annual Grasses:</b>			
Barryardgrass Bluegrass Broadleaf Signalgrass	Browntop Millet Crabgrass Crowfootgrass	Foxtails Goosegrass Johnsongrass (seedling)	Panicum, Fall Witchgrass

MANITOU DF and Scepter plus Treflan, Lasso, Dual, Prowl, or Sonalan will suppress (reduce the competition) of ivyleaf and tall morningglory, and red rice.

**MANITOU DF Plus Scepter Plus a Grass Herbicide (Broadcast Rates)**

Product	SOIL TEXTURE <sup>1</sup>		
	Coarse	Medium	Fine
MANITOU DF (lb/acre)	1/3	1/3 to 1/2 <sup>2</sup>	1/2 to 2/3 <sup>2</sup>
Scepter (1.5 lb./gal liquid <sup>3</sup> pt./acre)	1/3 to 1/2	1/3 to 1/2	1/3 to 1/2
<b>-OR-</b> Scepter 70 DG3 (oz./acre)	1.4 to 2.1	1.4 to 2.1	1.4 to 2.1
Treflan (pt./acre)	1	1 1/2	2
Dual (pt./acre)	1 1/4 to 1 1/2	1 1/2 to 2	2 to 2 1/2
Prowl (pt./acre)	1 1/2	1 1/2 to 2	1 1/2 to 2 1/2
Lasso (qt./acre)	2 to 2 1/2	2 1/2 to 3	2 1/2 to 3
Sonalan (pt./acre)	1 1/4 to 2	1 3/4 to 2 1/2	2 1/4 to 3

<sup>1</sup> Refer to SOIL TEXTURE paragraph on this label for specific soil classification. On coarse-textured soils with a calcareous surface area or a pH of 7.5 or higher, do not use on loamy sand or sandy loam soils with less than 1% organic matter.  
<sup>2</sup> The higher rate of MANITOU DF is labeled for preemergence tank mix application and for the control of sicklepod and hemp sesbania. Use the lower rate of MANITOU DF in the preplant incorporated tank mix on soils having a calcareous surface area or a pH of 7.5 or higher and in those situations where soils within a field vary extremely in texture or organic matter content.  
<sup>3</sup> Higher rate is labeled under moderate to heavy weed infestations.

**MANITOU DF PLUS PURSUIT® AND A GRASS HERBICIDE**

MANITOU DF may be tank mixed with Pursuit herbicide and a registered and recommended grass herbicide (Dual, Lasso, Prowl, Sonalan, or Treflan) for control of certain broadleaf and grass weeds in soybeans. Refer to the product labels for Pursuit, Dual, Lasso, Prowl, Sonalan, or Treflan for additional directions for use, recommendations, restrictions, and limitations not included on this label.

Tank mix combinations of MANITOU DF, Pursuit and Dual, Lasso or Prowl can be applied broadcast preemergence or preplant incorporated. When the grass herbicide used is Sonalan or Treflan, apply the tank mix broadcast preplant incorporated.

**Mixing and Application:** Refer to the PRODUCT INFORMATION section of this label for directions on mixing and application of MANITOU DF.

**APPLICATION RATES MANITOU DF Plus Pursuit and a Grass Herbicide\***

SOIL TEXTURE	MANITOU DF Lb./Acre	Pursuit Oz./Acre
Coarse	1/3	4
Medium	2/5 to 1/2	4
Fine	1/2 to 2/3	4

\*For control of grass weeds include Dual, Lasso, Prowl, Sonalan, or Treflan at label rates in the tank mix with MANITOU DF and Pursuit herbicides.

**Restrictions and Limitations:** Do not apply this tank mix with aerial or irrigation equipment. Do not apply when weather conditions favor drift or allow sprays to drift onto adjacent desirable plants. Do not use treated vines for feed or forage. Refer to appropriate sections of the Pursuit herbicide label for restrictions on use area and rotational crops.

Observe all cautions and limitations on the labeling of all products used in mixtures.

**MANITOU DF PLUS PURSUIT PLUS HERBICIDE**

MANITOU DF may be tank mixed with Pursuit Plus herbicide for broadcast preemergence or preplant incorporated application to soybeans for control of certain broadleaf and grass weeds. Refer to the Pursuit Plus herbicide label for additional directions for use, recommendations, restrictions, and limitations not included on this label.

Mixing and Application: Refer to the PRODUCT INFORMATION section of this label for directions on mixing and application of MANITOU DF.

**APPLICATION RATES MANITOU DF Plus Pursuit Plus Herbicide**

SOIL TEXTURE	MANITOU DF Lb./Acre	Pursuit Oz./Acre
Coarse	1/3	2 1/2
Medium	2/5 to 1/2	2 1/2
Fine	1/2 to 2/3	2 1/2

**Restrictions and Limitations:** Do not apply this tank mix with aerial or irrigation equipment. Do not apply when weather conditions favor drift or allow sprays to drift onto desirable plants.

Do not use treated vines for feed or forage.

Refer to appropriate sections of the Pursuit Plus herbicide label for restrictions on use area and rotational crops.

**MANITOU DF PLUS LINURON PLUS (LASSO or DUAL)**

**MANITOU DF plus Linuron plus (Lasso or Dual) Tank Mix Application:** MANITOU DF may be applied in combination with Linuron 50 DF or 4L and Lasso 4 or Dual 8 EC as a preemergence application for the control of certain weeds in soybeans. Consult the linuron, Lasso, or Dual labels for specific directions for use, recommendations, restrictions, and any additional weeds not specified on this label.

**Mixing:** Refer to the PRODUCT INFORMATION section in the front of this label.

**Application:** Applications can be made only with ground spray equipment in accordance with specified soil types and dosage rates. For specific application information, refer to the PRODUCT INFORMATION section in the front of this label.

<b>MANITOU DF Plus Linuron Plus (Lasso or Dual) Broadcast Rates (0.5 to 3% Organic Matter Only)</b>			
Product	SOIL TEXTURE		
	Coarse <sup>1</sup> (Sandy, loamy sand, sandy loam)	Medium (Loam, silt loam, silt, sandy clay, sandy clay loam)	Fine (Silty clay, silty clay loam <sup>2</sup> , clay, clay loam)
MANITOU DF (lb./acre)	½ to ¾	¼ to ½	⅓ to ½
Linuron 50 DF (lb./acre) -or- Linuron 4L (pt./acre)	⅓ to ½	½ to ¾	¾ to 1½
Lasso 4 (qt./acre) -or- Dual 8 EC (pt./acre)	¾ to 1	1 to 1½	1¼ to 2
Dual 8 EC (pt./acre)	1 to 1¼	1¼ to 1½	1½ to 2

<sup>1</sup> Do not use MANITOU DF plus linuron plus (Lasso or Dual) on sand soils with less than 1% organic matter.

<sup>2</sup> Silty clay loam soils are transitional soils and may be classified as medium-textured soils in some regions of the U.S.

**SPECIAL PRECAUTIONS (MANITOU DF plus Linuron plus (Lasso or Dual):** For additional precautions, restrictions, limitations, and sprayer clean-up information, refer to the appropriate sections of this label and the linuron label and the Lasso or Dual labels.

**FOR USE IN COARSE (LIGHT) SOILS** in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

MANITOU DF herbicide is labeled alone or in combination with Treflan, Lasso or Dual for use in coarse-textured, low organic matter soils in the states listed above for the control of certain weeds in soybeans. Refer to the appropriate sections of this label and the Treflan, Lasso or Dual label for specific directions for use, recommendations, restrictions, and any additional weeds not specified on this label.

**Mixing:** Refer to the PRODUCT INFORMATION section in the front of this label.

**Application:** For specific application information, refer to the PRODUCT INFORMATION section in the front of this label.

<b>MANITOU DF (Alone) Preemergence Application (Broadcast Rates)</b>		
SOIL TEXTURE	ORGANIC MATTER	MANITOU DF lb./acre
Coarse (Light) Soils- Sand <sup>1</sup> , Loamy Sand, Sandy Loam	0.5% or Above	1/2 to 1/2 <sup>2</sup>

<sup>1</sup> Not recommended for use on sand with less than 1% organic matter.

<sup>2</sup> Use the higher rate under heavy weed pressures and/or on soils higher in organic matter.

**MANITOU DF in Combination with Other Herbicides:** MANITOU DF is recommended in a tank mix combination with Treflan as a preplant incorporated application or as a preemergence overlay application following a preplant incorporated application of Treflan. MANITOU DF is also recommended for use as a preemergence application in combination with Lasso or Dual.

<b>FOR USE IN COARSE (Light) SOILS 0.5% or Above Organic Matter (Broadcast Rates)</b>			
SOIL TEXTURE	Combination Product/Acre	Plus	MANITOU DF lb./acre
Coarse (Light) Soils- Sand <sup>1</sup> , Loamy sand, Sandy loam	Preplant Incorporated Treflan 4EC 1 pt.	Plus	⅓ to ½ <sup>2</sup>
	Preemergence Lasso 4E 1 ½ to 2 qt. Dual 8E 1¼ to 1½ pt.	Plus	⅓ to ½ <sup>2</sup>

<sup>1</sup> Not recommended for use on sand with less than 1% organic matter.

<sup>2</sup> Use the higher rate under heavy weed pressures and/or on soils higher in organic matter.

**SPECIAL PRECAUTIONS:** Do not use on sand soils with less than 1% organic matter or on sandy loam or loamy sand soils with less than 0.5% organic matter.

For additional precautions, restrictions, limitations, and sprayer clean-up information, refer to the appropriate sections of this label and the Treflan, Lasso, Dual, Surflan, or Amiben labels.

**BURNDOWN WEED CONTROL-Field Corn and Soybeans**

MANITOU DF can be used as part of an herbicide program for burndown of existing vegetation prior to crop emergence in conservation tillage systems. MANITOU DF may be tank mixed with 2,4-D low volatile ester (LVE), Gramoxone Extra, or Roundup/Roundup Ultra/Touchdown for control of emerged weeds prior to field corn or soybean emergence. MANITOU DF tank mixes with 2,4-DB, Fusion, Poast Plus, or Select may also be used in soybeans for control of emerged weeds prior to crop emergence. MANITOU DF burndown tank mixes can be applied before planting or prior to crop emergence in the following areas:

**Field Corn:** Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin.

**Soybeans:** All areas for all products except Fusion tank mixes-see Fusion section of this label for recommended states.

**Application:** MANITOU DF may be applied up to 30 days prior to planting or pre-emergence. Apply only by ground equipment when MANITOU DF is used for burndown of existing vegetation in conservation tillage systems. MANITOU DF and tank mix partner burndown rates are listed in the following three tables.

MANITOU DF BURNDOWN RATES Field Corn and Soybeans		
Crops	Application Timing	MANITOU DF Rate (oz./A)
Field Corn: Iowa, Kansas, Missouri, Nebraska, South Dakota	Preplant (0 to 30 days)	2 to 5½
	Preemergence	
Field Corn: Illinois, Indiana, Kentucky, Michigan, Minnesota, Ohio, Wisconsin	Preplant (10 to 30 days)	2 to 5½
	Preplant (0 to 9 days)	2 to 4
	Preemergence	
Soybeans	Preplant (0 to 30 days)	2 to 5½
	Preemergence	

**RESTRICTIONS:** Do not apply these treatments after crop emergence. Observe all precautions and limitations on the labeling of all products used in tank mixtures. Refer to the PRODUCT INFORMATION section of this label for additional information, precautions, and limitations.

**Field Corn:**

- Do not apply on coarse-textured soils with less than 1.5% organic matter.
- Do not apply more than 4 oz. of MANITOU DF per acre on soils with less than 2% organic matter.
- Do not apply on soils having pH 7.0 or greater.
- Do not apply more than 5½ oz. MANITOU DF (0.25 pound active ingredient) per acre per growing season.
- Plant Corn seed at least 1½ inches deep.
- MANITOU DF may only be used in hybrid seed corn production fields if both inbred parents are known to be tolerant to MANITOU DF.

**Soybeans:**

- Apply only 2,4-D low volatile ester formulations which are registered and labeled for preplant or burndown use in soybeans.
- Do not apply tank mixture containing 2,4-D LVE if wind is blowing toward desired susceptible plants (i.e. cotton, tobacco, tomato, etc.) or when wind speeds exceed 6 miles per hour.

**Feeding Restrictions:** Corn treated with MANITOU DF may be harvested for silage or grain 60 days after treatment. Soybean vines or hay treated with MANITOU DF may be grazed or fed to livestock 40 days after application. Do not feed hay, forage, fodder, or graze 2,4-D-, Select-, or Fusion-treated vegetation. Follow the most restrictive preharvest interval of all products used in a tank mixture.

MANITOU DF PLUS TANK MIX PARTNER BURNDOWN RATES-Field Corn or Soybeans		
Product	Rate	Directions and Remarks
MANITOU DF + 2,4-D LVE	2 to 5½ oz./A* + ¼ to 1 lb. ai/A	In soybeans, apply at least 7 days preplant when using 2,4-D LVE at ¼ to ½ lb. ai/A and at least 30 days preplant with rates greater than ½ lb. ai/A. Include crop oil concentrate (COC) at the rate of 1 gal./100 gal of spray solution (1% v/v). In corn, apply at least 7 days preplant or at least 3 days after planting but before corn emergence.
MANITOU DF + Gramoxone Extra	2 to 5½ oz./A* + 24 to 48 fl. oz./A	Must be applied prior to crop emergence. Use 24 to 32 fluid ounces of Gramoxone Extra for weeds less than 4 inches in height and 32 to 48 fluid ounces when weeds are 4 to 6 inches in height. Apply in 20 to 60 gallons of water per acre. Include either nonionic surfactant at 1 quart per 100 gallons (0.25% v/v) or crop oil concentrate at 1 gallon per 100 gallons (1% v/v) of spray solution.
MANITOU DF + Gramoxone Extra + 2,4-D LVE	2 to 5½ oz./A* + 24 to 48 fl. oz./A + ¼ to 1 lb. ai/A	For this tank mix follow the Directions and Remarks Sections above for MANITOU DF + 2,4-D LVE and MANITOU DF + Gramoxone Extra, paying special attention to crop planting restrictions with 2,4-D LVE. Include either non-ionic surfactant or crop oil concentrate in this tank mix.

MANITOU DF + Roundup/Roundup Ultra or Touchdown	2 to 5½ oz./A* + 12 to 24 fl. oz./A or 8 to 16 fl. oz./A	Must be applied prior to crop emergence. Use the higher rates as weeds approach the maximum weed heights listed in the WEEDS CONTROLLED section below. Apply in 10 to 20 gallons of water per acre. With Roundup and Touchdown, include nonionic surfactant at 2 quarts per 100 gallons (0.5% v/v) and ammonium sulfate (spray grade) at 17 pounds per 100 gallons of spray solution. With Roundup Ultra, include ammonium sulfate (spray grade) at 17 pounds per 100 gallons of spray solution. Any glyphosate formulation registered and labeled for use in field corn or soybeans may be tank mixed with MANITOU DF.
MANITOU DF + Roundup/Roundup Ultra or Touchdown + 2,4-D LVE	2 to 5½ oz./A* + 12 to 24 fl. oz./A or 8 to 16 fl. oz./A + ¼ to 1 lb. ai/A	For this tank mix follow the Directions and Remarks Sections above for MANITOU DF + 2,4-D LVE and MANITOU DF + Roundup/Roundup Ultra/Touchdown, paying special attention to planting restrictions with 2,4-D LVE. Use the adjuvant recommendations under the MANITOU DF + Roundup/Roundup Ultra/Touchdown tank mix. Do not use crop oil concentrate.

\* If applied to field corn grown in Illinois, Indiana, Kentucky, Michigan, Minnesota, Ohio, and Wisconsin, refer to Table 1 for correct MANITOU DF rate based on application timing.

MANITOU DF PLUS TANK MIX PARTNER BURNDOWN RATES- Soybeans Only		
Product	Rate	Directions and Remarks
MANITOU DF + 2,4-D LVE	2 to 5½ oz./A* + ¾ to 7/8 lb. ai/A	Apply preplant or before soybean emergence. Include nonionic surfactant at 2 quarts per 100 gallons (0.5% v/v) of spray solution.
MANITOU DF + Fusion + 2,4-D LVE	2 to 5½ oz./A* + 4 to 8 fl. oz./A + ¼ to 1 lb. ai/A	For use only in Delaware, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, Virginia, West Virginia, and Wisconsin. For this tank mix, follow the planting restrictions under the Directions and Remarks Section above for MANITOU DF + 2,4-D LVE. Fusion rates of 4, 6 and 8 fl. ounces will control certain grasses up to 2, 4 and 6 inches in height, respectively. Include either crop oil concentrate at 1 gallon per 100 gallons (1.0% v/v) or nonionic surfactant at 1 to 2 quarts per 100 gallons (0.25 to 0.5% v/v) of spray solution. Refer to the Fusion label for additional information.
MANITOU DF + Poast Plus + 2,4-D LVE	2 to 5½ oz./A* + 8 to 16 fl. oz./A + ¼ to 1 lb. ai/A	For this tank mix follow the planting restrictions under the Directions and Remarks Section above for MANITOU DF + 2,4-D LVE. The 8 and 12 fl. oz. rate of Poast Plus will control certain grasses up to 2 and 3 inches in height, respectively. Include either crop oil concentrate at the rate of 1 gallon per 100 gallons of spray solution (1% v/v) or Dash HC at 1 pint per acre. Refer to the Poast Plus label for additional information.
MANITOU DF + Select + 2,4-D LVE	2 to 5½ oz./A* + 3 to 4 fl. oz./A + ¼ to 1 lb. ai/A	For this tank mix follow the planting restrictions under the Directions and Remarks section above for MANITOU DF + 2,4-D LVE. The 3 and 4 fluid ounce rates of MANITOU DF will control certain grasses up to 3 and 4 inches in height, respectively. Include crop oil concentrate at the rate of 1 quart per acre and 28% UAN (urea ammonium nitrate) at a rate of 1 to 2 quarts per acre. Refer to the Select label for additional information.

**Weeds controlled:** MANITOU DF in tank-mixtures with the above herbicides will provide burndown control of the weeds listed below.

WEEDS CONTROLLED BY BURNDOWN RATES OF MANITOU DF									
Weeds Controlled	MANITOU DF								2,4-D B
	2,4- D LVE	Poast Plus + 2,4-D LVE	Select + 2,4- D LVE	Fusion + 2,4-D LVE	Roundup/ Roundup Ultra/ Touchdown	Roundup/ Roundup Ultra/ Touchdown + 2,4-D LVE	Gramoxone Extra	Gramoxone Extra + 2,4-D LVE	
<b>Annual Grasses</b>	<b>MAXIMUM BURNDOWN HEIGHT (INCHES)</b>								
Barley		-	-	-	8		4 to 6		
Barnyardgrass		2 to 3	3 to 4	-	6		4 to 6		
Crabgrass spp.		2 to 3	-	-	6		4 to 6		
Foxtail spp.		2 to 3	3 to 4	2 to 6	8		4 to 6		
Johnsongrass, seedling		2 to 3	-	-	8		4 to 6		
Panicum, fall		2 to 3	3	2 to 6	6		4 to 6		
Sandbur, field		-	-	-	8		4 to 6		
Shattercane		2 to 3	-	-	8		4 to 6		
Wheat, volunteer		-	-	-	6		4 to 6		
Witchgrass		2 to 3	-	-	6		4 to 6		

Does not control these species

Does not control these species

Weeds Controlled	MANITOU DF								
	2,4- D LVE	Poast Plus + 2,4-D LVE	Select + 2,4- D LVE	Fusion + 2,4-D LVE	Roundup/ Roundup Ultra/ Touchdown	Roundup/ Roundup Ultra/ Touchdown + 2,4-D LVE	Gramoxone Extra	Gramoxone Extra + 2,4-D LVE	2,4-D B
<b>BROADLEAVES</b>	<b>MAXIMUM BURNDOWN HEIGHT (INCHES)</b>								
Buffalobur		-			6	6	4 to 6	4 to 6	-
Chickweed, common		6			6	8	4 to 6	4 to 6	2
Cocklebur, common		6			6	8	4 to 6	4 to 6	6
Dandelion, common		6 dia <sup>a</sup>			2 dia <sup>b</sup>	6 dia <sup>a</sup>	4 dia <sup>a</sup>	6 dia <sup>a</sup>	2 dia
Henbit		4			4	4	4 to 6	4 to 6	-
Horseweed/marestail		6 <sup>c</sup>			4 <sup>b</sup>	6	3	6 <sup>a</sup>	2 <sup>c</sup>
Jimsonweed		6			6	6	4 to 6	4 to 6	2
Kochia*		4 <sup>c</sup>			4	4	4	4	-
Ladysthumb		6			6	8	4 to 6	4 to 6	3
Lambsquarters, common		6			6	8	4 to 6	4 to 6	2
Lettuce, prickly		6			4	6	4 to 6	4 to 6	2
Mallow, Venice		6			6	6	4 to 6	4 to 6	-
Morningglory spp.		6			2	4	2	4	4
Mustard spp.		6			6	8	4 to 6	4 to 6	2
Pennycress, field		6			6	6	4 to 6	4 to 6	2
Pigweed, spp. (annual)		6			6	8	4 to 6	4 to 6	3
Ragweed, common		6			6 <sup>b</sup>	8	4 to 6	4 to 6	2
Ragweed, giant		6 <sup>c</sup>			4 <sup>b</sup>	6	4	6	2
Shepherdspurse		6			6	6	4 to 6	4 to 6	-
Sida, prickly		6			4	4	4	4	1
Smartweed, Pennsylvania		6			6	8	4 to 6	4 to 6	3
Sunflower, common		6			6	6	4 to 6	4 to 6	4
Thistle, Russian		4 <sup>c</sup>			2 to 4 <sup>b</sup>	6	4	4 to 6	3 <sup>c</sup>
Velvetleaf		6			6	8	4 to 6	4 to 6	3
Waterhemp spp.		6			6	8	4 to 6	4 to 6	3

<sup>a</sup> Use 2,4-D LVE at 0.5 pound active ingredient per acre.  
<sup>b</sup> Use a minimum Roundup/Roundup Ultra rate of 16 fl. oz./A and a minimum Touchdown rate of 10.6 fl. oz./A.  
<sup>c</sup> Use MANITOU DF at 4 oz./A for optimum control.  
<sup>d</sup> Suppression only.  
\* Does not control triazine resistant biotypes.



## RESIDUAL WEED CONTROL

MANITOU DF burndown programs can be used as part of a full season weed control program in both field corn and soybeans when, (1) applied as a tank mixture with residual herbicides, or (2) followed with a post-emergence weed control program, which is registered for use on the crop.

For residual control, MANITOU DF burndown programs may include tank mixes with the following herbicides or combination of herbicides:

Field Corn			
Alachlor	Broadstrike Plus	Harness Xtra	Pursuit <sup>a</sup>
Atrazine	Bullet	Lariat	Pursuit Plus <sup>a</sup>
Banvel	Clarity	Linex	Ramrod
Bicep	Dual	Linuron	Ramrod/Atrazine
Bicep II	Dual II	Lorox	Simazine
Bicep Lite	Frontier	Marksman	Surpass
Bladex	Guardsman	Pentagon	Surpass 100
Broadstrike + Dual	Harness	Prowl	Top Notch

<sup>a</sup> Use only Pursuit resistant/tolerant corn hybrids.

Soybeans			
Alachlor	Dual	New Lorox Plus	Pursuit Plus
Broadstrike + Dual	Dual II	Pentagon	Scepter
Canopy	Frontier	Preview	Sencor <sup>b</sup>
Command	Gemini	Prowl	Squadron
Detail	Linuron	Pursuit	Turbo

<sup>b</sup> MANITOU DF used (alone and in tank mixes) on soybeans at higher labeled rates than those listed for burndown weed control will also provide residual control of those weeds listed in the WEEDS CONTROLLED by MANITOU DF and MANITOU DF TANK MIX COMBINATIONS section of the MANITOU DF label. Refer to the individual product labels for additional information, precautions, restrictions, and limitations.

### SOUTHERN AND SOUTHEASTERN STATES ONLY

#### Post-emergence Directed Spray Applications

MANITOU DF can be applied in post-emergence directed sprays to soybeans for control of certain weeds which escape preplant or preemergence herbicide applications and for control of additional flushes of weeds that may occur after soybeans have emerged. Post-emergence directed sprays of MANITOU DF can be applied to soybeans in addition to a preemergence or preplant application of MANITOU DF herbicide according to label directions.

**Weeds Controlled:** MANITOU DF applied post-emergence to soybeans as a directed spray according to directions on this label will control the following at rates shown (broadcast basis) when grasses and common ragweed are less than 1 inch tall and other broadleaves are less than 3 inches tall:

#### <sup>1</sup>/<sub>5</sub> Lb./Acre

Florida beggarweed (*Desmodium tortuosum*)  
 Pigweeds (*Amaranthus spp.*)  
 Carpetweed (*Mollugo verticillata*)  
 Cocklebur (*Xanthium pensylvanicum*)  
 Dayflower (*Commelina spp.*)  
 Mexicanweed (*Caperonia castaniifolia*)  
 Purslane (*Portulaca oleracea*)  
 Sicklepod (*Dassia obtusifolia*)  
 Velvetleaf (*Abutilion theophrasti*)  
 Crabgrass (*Digitaria spp.*)

#### <sup>1</sup>/<sub>5</sub> to <sup>2</sup>/<sub>5</sub> Lb./Acre

Sesbania (*Sesbania spp.*)  
 Pricklyside/Teaweed (*Sida spinosa*)

#### <sup>2</sup>/<sub>5</sub> Lb./Acre

Ragweed, common (*Ambrosia artemisiifolia*)

At the rate of <sup>2</sup>/<sub>5</sub> lb./acre morningglory species (Ipomoea spp.), horsenettle (Solanum spp.), Florida pusley (Richardia acabra), spotted spurge (Euphorbia maculata), and wild poinsettia (Euphorbia heterophylla) are suppressed when MANITOU DF is applied before these weeds are 3 inches tall. The <sup>2</sup>/<sub>5</sub> lb./acre rate will suppress broadleaf signal grass (Brachiafia platyphylla) up to 1 inch tall.

## MANITOU DF POSTEMERGENCE DIRECTED SPRAY

APPLICATION DIRECTIONS	
CROP	MANITOU DF Lb./Acre
<b>Soybeans-</b> (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, and Texas)	$\frac{1}{5}$ to $\frac{2}{5}$ (Broadcast Basis)
Apply proper dosage using 10 to 40 gallons of water per acre as a directed spray in a 6- to 8-inch band on each side of the row after soybeans are 8 inches tall and before broadleaf weeds are 3 inches tall and before grasses and common ragweed are 1 inch tall. For best results, the spray must cover weed foliage with minimum or no contact with soybean foliage. Add a nonionic surfactant to the spray mixture to obtain better wetting of weed leaf surfaces. To determine the correct dosage of MANITOU DF for a band application, see BANDED APPLICATION under the PRODUCT INFORMATION section in the front of this label.	
If necessary, a second post-emergence directed spray application can be made after 7 days.	
Do not feed or graze green soybean vines. Do not harvest soybeans or use dry soybean vines for feed or forage within 70 days of last application.	

**RESTRICTIONS (Directed Post-emergence):** Do not apply directly to soybeans or serious crop injury will occur. Do not allow spray to contact more than the lower  $\frac{1}{4}$  to  $\frac{1}{5}$  of soybean plants. Soybean leaves contacted by the spray will be killed.

Do not apply MANITOU DF post-emergence to sensitive soybean varieties. See SPECIAL PRECAUTIONS in the front of this label.

Do not apply under weather conditions which favor drift.

**PRECAUTION:** To avoid injury to other crops or desirable plants from spray drift, sprayer pressure must not exceed 30 psi and the sprayer must be fitted with nozzles no smaller than 8002-T-Jet (or equivalent).

### POTATOES

MANITOU DF herbicide is labeled for use in ground, aircraft, or specified chemigation equipment as a preemergence and/or post-emergence application to potatoes. Early maturing smooth skinned white and all red skinned varieties may be injured with post-emergence applications. The varieties Atlantic, Bellchip, Centennial, Chipbelle, and Shepody are sensitive to MANITOU DF. Avoid post-emergence applications on these varieties. Preemergence applications on these varieties may cause crop injury under adverse weather conditions on coarse soils, under high soil pH, with higher rates per acre, and with mechanical incorporation.

**Ground Application:** MANITOU DF is labeled for use with ground spray equipment applied as a preemergence and/or post-emergence application for control of the listed grass and broadleaf weeds in potatoes. Apply as a uniform broadcast spray at 20 or more gallons per acre.

**Aerial Application:** MANITOU DF may be applied in aerial spray equipment as a preemergence and/or post-emergence application at 5 or more gallons per acre.

**Chemigation:** MANITOU DF may be applied preemergence and/or early post-emergence to potatoes using center pivot, solid set, and lateral roll systems. Apply specified dosage in  $\frac{1}{4}$  to  $\frac{3}{4}$  inch of water per acre ( $\frac{1}{4}$  to  $\frac{1}{2}$  inch on sandy soil) as a continuous injection in self propelled systems or apply in the last 15 to 30 minutes of the set in other systems. Be sure all the MANITOU DF has been flushed from the lines before shutting down the system.

### WEEDS CONTROLLED

MANITOU DF applied to potatoes according to directions will provide economic control of the following weeds. For optimum control, applications should be made before weeds are 1 inch tall. (See NOTE)

Broadleaves:		
Carpetweed, common <sup>1</sup>	Mustard, tansy <sup>1</sup>	Ragweed, common <sup>1,2</sup>
Cocklebur, common <sup>1,2</sup>	Mustard, tumble <sup>1</sup>	Shepherdspurse <sup>1</sup>
Jimsonweed <sup>1</sup>	Mustard, wild <sup>1</sup>	Sicklepod <sup>1</sup>
Kochia <sup>1</sup>	Pennycress, field <sup>1,2</sup>	Smartweed, Pennsylvania <sup>1,2</sup>
Lambsquarters, common <sup>1,2</sup>	Pigweed, redroot <sup>1,2</sup>	Sunflower, common <sup>1</sup>
Mustard, Indian <sup>1</sup>	Pigweed, smooth <sup>1,2</sup>	Thistle, Russian <sup>2</sup>
Grasses:		
Barnyardgrass <sup>2</sup>	Foxtail, giant <sup>1</sup>	Johnsongrass, seedling <sup>1</sup>
Crabgrass, large <sup>1</sup>	Foxtail, green <sup>1</sup>	Panicum, fall <sup>1</sup>
Crabgrass, smooth <sup>1</sup>	Foxtail, yellow <sup>1</sup>	Signalgrass, broadleaf <sup>1</sup>

<sup>1</sup> Weeds controlled with preemergence applications.

<sup>2</sup> Weeds controlled with post-emergence applications.

<sup>3</sup> Weeds requiring two applications for control.

## HARD TO CONTROL WEEDS

Although MANITOU DF may not provide commercially acceptable control in every instance, it will suppress growth of the following weeds and reduce their competition with potato plants.

Broadleaves	Grasses
Kochia	Barnyardgrass
Nightshade, hairy	Nutsedge, yellow
Purslane, common	
Sunflower, common	

**NOTE:** Where triazine-resistant weeds are present, MANITOU DF alone may not provide adequate control.

BROADCAST APPLICATIONS FOR POTATOES	
Directions/Remarks	MANITOU DF Lb./Acre
Apply specified dosage as a broadcast spray. Do not mechanically incorporate into soil. Use the 1/2 to 3/4 lb./acre rate for control of wild mustard (Brassica spp.) only. On sand soils or sensitive varieties, do not exceed 3/4 lb./acre.	1/2 to 1 1/2
<b>Post-emergence (Except early maturing smooth skinned, red skinned, and other specified varieties):</b> Apply specified dosage as a broadcast spray over the tops of potato plants*. Use rates of 1/2 to 3/4 lb./acre for control of redroot pigweed and common lambsquarters only. Apply the 3/4 lb./acre rate for control of other weeds listed on this label.	1/2 to 3/4
<b>Split Applications:</b> This product may be applied once preemergence and once post-emergence as directed above.* Do not exceed 1 1/2 lb. total per acre per season.	
Idaho, Oregon, and Washington Only: Two post-emergence applications can be made as broadcast sprays over the tops of potato plants if MANITOU DF is applied preemergence. Use 1/2 to 3/4 lb./acre for control of redroot pigweed and lambsquarters only. On coarse (sandy) soils with low organic matter, do not exceed 1/2 lb./acre per application. On medium and heavy soils only, use 3/4 lb./acre per application for control of other weeds listed on this label and for suppression of hairy nightshade. Make the first application early in the season while weeds are still small. Allow at least 14 days before the second application. Do not apply after June 30 if treated land is to be planted to crops other than potatoes.	
*Refer to SPECIAL PRECAUTIONS and USE RESTRICTIONS below	

### TANK MIXES

MANITOU DF may be tank mixed with the following herbicides: Dual/Dual II, Eptam, Prowl 3.3 EC, and Matrix. In addition, three-way tank mix combinations may be used for MANITOU DF plus Dual/Dual II, Eptam, or Prowl 3.3 EC plus Matrix when applied preemergence. Refer to each product's label for precautionary statements, restrictions, application information, and weeds controlled.

**Dual/Dual II:** MANITOU DF may be applied in a tank mix combination with Dual/Dual II as a preemergence broadcast application. Apply MANITOU DF at 1/2 to 1 1/2 lbs. and Dual/Dual II at 1.5 to 3 pints per acre according to the respective labels for use of each product alone on potatoes.

**Eptam:** MANITOU DF may be tank mixed with Eptam at rates and uses permitted on each product's label.

**Prowl 3.3 EC:** MANITOU DF may be applied in tank mix combination with Prowl as a preemergence or early post-emergence broadcast application. As a preemergence mix, apply MANITOU DF at 3/4 to 1 1/2 lbs. and Prowl at 1.2 to 3.6 pints per acre. As an early post-emergence spray, apply MANITOU DF at 3/4 to 3/4 lb. and Prowl at 1.2 to 3.6 pints per acre before the crop is in the 6-inch growth stage.

**Matrix: (except the following counties in Colorado: Alamosa, Conejos, Costilla, Rio Grande, and Saguahe):** MANITOU DF may be applied in tank mix combination with Matrix as a preemergence and/or early postemergence application for improved control on weeds such as Russian thistle, kochia, and common lambsquarters. As a preemergence mix, apply MANITOU DF at 1/2 to 3/4 lb. and Matrix at 1 to 1 1/2 oz. product per acre. As an early post-emergence spray, apply MANITOU DF at 1/2 to 3/4 lb. and Matrix at 1 to 1 1/2 oz. product per acre. Use a nonionic surfactant at a rate of 0.125% v/v (1 pt./100 gallon of water). Apply before the crop exceeds 14 inches in height. Post-emergence applications of Matrix treatments should be made prior to June 30.

**USE RESTRICTION:** Do not use MANITOU DF on potatoes in Kern County, California. Do not apply more than a total of 1 1/2 lb. MANITOU DF per acre in a single crop season regardless of the method of application. Do not make post-emergence applications prior to rainfall or irrigation on recently cultivated potatoes, nor within 3 days after periods of cool, wet cloudy weather or injury may occur. Do not apply MANITOU DF within 60 days of harvest. Do not use air blast sprayers. Do not apply to sweet potatoes or yams. Do not plant sensitive crops such as onions, lettuce, cole crops, and cucurbits during the next growing season following MANITOU DF application. Do not rotate any crop not listed on this label for 18 months following application of MANITOU DF.

**SPECIAL PRECAUTIONS (Potatoes):** Post-emergence applications may cause some chlorosis or minor necrosis. These symptoms may be more severe if seed-piece decay is occurring or if growing conditions favor crop stress.

Post-emergence applications may be made only on russet or white skinned varieties that are not early maturing.

Potato varieties may vary in their response to herbicide applications. When using MANITOU DF for the first time on a particular variety, always determine crop tolerance before using on a field scale.

Certain cereal varieties are sensitive to MANITOU DF (see cereal section of this label for sensitive varieties) and must not be planted during the next growing season unless the following cultural practices occur:

1. Potato vines left in rows as a result of harvest must be uniformly distributed over the soil surface prior to plowing, and
2. Plow with a moldboard plow to a depth sufficient to mix the upper 8 inches of soil.

#### ALFALFA AND SAINFOIN

MANITOU DF herbicide is labeled for use in alfalfa and sainfoin in the following areas:

1. Alfalfa and sainfoin (including mixed stands with grasses) (all areas except California).
2. Alfalfa and sainfoin (including mixed stands with grasses) (California only).
3. Alfalfa-Tank mix combination with Gramoxone (Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming, and the following California counties: Del Norte, Lassen, Modoc, Nevada, Plumas, Shasta, Sierra, and Siskiyou).
4. Alfalfa-Post Dormant Application of MANITOU DF Impregnated on Dry Fertilizer Only (Connecticut, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Nebraska, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, and Wisconsin).
5. Alfalfa-Non-Dormant, Non-Winter Hardy varieties (Arizona only).

MANITOU DF is labeled for use in aerial or ground spray equipment as a broadcast surface application to established crops of alfalfa and sainfoin for the control of certain grass and broadleaf weeds.

**APPLICATION:** Refer to PRODUCT INFORMATION in the front of this label for detailed information on the application of MANITOU DF. For information on applying MANITOU DF in fluid or on dry fertilizer refer to the APPLICATION OF MANITOU DF IN FLUID FERTILIZERS or COMMERCIAL IMPREGNATION and APPLICATION OF MANITOU DF ON DRY BULK FERTILIZER under the PRODUCT INFORMATION section of this label.

**RESTRICTIONS:** Do not apply MANITOU DF after growth begins in the spring or before growth ceases in the fall except as specified on this label. Do not graze or harvest within 28 days after application.

**SPECIAL PRECAUTIONS:** Use MANITOU DF only on established alfalfa and sainfoin.

For best weed control, apply MANITOU DF when weeds are less than 2 inches tall or before weed foliage is 2 inches in diameter.

Reduced weed control may occur when extended dry conditions follow application of MANITOU DF.

Crop injury may occur when:

1. Crop is under stress conditions such as diseases, insect infestation, poorly drained soils, drought or winter injury at time of application;
2. Crop is treated within 12 months after seeding;
3. There is excessive irrigation or rainfall immediately after application. Do not apply more than ½ inch of water in the first irrigation after MANITOU DF is applied.

#### ALFALFA AND SAINFOIN (All Areas Except California)

BROADCAST APPLICATIONS	
CROP	MANITOU DF Lb./Acre
Alfalfa and Sainfoin (Except California)	½ to 1½
Select the proper dosage according to weeds known to be and present in field to be treated. On loamy sand soils in Oregon and Washington, do not apply more than ½ lb. of MANITOU DF per acre.	

**FOR USE ON MIXED STANDS OF ALFALFA AND GRASSES:** Rates of ½ to 1 lb. of MANITOU DF per acre will provide partial reduction of forage grass stands. These rates may be used to reduce forage grass stands to prevent crowding out of alfalfa. Higher rates will severely reduce forage grass stands.

MANITOU DF should not be used on sand soils. In areas West of the Rocky Mountains, avoid using MANITOU DF on soils with calcareous surface area, high levels of lime or sodium, or a pH greater than 8.2.

**WEEDS CONTROLLED (Except California)****1/8 to 1/2 lb. MANITOU DF/Acre**Chickweed, common (*Stellaria media*)**1/2 to 3/4 lb. MANITOU DF**Cheat (*Bromus secalinus*)  
Deadnettle, Purple (*Lamium purpureum*)  
Downy brome (*Promys tectorum*)  
Japanese brome (*Bromus japonicus*)Pennycress (*Thlaspi arvense*)  
Rescuegrass (*Bromus catharticus*)  
Shepherdspurse (*Capsella bursa pastoris*)**3/4 to 1 1/2 lb. MANITOU DF****Broadleaves**Fleabane, Rough (*Erigeron striosus*)  
Flixweed (*Descurainia sophia*)  
Henbit (*Lamium amplexicaule*)  
Kochia (*Kochia scoparia*)  
Lambsquarters, common (*Chenopodium album*)  
Marestail (Horseweed) (*Hippuris vulgaris*)  
Meadow Salsify (*Tragopogon pratensis*)  
Mustard, Blue (*Chorispora tenella*)Mustard, Jim Hill (tumble) (*Sisymbrium altissimum*)  
Mustard, Tansy (*Descurainia pinnata*)  
Peppercress (*Lepidium virginicum*)  
Pigweed, Redroot (*Amaranthus retroflexus*)  
Prickly Lettuce (*Lactuca scariola*)  
White Cockle (*Melandrium album*)  
Wild Buckwheat (*Polygonium convolvulus*)  
Yellow Rocket (*Barbarea vulgaris*)**Grasses**Foxtail, Green (*Setaria viridis*)  
Little Barley (*Hordeum pusillum*)Smooth Brome (*Bromus inermis*)  
Wild Oats (*Avana fatua*)**1 1/2 lb. MANITOU DF/Acre****Broadleaves**Chickweed, Mouseear (*Cerastium vulgatum*)  
Dandelion (*Taraxacum officinale*)  
Ragweed, common (*Ambrosia artemisiifolia*)**Grasses**Barnyardgrass (*Echinochloa crus-galli*)  
Bluegrass (*Poa annua*)  
Foxtail Barley (*Hordeum jubatum*)**Weeds Partially Controlled:** At the rate of 1 1/8 lb./acre, MANITOU DF may be used to reduce the competition from curly dock (*Rumex crispus*).At 1/8 to 1 1/8 lb./acre, MANITOU DF may be used to reduce the competition of German Moss or knawel (*Scelanthus annuus*).**ALFALFA AND SAINFOIN (California Only)-(Including Mixed Stands with Grasses)**

MANITOU DF is labeled for use in aerial or ground spray equipment as a broadcast surface application to dormant established crops of alfalfa and sainfoin.

**APPLICATION:** MANITOU DF is labeled for use in aerial or ground spray equipment as a broadcast surface application to dormant established crops of alfalfa and sainfoin for control of certain grass and broadleaf weeds. Do not apply MANITOU DF after growth begins in the spring or before growth ceases in the fall. Do not apply to either alfalfa or sainfoin during the first growing season after seeding.

For information on applying MANITOU DF in fluid fertilizer solutions to alfalfa, refer to the appropriate section of this label.

For information on commercial impregnation and application of MANITOU DF on dry bulk fertilizer, refer to the appropriate section of this label.

WEEDS CONTROLLED	
<b>½ to ¾ lb. MANITOU DF/Acre</b>	
Cheatgrass (downy brome) ( <i>Bromus secalinus</i> )	
<b>¾ to 1½ lb. MANITOU DF/Acre</b>	
<b>Broadleaves</b> Chickweed, common ( <i>Stellaria media</i> ) Flaxweed ( <i>Descurainia sophia</i> ) Henbit ( <i>Lamium amplexicaule</i> ) Kochia ( <i>Kochia scoparia</i> ) Meadow Salsify ( <i>Tragopogon pratensis</i> ) Mustard, Blue ( <i>Chorispora tenella</i> )	Mustard, Tansy ( <i>Descurainia pinnata</i> ) Pepperweed, Virginia ( <i>Lepidium virginicum</i> ) Shepherdspurse ( <i>Capsella bursa pastoris</i> ) White Cockle ( <i>Melandrium album</i> ) Wild Buckwheat ( <i>Polygonium convolvulus</i> ) Yellow Rocket ( <i>Barbarea vulgaris</i> )
<b>Grasses</b> Smooth Brome ( <i>Bromus inermis</i> ) Wild Oats ( <i>Avena fatua</i> )	
<b>1½ lb. MANITOU DF/Acre</b>	
<b>Broadleaves</b> Dandelion ( <i>Taraxacum officinale</i> )	<b>Grasses</b> Barnyardgrass ( <i>Echinochloa crus-galli</i> ) Bluegrass ( <i>Poa annua</i> ) Foxtail Barley ( <i>Hordeum jubatum</i> )

BROADCAST APPLICATIONS	
CROP	MANITOU DF (Lb./Acre)
<b>Alfalfa and Sainfoin (California Only)</b>	½ to 1½
Select the proper dosage according to weeds known to be and present in field to be treated. Apply specified dosage in 20 to 40 gallons of water per acre with ground spray equipment or 3 to 10 gallons of water per acre with aerial spray equipment fitted with nozzles suitable for broadcast applications of herbicides. Treat only dormant established crops of alfalfa and sainfoin. Injury may occur to alfalfa if MANITOU DF is applied earlier than 12 months after seeding. Do not apply after Spring growth begins or before growth ceases in the Fall. Do not graze or harvest within 28 days after application.	
At the 1½ lb./acre rate, MANITOU DF may be used for suppression of curly dock.	

**FOR USE ON MIXED STANDS OF ALFALFA AND GRASSES:** Rates of ¾ to 1½ lb. of MANITOU DF per acre will provide partial reduction of forage grass stands. These rates may be used to reduce forage grass stands to prevent crowding out of alfalfa. Higher rates will severely reduce forage grass stands.

Do not apply with aerial spray equipment when wind speed is greater than 10 mph. Do not apply when weather conditions favor spray drift and/or when sensitive cool season crops, such as cole crops, onions, peas, or strawberries, are present in adjacent fields. Applications should not be made when weather conditions favor spray drift, especially in areas where wheat is growing on coarse textured soils in adjacent fields, or injury may occur.

#### ALFALFA MANITOU DF PLUS GRAMOXONE EXTRA TANK MIX

Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming, and the following California counties: Del Norte, Lassen, Modoc, Nevada, Plumas, Shasta, Sierra, and Siskiyou.

**APPLICATION:** MANITOU DF plus Gramoxone Extra tank mix application is labeled for use, during the dormant season, in aerial or ground spray equipment as a broadcast surface application to established (at least 1 year old) alfalfa for the control of certain grass and broadleaf weeds. Do not apply MANITOU DF/ Gramoxone Extra tank mix to regrowth (after grazing or cutting) that is more than 2 inches tall. Apply once per season. Do not apply following cuttings during growing season. Use a minimum of 10 gallons of water per acre with aerial spray equipment and a minimum of 20 gallons of water per acre with ground spray equipment. Add a non-ionic spreader at label rates to the spray solution.

**WEEDS CONTROLLED DF/Acre**

MANITOU DF plus Gramoxone Extra (1½ to 2½ pts./acre) tank mix application will control established weeds. Gramoxone controls weeds by contact activity.

**¼ to ½ lb. MANITOU DF/Acre**

Chickweed, common

**½ to 1 lb. MANITOU DF/Acre**

Bluegrass  
Cheat  
Downy brome  
Field pennycress

Henbit  
Japanese brome  
Rescuegrass  
Shepherdspurse

**Use MANITOU DF at ¾ to 1 lb./Acre for control of the following weeds:**

Blue Mustard  
Common lambsquarters  
Flixweed  
Green foxtail  
Groundsel  
Jim Hill mustard  
Kochia  
Little barley  
Marestail (Horseweed)  
Meadow salsify  
Pepperweed

Prickly lettuce  
Redroot pigweed  
Rough fleabane  
Ryegrass  
Smooth brome  
Sowthistle  
Tansy mustard  
White cockle  
Wild oats  
Wild buckwheat  
Yellow rocket

**APPLICATION DIRECTIONS****Dosage/Acre****Directions/Remarks**

MANITOU DF  
¾ to 1 lb.  
plus  
Gramoxone Extra  
1½ to 2½ pt.

Apply specified dosages of MANITOU DF and Gramoxone Extra in at least 10 gallons of water per acre with aerial equipment or at least 20 gallons of water per acre with ground equipment. Do not apply this tank mix to alfalfa growth if more than 2 inches tall. For best weed control, apply when broadleaf weeds and grasses are 1-6 inches tall and are actively growing. Care should be taken to avoid overlaps. Do not apply more than ¾ lb. of MANITOU DF per acre on loamy sand soils. Reduced weed control may occur when extended dry conditions follow application of MANITOU DF. Crop injury may occur if alfalfa is under stress conditions such as diseases, insect infestations, drought or winter injury or if MANITOU DF is applied to alfalfa earlier than 12 months after seeding.

**FOR USE ON MIXED STANDS OF ALFALFA AND GRASSES:** Rates of ¾ to 1 lb. of MANITOU DF per acre will provide partial reduction of forage grass stands. These rates may be used to reduce forage grass stands to prevent crowding out of alfalfa.

Do not graze or harvest within 42 days after application.

In areas west of the Rockies, avoid the use of MANITOU DF on soils with calcareous surface, soils with high levels of lime or sodium, and with a pH greater than 8.2.

Do not apply when weather conditions favor spray drift. Do not apply aerially when wind speeds are greater than 10 mph.

Do not use on sand soil.

Refer to the Gramoxone Extra label for additional directions, weed species controlled and precautions.

**POST DORMANT APPLICATION OF MANITOU DF IMPREGNATED ON DRY FERTILIZER ONLY**

MANITOU DF may be applied after dormancy has broken, but prior to three inches of new alfalfa shoot growth, only when impregnated on dry fertilizer in Connecticut, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Nebraska, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas and Wisconsin. Apply at rates of 1 to 1½ lb. per acre as directed on this label for application during dormancy. Apply only when alfalfa foliage is dry or crop injury may occur. When using this application method do not harvest or graze treated alfalfa for 60 days after application.

**ALFALFA-(Arizona Only)****Non-dormant, Non-Winter Hardy Varieties**

MANITOU DF is labeled as a broadcast surface application to established crops of non-dormant alfalfa varieties for preemergence and post-emergence control of certain winter annual weeds following either a fall or winter sheep grazing/green-chop harvest.

**WEEDS CONTROLLED**

Field pepperweed  
 Lambsquarters  
 Little mallow (cheeseweed)  
 Littleseed canarygrass  
 London rocket (mustard)  
 Prickly lettuce

Mouse barley  
 Nettleleaf  
 Shepherdspurse  
 Silversheath knotweed  
 Spiny sowthistle

**APPLICATION RATES (Arizona Only)****CROP****MANITOU DF Lb./ACRE**

**Alfalfa**  
 Non-dormant  
 Non-winter  
 Hardy varieties

½ to ¾

Apply specified dosage by aerial or ground spray equipment in 7 to 40 gallons of water per acre. Treat established alfalfa stubble after fall or winter sheep grazing or green-chop harvest and prior to the time regrowth is 2" tall. Alfalfa foliage present at time of application can exhibit yellowing. Injury may occur to alfalfa in areas of high salt concentration where the crop is stunted and/or has a poorly developed root system, or if alfalfa is under stressed growing conditions such as diseases, insect infestations, or drought. For most effective post-emergence weed control, treatment should be made before weeds are 2" tall or before leaf rosettes are 2" wide. For maximum control, rainfall (¼" or more) or irrigation is necessary within 30 days of treatment, however, do not flood irrigate within 2 days after treatment. Use ½ lb. MANITOU DF on sand soil when only mustard, goosefoot, lambsquarters, or canary grass are the weeds to be controlled. Do not apply earlier than 6 months after seeding. Do not graze or harvest within 28 days after application.

**SPECIAL PRECAUTIONS:** Maintain continuous mechanical agitation in the spray tank to insure a uniform spray mixture.

Applications should not be made when weather conditions favor drift especially in areas where wheat is growing on coarse textured soils in adjacent fields or injury may occur.

**RESTRICTIONS:** Do not apply with aerial spray equipment when wind speed is greater than 10 mph. Do not apply when weather conditions favor spray drift and/or when sensitive cool season crops such as cole crops, onions, peas, or strawberries are present in adjacent fields.

**ASPARAGUS (Established)**

MANITOU DF is labeled for use in ground spray equipment or sprinkler irrigation (center pivot, lateral move, or solid set) systems as a single preemergence broadcast application or as a split application consisting of a preemergence broadcast application followed by a post harvest broadcast application.

Aerial application is prohibited.

Refer to the PRODUCT INFORMATION section of this label for directions.

**WEEDS CONTROLLED**

MANITOU DF applied to established asparagus according to directions, will effectively control:

**Broadleaves**

Chickweed, Common (*Stellaria media*)  
 Jimsonweed (*Datura stramonium*)  
 Lambsquarters (*Chenopodium album*)  
 Pigweed, Redroot (*Amaranthus retroflexus*)

Ragweed, common (*Ambrosia artemisiifolia*)  
 Smartweed, Pennsylvania (*Polygonum pensylvanicum*)  
 Sorrel, Red (*Rumex acetosella*)  
 Velvetleaf (*Abutilon theophrasti*)

**Grasses**

Crabgrass (*Digitaria spp.*)  
 Foxtails (*Setaria spp.*)  
 Sandbur, Field (*Cenchrus pauciflorus*)



**BROADCAST APPLICATIONS**

Directions/Remarks	MANITOU DF (Lb./Acre)
<p><b>Preemergence Application Only:</b> Make a single surface application in early spring before asparagus spears or ferns emerge. If the field is to be disked, apply MANITOU DF after disking but before the crop emerges. Use the lower rate for control of the broadleaf weeds listed above. Use the higher rate in fields with a history of severe infestations of grasses and for maximum residual control. Do not apply within 14 days of harvest.</p>	1 1/8 to 2 1/8
<p><b>Split Application- Preemergence and Post Harvest:</b>  <b>Preemergence Application:</b> Apply before asparagus spears or ferns emerge. If the field is to be disked, apply after disking but prior to crop emergence. Do not apply within 14 days of harvest.  <b>Post Harvest Application:</b> Apply after last harvest of the season but prior to emergence. The lower combination rates may be used for control of common ragweed, lambsquarters, redroot pigweed, and red sorrel. Use the higher combination rates for other weeds listed or in fields with severe grass infestations or for maximum post harvest control of emerged weeds.</p>	2/8 to 1 1/8 preemergence  plus  1 1/8 to 2 post harvest
<p><b>IMPORTANT:</b> The total amount of MANITOU DF applied in one crop season may not exceed 2 1/2 lb. per acre.</p>	

**RESTRICTIONS (Asparagus):** Do not use on newly seeded asparagus or on young plants during the first growing season after setting crowns.

**DO NOT APPLY POST HARVEST APPLICATIONS UNTIL AFTER THE LAST HARVEST OF SPEARS.**

**CARROTS**

**Special Conditions of Sale Provision for Use on Carrots:** The following directions for use were developed under the direction of IR-4 (government minor crops use program). As such the testing was done independently from the testing program of ALTITUDE CROP INNOVATIONS, LLC Buyer is advised that ALTITUDE makes no assurances regarding satisfaction with the product and all risks of crop injury or product performance are assumed by the Buyer.

Apply MANITOU DF herbicide with ground equipment as specified below under APPLICATION RATES Table. For effective control of broadleaf weeds with post-emergence applications, apply MANITOU DF before weeds are 1 inch in height or diameter. Thorough spray coverage is essential for adequate weed control.

Do not use air blast or other high pressure spray equipment to make post-emergence applications of MANITOU DF. Refer to the appropriate section of this label for additional information regarding spray equipment, dilution rates, mixing, sprayer cleanup, restrictions, container disposal, and cautions.

Refer to MIXING under the PRODUCT INFORMATION section in the front of this label.

For specific application information see PRODUCT INFORMATION and APPLICATION sections at the front of this label.

**WEEDS CONTROLLED**

MANITOU DF applied to carrots according to directions will effectively control:	
Carpetweed ( <i>Mullugo verticillata</i> ) Galinsoga ( <i>Galinsoga parviflora</i> ) Horseweed ( <i>Coryza Canadensis</i> ) Lambsquarters, Common ( <i>Chenopodium album</i> ) Mustard, Wild ( <i>Sinapis arvensis</i> )	Pigweed, Redroot ( <i>Amaranthus retroflexus</i> ) Pigweed, Smooth ( <i>Amaranthus hybridus</i> ) Pineappleweed ( <i>Matricaria matricarioides</i> ) Prickly Lettuce ( <i>Lactuce scariola</i> ) Shepherdspurse ( <i>Capsella bursa-pastoris</i> )

**APPLICATION RATES - Carrots**

Directions/Remarks	MANITOU DF lb./Acre
Apply specified dosage per acre as a broadcast spray over the tops of carrot plants. Application should be made after carrots have formed 5 to 6 true leaves but before weeds are 1 inch in height or diameter. If needed, a second application may be made after an interval of at least 3 weeks. Applications may be made up to 60 days of harvest.	1 1/8
<p><b>IMPORTANT:</b> The total amount of MANITOU DF applied in one crop season must not exceed 2 1/2 lb. per acre.</p>	

**RESTRICTIONS:**

Do not apply to carrots grown for seed.

Do not apply within 3 days after periods of cool, wet, or cloudy weather or crop injury will occur.

Do not apply MANITOU DF within 3 days of any other chemical unless specified on this label.

Do not apply on very hot days or excessive crop injury will result.

Do not apply until carrots have at least 5 to 6 true leaves. Earlier applications will result in excessive crop damage.

**SPECIAL PRECAUTIONS:** Crop injury or delayed maturity may result from applications of MANITOU DF if carrots are growing under stress conditions such as periods of drought or cool, wet, and cloudy weather preceding application.

Following an application of MANITOU DF, chlorosis (yellowing) and burning of the leaf tissue may occur.

For newly introduced varieties of carrots with unknown tolerance to MANITOU DF, treat only a small area to determine if MANITOU DF can be used without injury to the crop.

## FIELD CORN

### POSTEMERGENCE APPLICATION

MANITOU DF is labeled for control of selected broadleaf weeds when applied as a tank mix combination with certain broadleaf herbicides presently registered and labeled for post-emergence use in field corn. Herbicides which may be tank mixed with MANITOU DF include:

2,4-D	Buctril + atrazine (Premix)	Resource
Atrazine	Clarity	Scorpion III
Banvel	Laddok S-12	Tough
Basagran	Marksman	
Buctril/Buctril Gel	Pursuit*	

\* Use only on Pursuit resistant/tolerant corn hybrids (MI-Corn)

**APPLICATION:** MANITOU DF may be applied to field corn after crop emergence until just prior to tasseling. Broadcast applications may be made with ground or aerial equipment. For optimum weed control, apply treatments when weeds are small and actively growing, but before reaching the maximum heights listed in the WEEDS CONTROLLED table.

### POSTEMERGENCE BROADCAST APPLICATION

**Ground Application:** Adjust nozzle height above crop and weed canopy to ensure uniform spray coverage. Gallonage should be increased with increasing weed size and population density. For tank mixes of MANITOU DF plus atrazine, Basagran, Laddok S-12, Buctril, Buctril + atrazine, Pursuit, Marksman, Tough, or 2,4-D amine formulations, use flat fan nozzles spaced a maximum of 20 inches apart. Best results are achieved using a minimum spray volume of 10 gallons per acre and spray pressure from 20 to 40 psi.

For MANITOU DF tank mixes with Banvel, Clarity, Marksman, or 2,4-D low volatile ester formulations, use drift-reducing nozzles which are specifically designed to produce coarse sprays and reduce the amount of driftable fines. Additional measures which will help avoid potential drift to sensitive crops and plants include using a minimum spray volume of 20 gallons per acre and keeping spray pressures at or below 20 psi unless otherwise specified by the nozzle manufacturer.

For further precautions and additional instructions and recommendations, consult the tank mix partner's label.

**Aerial Application:** Apply in a minimum spray volume of 3 gallons per acre. For optimum spray coverage and distribution, use a minimum of 5 gallons per acre and a maximum pressure of 40 psi. Use a boom and nozzle configuration which will provide a uniform deposition pattern and coverage with low drift potential. Avoid overlaps to prevent potential crop injury. Do not apply near sensitive crops or sensitive plants growing near the treated area. Do not apply when wind speed is greater than 10 mph or when winds are moving toward sensitive crops or plants. To avoid drift hazards, applicator must follow the most restrictive labeling of the products used in a tank mix. Refer to the appropriate tank mix partner's label for further precautions and recommendations.

### POSTDIRECTED APPLICATION

MANITOU DF in tank mix combinations with Banvel, 2,4-D, Buctril, or Scorpion III may be applied postdirected to field corn. Use drop nozzles and appropriate spacing to direct spray below the corn whorl and upper leaves. The top of the target weed canopy must be sufficiently below the whorl and upper leaves of the crop to permit this application and provide adequate spray coverage. The height differential required between the crop and weed canopy will depend on the specific equipment used. Apply before tassel emergence. For further precautions and additional recommendations, refer to the appropriate tank mix partner's label.

### ADJUVANTS

The adjuvant types listed below may be utilized with certain MANITOU DF tank mix combinations. Consult the tank mix recommendations section for the appropriate adjuvant and rate. Use of non-recommended adjuvants or rates may result in severe leaf burn, crop stunting, and/or stand reduction. Use only adjuvants which are exempt from tolerance requirements under 40 CFR 180.1001.

**UAN** (urea ammonium nitrate) is commonly referred to as 28, 30, or 32% N.

**Ammonium sulfate** (spray grade) may be used as alternative to UAN with certain tank mix combinations.

**Non-ionic surfactants** should contain at least 80% active ingredient.

**DO NOT USE** crop oil concentrate (COC) or any adjuvant containing vegetable or petroleum oils with any MANITOU DF tank mixtures as severe leaf burn, crop stunting, and/or stand reduction may occur.

### RAINFASTNESS

MANITOU DF will not reduce rainfastness of the recommended tank mix partners. Refer to the individual product labels for rainfastness recommendations.

### SPRAYER CLEANUP

Refer to each tank mix partner's label and the Sprayer Cleanup section of the MANITOU DF label for specific instructions on cleaning spray equipment. Special attention should be given to the required cleanup procedures for 2,4-D, Banvel, Clarity, and Marksman.

### RESTRICTIONS

1. Do not use on corn grown for seed, sweet corn, popcorn, or white corn.
2. Do not apply more than 0.25 pounds a.i. metribuzin (5½ ounces MANITOU DF) per acre per use season.
3. Do not apply when field corn is under stress (see Stress statement below).
4. Do not use aerial applications if sensitive crops or plants are growing in the vicinity of the area to be treated.

5. Do not allow spray drift onto sensitive crops or plants.
6. Do not use on sand, loamy sand or sandy loam soils that have less than 0.5% organic matter.
7. Do not use on sand or loamy sand soils in Washington, Oregon, or Idaho or crop injury may occur.
8. Observe all precautions and limitations on labeling of all products used in the tank mixtures.

**Stress** is any condition or combination of conditions which impairs normal crop growth. Weather, disease, insect damage, fertility, or other factors may cause stress. Applications made before or after the corn is under stress from these factors or from periods of prolonged cool, wet, and cloudy weather or widely fluctuating day and nighttime temperatures, may result in temporary leaf burn, yellowing, and/or stunting of the crop. Recovery from damage is generally rapid with no lasting effects on new growth. Under extreme stress, stand reductions may occur.

**Feeding Restrictions:** Field corn treated with MANITOU DF may be grazed or harvested for silage or grain 60 days after treatment. Follow the most restrictive preharvest interval on the labels of the products used in the tank mixtures.

#### TANK MIX COMBINATIONS

The MANITOU DF tank mixtures listed below can be utilized for control of certain annual broadleaf weeds.

MANITOU DF POSTEMERGENCE BROADCAST DIRECTIONS		
PRODUCT	RATE	DIRECTIONS AND REMARKS*
MANITOU DF + 2,4-D Amine or 2,4-D LVE	2 oz./A + ½ to 1 pt./A <sup>1</sup> or ½ to ½ pt./A <sup>1</sup>	Apply as a broadcast spray during the interval from corn emergence until corn is 8 inches tall. Apply only to varieties known to be tolerant to 2,4-D. <b>DO NOT USE ADJUVANTS.</b> 2,4-D may cause injury to nearby sensitive crops. 2,4-D applications may result in brittle corn stalks and winds or cultivation may cause stalk breakage. To reduce damage, delay cultivation 8 to 10 days after application.
MANITOU DF + Atrazine	2 oz./A + ½ to 1½ lb. ai/A	Apply as a broadcast spray during the interval from corn emergence until corn is 12 inches tall. A non-ionic surfactant (1 qt./100 gal of spray solution) may be added to improve weed control. Atrazine is a restricted use herbicide. Follow all state and federal label recommendations and restrictions pertaining to atrazine applications.
MANITOU DF + Banvel or Clarity	2 oz./A + ½ to 1 pt./A or ½ to 1 pt./A	Apply as a broadcast spray during the interval from corn emergence through the five-leaf stage or when corn is 8 inches tall, whichever occurs first. For Banvel applications to corn greater than 8 inches in height, consult the Banvel label for use rates and restrictions. If growing conditions are dry and plants are stressed, addition of a non-ionic surfactant (1 qt./100 gal of spray solution) may improve weed control. For corn grown on coarse-textured soils, apply Banvel or Clarity at ½ pt./A, regardless of application method. Application may cause injury to nearby sensitive crops or plants. Application may result in temporary leaning of corn plants. Delay cultivation until plants return to normal growth patterns to avoid stalk breakage.
MANITOU DF + Basagran	2 oz./A + 1 pt./A	Apply as a broadcast spray after corn emergence but before corn exceeds 30 inches in height and the crop canopy closes the row. Adjuvants such as UAN (½ to 1 gal./A), ammonium sulfate (17 lbs./100 gal of spray solution), or non-ionic surfactant (1 qt./100 gal of spray solution) may improve weed control.
MANITOU DF + Buctril or Buctril Gel	1½ to 2 oz./A + 1 pt./A or ½ pt./A	Apply as a broadcast spray when corn is in the fourth true leaf stage or later but before the crop canopy closes the row. <b>DO NOT USE ADJUVANTS.</b> Occasional temporary corn leaf burn may occur and is similar to that observed from liquid fertilizers. Recovery is generally rapid with no lasting effect. To reduce potential for crop damage, application should be made to dry corn foliage when weather conditions are not extreme.
MANITOU DF + Buctril + atrazine (Premix)	1½ to 2 oz./A + 1½ to 2 pt./A	Apply as a broadcast spray during the interval from corn emergence until corn is 12 inches tall. <b>DO NOT USE ADJUVANTS.</b> Occasional temporary corn leaf burn may occur and is similar to that observed from liquid fertilizers. Recovery is generally rapid with no lasting effect. To reduce potential for crop damage, application should be made to dry corn foliage when weather conditions are not extreme.
MANITOU DF + Laddok S-12	2 oz./A + 1½ to 1½ pt./A	Apply as a broadcast spray after corn emergence until the corn is 12 inches tall. Adjuvants such as UAN (½ to 1 gal./A) may increase weed control. Laddok S-12 contains atrazine and is a restricted use product. Follow all state and federal label recommendations and restrictions pertaining to atrazine.
MANITOU DF + Marksman	2 oz./A + 1½ to 2 pt./A	Apply as a broadcast spray during the interval from corn emergence through the five-leaf stage or when corn is 8 inches tall, whichever occurs first. <b>DO NOT USE ADJUVANTS.</b> Application may cause injury to nearby sensitive crops or plants. Application may result in temporary leaning of corn plants. Delay cultivation until plants return to normal growth patterns to avoid stalk breakage. Marksman contains atrazine and is a restricted use product. Follow all state and federal label recommendations and restrictions pertaining to atrazine.
MANITOU DF + Pursuit	2 oz./A + 2 to 4 oz./A	Use only on designated IMI-Corn hybrids (hybrids which are resistant/tolerant to Pursuit). Apply the 4-ounce rate of Pursuit if grasses are present or broadleaf weeds are near the maximum heights shown. Apply in combination with a non-ionic surfactant (1 qt./100 gal of spray solution) and UAN (1 to 2 qt./A).
MANITOU DF + Resource	3 fl. oz./A + 4 to 6 fl. oz./A	Apply as a broadcast spray to field corn from 2-leaf through 10-leaf (visible leaf collars) stage. Adjuvants such as nonionic surfactant (0.25% v/v), UAN (2% v/v) or ammonium sulfate (2½ lbs./A) may increase weed control.
MANITOU DF + Tough	2 oz./A + 1 to 2 pt./A	Apply as a broadcast spray after corn emergence but before corn height exceeds 30 inches and the crop canopy closes the row. A non-ionic surfactant (1 qt./100 gal of spray solution) may be added to improve weed control. Use the higher rates of Tough as weeds approach to maximum height listed or are found in high density. Tough may improve control on triazine/ALS resistant weeds.

\* Consult the appropriate tank mix partner's label for additional recommendations or restrictions. The most restrictive labeling applies to tank mixes with MANITOU DF.

<sup>1</sup> Application rate is based on, but not restricted to 4 pounds active ingredient per gallon of 2,4-D.

**WEEDS CONTROLLED- POSTEMERGENCE BROADCAST APPLICATION**

These tank mixtures with MANITOU DF will control the following annual weeds up to the maximum weed heights listed:

Common Weed Name	MANITOU DF									
	Atrazine	Banvel/Clarity	Basagran	Buctril/ Buctril + Atrazine	2,4-D	Marksman	Pursuit	Laddok S-12	Resource	Tough
	<b>MAXIMUM WEED HEIGHT IN INCHES*</b>									
Amaranth, Palmer	4 <sup>a</sup>	4	2 <sup>a</sup>	4 <sup>a</sup>	4	4	8 <sup>b</sup>	6	4	4
Buckwheat, wild	3	3	3	3	2	3	2	3	4	
Buffalobur	4	4		4		4	1			
Burcucumber		4		4	2	4				4
Carpetweed	2	2	2	2	2	2		2	3	4
Cocklebur, common	8	8	8	8	8	8	8 <sup>b</sup>	8	3	6
Eclipta	3	3	3	3	3	3		3		3
Henbit	3	3	2	2	2	4	3	3		4
Horseweed/marestail	3	4	1	1	3	6		2	3	
Jimsonweed	5	5	6	5	5	5	5	6	3	5
Knotweed	6	6	6	4	2	6	4	6		4
Kochia	2 <sup>a</sup>	2	1 <sup>a</sup>	2 <sup>a</sup>	2 <sup>a</sup>	2	2	2 <sup>a</sup>		4
Ladysthumb	6	6	6	6	4	6	4	6	4	6
Lambsquarters, common	6 <sup>a</sup>	6	1	6	6	6	4	5	4	4
Lettuce, prickly	4	4		3	4	5		3		
Mallow, Venice	2	2	2	2	2	2	2	4		
Morningglory, entire leaf	3	3	1	3	3	3	2	2		
Morningglory, ivyleaf	3	3	1	3	3	3	2	2		
Morningglory, pitted	3	3	1	3	3	3	2	2		
Morningglory, tall	3	3	1	3	3	3	2	2		
Mustard, lansy	4	4	4	4	4	4	4	4		
Mustard, wild	4	4	4	4	4	4	4	4		4
Nightshade, black	6	6		6	1	6	3	1		4
Nightshade, eastern black	6	6		6	1	6	3	1		4
Pigweed, redroot	6 <sup>a</sup>	6	2 <sup>a</sup>	6 <sup>a</sup>	6	6	8 <sup>b</sup>	6 <sup>a</sup>	4	6
Pigweed, smooth	6 <sup>a</sup>	6	2 <sup>a</sup>	6 <sup>a</sup>	6	6	8 <sup>b</sup>	6 <sup>a</sup>	4	6
Poorjoe	3	3	3	3	3	3	3	3		
Purslane, common	1	3				4	1			3
Pusley, Florida	3	3	3	3	3	3		3	3	
Ragweed, common	5	5	3	5	5	6	3	4	3	
Ragweed, giant	4	5	2	4	3	6	4	4		
Sicklepod	3	3	3	3	3	3	3	3		2
Sida, prickly	1	1	3	1	1	2	1	2	2	1
Smartweed, Pennsylvania	6	6	6	6	4	6	4	6	4	
Sunflower, common	6	6	6	6	6	6	5	6		5
Thistle, Russian	1	3		3	1	3	1	1		3
Velvetleaf	6 <sup>a</sup>	6	6	6	4	6	5	6	6	
Waterhemp, spp.	5 <sup>a</sup>	5	2 <sup>a</sup>	5 <sup>a</sup>	5	5	4 <sup>b</sup>	2 <sup>a</sup>	4	5

\* When weeds are approaching the maximum height listed or found in high densities, use the higher rate of MANITOU DF and the selected tank mix partners.

<sup>a</sup> These treatments will not control triazine-resistant biotypes.

<sup>b</sup> These treatments will not control ALS-resistant biotypes.

**MANITOU DF POSTDIRECTED RATES AND DIRECTIONS**

PRODUCT	RATE	DIRECTIONS AND REMARKS*
MANITOU DF + 2,4-D Amine or 2,4-D LVE	2 to 3 oz./A + ¾ to 1½ pt./A <sup>1</sup> or ½ to ¾ pt./A <sup>1</sup>	For corn greater than 8-inches tall, apply as a directed spray with drop nozzles before tassel emergence. Apply only to varieties known to be tolerant to 2,4-D. DO NOT USE ADJUVANTS. 2,4-D may cause injury to nearby sensitive crops. 2,4-D applications may result in brittle corn stalks and winds or cultivation may cause stalk breakage. To reduce damage, delay cultivation 8 to 10 days after application.
MANITOU DF + Banvel	2 to 3 oz./A + ½ pt./A	For corn 8- to 36-inches tall, apply as a directed spray with drop nozzles. Application may be made up to 15 days prior to corn tasseling. If growing conditions are dry and plants are stressed, addition of a non-ionic surfactant (1 qt./100 gal of spray solution) may improve weed control. For corn grown on coarse-textured soils, apply Banvel at 0.5 pt./acre, regardless of application method. Application may cause injury to nearby sensitive crops or plants. Application may result in temporary leaning of corn plants. Delay cultivation until plants return to normal growth patterns to avoid stalk breakage.
MANITOU DF + Buctril or Buctril Gel	2 to 3 oz./A + 1 to 1½ pt./A or ½ to ¾ pt./A	Apply as a directed spray with drop nozzles before tassel emergence. DO NOT USE ADJUVANTS. Occasional temporary corn leaf burn may occur and is similar to that observed from liquid fertilizers. Recovery is generally rapid with no lasting effect. To reduce potential for crop damage, application should be made to dry corn foliage when weather conditions are not extreme.
MANITOU DF + Scorpion III	3 to 4½ fl. oz./A + 4 oz./A	For corn 8 to 24 inches tall, apply as a directed spray with drop nozzles. Include nonionic surfactant (1 qt./100 gal) plus UAN (2.5 gal./100gal) for optimum weed control.

\* Consult the appropriate tank mix partner's label for additional recommendations or restrictions. The most restrictive labeling applies to tank mixes with MANITOU DF.

<sup>1</sup> Application rate is based on but not restricted to 4 pounds active ingredient per gallon of 2,4-D.

**WEEDS CONTROLLED-POSTDIRECTED APPLICATION**

These tank mixtures with MANITOU DF will control the following annual weeds up to the maximum weed heights listed.

COMMON WEED NAME	MANITOU DF +			
	2,4-D	Banvel	Buctril	Scorpion III
	MAXIMUM WEED HEIGHT IN INCHES*			
Amaranth, Palmer	12	12	6	8
Cocklebur, common	12	12	12	15
Jimsonweed	12	10	10	8
Ladysthumb	6	8	6	6
Lambsquarters, common	12	12	10	12
Morningglory, entire leaf	18	18	6	12
Morningglory, ivyleaf	18	18	6	12
Morningglory, pitted	18	18	6	12
Morningglory, tall	18	18	6	12
Nightshade, black	10	8	8	6
Nightshade, eastern black	10	8	8	6
Pigweed, redroot	12	12	6	8
Pigweed, smooth	12	12	6	8
Ragweed, common	8	8	8	10
Ragweed, giant	12	12	8	15
Smartweed, Pennsylvania	6	8	6	6
Sunflower, common	12	12	12	12
Velvetleaf	10	8	8	8
Waterhemp tall, spp.	12	12	6	8

\* When weeds are approaching the maximum height listed or found in high densities, use the higher rate of MANITOU DF and the selected tank mix partners.

## PERENNIAL WEED SUPPRESSION

The following MANITOU DF tank mixtures will provide top growth burndown and in season suppression of the following perennial weeds; however, regrowth may occur. For the best performance on these weeds, use the maximum rates of MANITOU DF, Banvel, Buctril, Buctril + atrazine, Clarity, Marksman, 2,4-D LVE, or Pursuit recommended for these tank mixtures.

### MANITOU DF + Banvel or Clarity

Bindweed, field; Dandelion, common; Dock, curly; Smartweed, swamp; Thistle, Canada.

### MANITOU DF + Buctril or Buctril + atrazine

Thistle, Canada

### MANITOU DF + 2,4-D LVE

Bindweed, field; Dandelion, common; Dock, curly; Smartweed, swamp; Thistle, Canada.

### MANITOU DF + Marksman

Bindweed, field; Dandelion, common; Dock, curly; Smartweed, swamp; Thistle, Canada.

### MANITOU DF + Pursuit

Thistle, Canada

## PREPLANT AND PREEMERGENCE

### Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin

MANITOU DF is labeled for additional residual control of certain broadleaf weed species in corn when applied as a tank mix combination with both grass and broadleaf herbicides registered and labeled for use in field corn. MANITOU DF can be tank mixed with labeled rates of the following herbicides:

Alachlor	Bladex	Dual II	Lihuron	Pursuit*	Surpass
Atrazine	Broadstrike + Dual	Frontier	Lorox	Ramrod	Surpass 100
Banvel	Broadstrike Plus	Guardsman	Marksman	Ramrod/atrazine	Topnotch
Bicep	Bullet	Harness Extra	Pentagon	Simazine	
Bicep II	Clarity	Lariat	Prowl		
Bicep Lite	Dual	Linex	Pursuit Plus*		

\* Use only on Pursuit resistant/tolerant corn hybrids (IMI corn).

**APPLICATION:** MANITOU DF may be applied to field corn preplant without incorporation up to 30 days prior to planting or preemergence. Applications may be made by either ground or aerial equipment. For tank mixes, follow the most restrictive application methods of all products used.

### RESTRICTIONS:

1. Do not apply more than 5¼ ounces MANITOU DF (0.25 pound active ingredient) per acre per growing season.
2. Do not apply on soils having pH 7.0 or greater.
3. Plant Corn seed at least 1½ inches deep.

### SPECIAL PRECAUTIONS:

1. MANITOU DF may only be used in hybrid seed corn production fields if both inbred parents are known to be tolerant to MANITOU DF.
2. Not recommended for use on muck soils as reduced weed control may result.
3. Observe all precautions and limitations on labeling of all products used in tank mixes.

**Feeding Restrictions:** Corn treated with MANITOU DF may be harvested for silage or grain 60 days after treatment. For tank mixes, follow the most restrictive preharvest interval of all products used.

**Weeds Controlled:** MANITOU DF will aid in the residual preemergence control of the following weed species when tank mixed with other registered grass and/or broadleaf corn herbicides:

Horseweed/marestail	Pigweed spp.	Sunflower
Ladythumb	Ragweed, common	Velvetleaf
Lambsquarters, common	Smartweed, Pennsylvania	Waterhemp, Tall

\* For control of emerged weeds refer to the BURNDOWN WEED CONTROL section of the MANITOU DF label.

**MANITOU DF FIELD CORN USE RATES**

States		Application Timing	MANITOU DF Oz./A
Iowa Kansas Missouri	Nebraska South Dakota	Preplant (0 to 30 days) Preemergence	2 to 5½
Illinois Indiana Kentucky Michigan	Minnesota Ohio Wisconsin	Preplant (10 to 30 days)	2 to 5½
		Preplant (0 to 9 days) Preemergence	2 to 4

**REMARKS:** Apply as a broadcast spray prior to corn emergence from the soil. Do not apply MANITOU DF on coarse textured soils with less than 1.5% organic matter. Do not apply more than 4 oz. MANITOU DF per acre on soils with less than 2.0% organic matter. For heavy weed infestations and/or early preplant applications, use the higher rates of MANITOU DF. Consult the label of herbicide tank mix partners to determine proper use rates for the other product(s).

**SWEET CORN**

**PREPLANT AND PREEMERGENCE APPLICATIONS**

**Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin**

MANITOU DF is labeled for additional residual weed control of certain broadleaf weed species, when applied in combination with other broadleaf and/or grass herbicides as a tank mixture. All products used must be labeled for use on sweetcorn. The most restrictive restrictions and precautions of all the products used must be observed. Use only labeled rates and methods of applications.

**Tank Mixtures:** MANITOU DF can be tank mixed with the products containing one or more of the following herbicides: 2,4-D, alachlor, atrazine, glyphosate, linuron, metolachlor, metribuzin, paraquat, and pendimethalin.

**Weeds Controlled:** Refer to the PREPLANT AND PREEMERGENCE APPLICATION- FIELD CORN section of this label for a list of weeds controlled by MANITOU DF when applied before weed emergence. Use recommended adjuvants when emerged weeds are present. Refer to the BURNDOWN WEED CONTROL- FIELD CORN section for a list of weeds controlled and weed height restrictions.

**Sequential Applications:** Sequential applications of all herbicides containing metribuzin (the active ingredient in MANITOU DF) are subject to a limitation of not more than 0.25 pounds a.i. of metribuzin (5½ ounces of MANITOU DF) per acre of corn per use season. There are no other specific restrictions on sequential applications due to the application of MANITOU DF.

**RESTRICTIONS:**

1. Do not apply more than a total of 5½ ounces MANITOU DF (0.25 pounds metribuzin) per acre per growing season.
2. Do not apply preplant or preemergence on soils having a pH of 7.0 or greater.
3. Plant Corn seed at least 1½ inches deep.

**SPECIAL PRECAUTIONS:**

1. MANITOU DF may only be used in hybrid seed production fields, if both inbred parents are known to be tolerant to MANITOU DF.
2. Reduced residual weed control may result when used on organic soils. For this reason, residual weed control is not claimed on organic soils.
3. Observe all precautions and limitations on labeling of all products used in tank mixtures.

**Feeding Restrictions:** Grain, forage, and processing waste may be fed to livestock if harvested at least 60 days after the last application of MANITOU DF.

**Sensitive Sweetcorn Hybrids:** Make applications only to hybrids that have established tolerance to the application planned.

**Application Methods and Timing:** MANITOU DF can be applied preplant surface or preemergence as a broadcast or band application in water, fluid fertilizer, or impregnated on dry fertilizer. Ground or aerial equipment may be used. See DIRECTIONS FOR USE section of this label for directions.

**Application Rate Directions:** Refer to the DIRECTIONS FOR USE section of this label for definitions of SOIL TEXTURE GROUP and other information that applies to all applications. Use the lowest rate of the labeled rate range on soils with the lowest percent clay and organic matter for the group and progressively higher rate for increased clay and organic matter content. The clay content is at least twice as important as organic matter when adjusting rates. Rates will vary based on local conditions.

SOIL TEXTURE GROUP	SOIL ORGANIC MATTER CONTENT	
	1.6 to 2.9%	3.0% or More
<b>All Sand Soils</b>	<b>DO NOT USE</b>	
<b>Coarse</b>	1.6 to 2.4 oz./A	2.5 to 2.8 oz./A
<b>Medium</b>	3 to 3.3 oz./A	3.2 to 3.7 oz./A
<b>Fine</b>	3.6 to 4.0 oz./A	3.6 to 4.4 oz./A

For early preplant application more than 9 days before planting and fields with at least 30% crop residue on the soil surface at application, the application rate may be increased 1 oz./A, but not to exceed 5½ oz./A.  
For band applications use proportionally less per planted acre.  
See DIRECTIONS FOR USE section of this label.

## GARBANZO BEANS (Chickpeas)

### California, Idaho, Oregon, and Washington

**Special Conditions of Sale for Use on Garbanzo Beans (Chickpeas):** The following directions for use were developed under the direction of IR-4 (government minor crops use program). As such the testing was done independently from the testing program of ALTITUDE CROP INNOVATIONS, LLC. Buyer is advised that ALTITUDE makes no assurances regarding satisfaction with the product and that all risks of crop injury or product performance are assumed by the Buyer.

MANITOU DF herbicide is labeled as a preemergence application for the suppression of certain broadleaf weeds in garbanzo beans.

<b>WEEDS SUPPRESSED*</b>	
Common Chickweed Common Lambsquarters Dog Fennel (Mayweed) Field Pennygrass	Henbit Pigweed Shepherdspurse Wild Mustard
*Suppression is a reduction in weed size and growth compared to a non-treated area in the same field. MANITOU DF used alone will not control triazine-resistant weed species.	

<b>APPLICATION RATES AND DIRECTIONS</b>	
CROP	MANITOU DF Lb./Acre
Garbanzo beans	1/6 to 1/2
Apply specified dosage in a single preemergence application using 10 to 40 gallons of water per acre with ground spray equipment. Apply before or after planting but before crop emergence. Thorough incorporation, either by rainfall or by mechanical means, is essential for weed suppression. Under dry conditions, incorporate MANITOU DF into the top 1 to 2 inches of soil with spike harrows or similar shallow incorporation equipment, then cross harrow to insure uniform soil incorporation. Where soil surface is moist at the time of application and rain follows before weed emergence, a broadcast application should provide adequate weed suppression. Use on coarse-textured soils, sandy soils, or any soil with less than 1.5% organic matter will likely cause crop injury. Use the higher rate on fine-textured soils (high in clay or organic matter) and in fields with a history of high weed populations.	

#### RESTRICTIONS:

DO NOT USE ON CLAY KNOBS OF POORLY COVERED SUBSOILS.  
DO NOT APPLY PREEMERGENCE ON SHALLOW SEEDINGS LESS THAN 2 INCHES DEEP.  
DO NOT GRAZE OR FEED TREATED VINES TO LIVESTOCK WITHIN 40 DAYS AFTER APPLICATION.

#### SPECIAL PRECAUTIONS:

Crop injury may result if crop is under stress conditions caused by cold weather, poor soil fertility, disease, or insect damage. Crop injury may result if application is followed by heavy rain. Avoid application of more than 1/2 inch of irrigation within one month after application of MANITOU DF or crop injury may occur. Maintain continuous spray tank agitation to keep material in suspension. Avoid overlapping of spray swaths and shut off spray booms while turning, slowing, or stopping, or crop injury will occur.

**NOTE:** This treatment may cause some chlorosis or minor necrosis. Because garbanzo bean varieties may vary in their susceptibility to MANITOU DF, determine crop tolerance prior to adoption as a field scale practice to prevent possible injury.

## LENTILS AND PEAS

### Idaho, Oregon, Washington, Montana, and North Dakota

MANITOU DF herbicide is labeled as a preemergence and post-emergence application for the suppression of certain broadleaf weeds in lentils and peas.

<b>WEEDS SUPPRESSED*</b>	
Common Chickweed** Lambsquarters Dog Fennel Shepherdspurse** Field Pennygrass Wild Mustard	Henbit** Corn Spurry Redroot Pigweed Pennsylvania Smartweed Pineapple Weed Prostrate Knotweed
*Suppression is a reduction in weed size and growth compared to a non-treated area in the same field. MANITOU DF used alone will not control triazine-resistant weed species. ** Preemergence application only.	

**PREEMERGENCE APPLICATION:** Make a single preemergence application of MANITOU DF at 1/4 to 1/2 lb. per acre per crop year. Apply in 10 or more gallons of water per acre with ground spray equipment or 5 or more gallons of water per acre with aerial spray equipment. Apply MANITOU DF before or after planting. Thorough incorporation either by rainfall or by mechanical means is essential for weed suppression. Under dry conditions, incorporate MANITOU DF into the top 1 to 2 inches of soil with spike harrows or similar shallow incorporation equipment, then cross harrow to insure uniform soil incorporation. Where soil surface is moist at the time of application and rain follows before weed emergence, a broadcast application should provide adequate weed suppression.  
Use the higher rate on fine-textured soils (high in clay or organic matter) and in fields with a history of high weed populations.

MANITOU DF may be applied pre- or post-plant incorporated as a tank mix combination with Fargo 4 EC. Follow the DIRECTIONS FOR USE statements on both product labels.



**POSTEMERGENCE APPLICATION:** One post-emergence application may be made per season. Use ¼ to ½ lb. of MANITOU DF per acre on lentils and spring peas. On winter peas, use ¼ to ½ lb. of MANITOU DF per acre. For suppression of dog fennel, use ½ lb. MANITOU DF per acre. Apply specified dosage in 20 or more gallons of water per acre with ground spray equipment of 5 or more gallons of water per acre with aerial spray equipment. Do not exceed 40 psi with ground spray equipment. Apply as a broadcast spray when weeds are small (less than 2 inches in height or diameter) and before crop is 6 inches tall.

Temporary chlorosis of the crop may occur. There is an added risk of crop injury if a post-emergence application is made following a previous preemergence of post plant incorporated MANITOU DF application.

Do not apply over very moist soils or wet crop foliage. Do not apply post-emergence application within 3 days after periods of cool, wet, or cloudy weather or crop injury may occur. Do not apply within 24 hours of treatment with other pesticides.

**RESTRICTIONS:** Do not apply more than ¾ lb. MANITOU DF per acre per year.

Do not use on coarse-textured soils, sandy soils, or soils with less than 1.5% organic matter.

Do not apply to ESTIN lentils.

Do not use on clay knobs or poorly covered subsoils.

Do not apply on shallow seedlings less than 2 inches deep (preemergence only).

Do not apply within 50 days of harvest of peas or within 75 days of harvest of lentils. Do not graze or feed treated vines to livestock within 40 days after application.

Do not rotate any crop not listed on this label for 18 months following application of MANITOU DF. Refer to Crop Rotation Restrictions section of this label for more information.

**SPECIAL PRECAUTIONS (All Applications):**

Crop injury may result if crop is under stress conditions caused by cold weather, low fertility, disease, or insect damage.

Crop injury may also result if application is followed by heavy rain.

Maintain continuous spray tank agitation to keep material in suspension. Avoid overlapping and shut off spray booms while turning, slowing or stopping, or crop injury will occur.

**NOTE:** This treatment may cause some chlorosis or minor necrosis. Because lentil and pea varieties may vary in their susceptibility to MANITOU DF determining crop tolerance prior to adoption as a field scale practice is suggested to prevent possible injury.

For additional precautions, restrictions, limitations, and sprayer clean-up information, refer to the appropriate sections of this label.

**SUGARCANE-Hawaii Only**

MANITOU DF, a selective herbicide, is effective as a preemergence and an early post-emergence broadcast application for control of certain grass and broadleaf weeds. When applied as a spot treatment, it also provides excellent control of perennial grasses and broadleaves.

**Ground Application:** MANITOU DF should be mixed by filling the spray tank full half of clean water. Then add the labeled amount of MANITOU DF to suit the total tank capacity and the rate of application per acre (preferably 25 to 35 gallons per acre). Complete filling the tank and maintain sufficient agitation during mixing and spraying to ensure a uniform spray mixture.

**Aerial Application:** MANITOU DF is labeled for use in aerial spray equipment as a preemergence or post-emergence application to irrigated sugarcane. Aerial spray equipment should be calibrated to apply the proper amount of MANITOU DF in 5 to 10 gallons of spray mixture per acre.

For aerial and chemigation application methods on sugarcane the maximum application rate is 2½ lb. MANITOU DF/acre.

To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply this product by aircraft at a minimum upwind distance of 400 ft from sensitive plants.

MANITOU DF applied preemergence or post-emergence to the sugarcane as a broadcast spray or spot treatment will effectively control the following when weeds are less than 3 inches in height.

**WEEDS CONTROLLED IN IRRIGATED AND NON-IRRIGATED SUGARCANE**

**Broadleaves**

Amaranth, spiny (*Amaranthus spinosus*)  
Euphorbia, wild (*Euphorbia* spp.)  
Fireweed (*Erechtites hieracifolius*)  
Floras paintbrush (*Emilia sonchifolia*)  
Spurge, Garden (*Euphorbia hirta*)  
Spurge, Graceful (*Euphorbia glomerifera*)

**Grasses**

Crabgrass (*Digitaria* spp.)  
Guineagrass (*Panicum maximum*)  
Plushgrass (*Chloris radiata*)  
Ricegrass (*Oryzopsis humenoides*)  
Wiregrass (*Elyusine indica*)

**WEEDS CONTROLLED IN IRRIGATED SUGARCANE ONLY**

**Broadleaves**

Amaranth, Spleen (*Amaranthus dubius*)  
Haole Koa (*Leucaena leucocephata*)  
Hialoa (*Waltheria Americana*)  
Hilahlia (*Mimosa pudica*)  
Purslane, common (*Portulaca oleracea*)  
Rattlepod (*Crotalaria spectabilis*)

**Grasses**

Alexandergrass (*Brachiaria plantaginea*)  
Bristly foxtail (*Setaria verticillata*)

**WEEDS CONTROLLED IN NON-IRRIGATED SUGARCANE ONLY**

**Broadleaves**

Ageratum (*Ageratum conyzoides*)  
Richardia (*Richardia brasiliensis*)  
Tarweed (*Cuphea carthagenesis*)

**SUGARCANE (HAWAII ONLY) DIRECTED BROADCAST APPLICATIONS**

MANITOU DF (Lb./Acre)	REMARKS
2½ to 5½ (Non-irrigated)	<b>Preemergence (Irrigated and non-irrigated sugarcane):</b> Apply specified dosage per acre as a broadcast spray to the soil surface. Apply product within two weeks after planting prior to cane emergence or shortly after emergence (spike stage). <b>OR</b>
5½ to 8 (Irrigated)	<b>Early Post-emergence (Irrigated and non-irrigated sugarcane):</b> Apply specified dosage per acre as a broadcast spray over the cane. Application may be delayed as long as 4 to 6 weeks after planting provided weeds are less than 3 inches in height. <b>OR</b>
2½ to 5½	<b>Post-emergence:</b> Apply specified dosage per acre as a broadcast spray to control weeds prior to CLOSE IN time when cane shades out the weed growth.
3½ to 6½	<b>Spot Treatment:</b> Apply specified dosage in 30 to 50 gallons of finished spray per acre. Spot treatments may be used to control weeds in missed areas, corners of fields, or areas of hard to control weeds.
<b>NOTE:</b> Do not apply more than 10½ lb. of MANITOU DF (8 lb. active ingredient) per acre per crop cycle regardless of the method of application. The last application may be made up to 17 months of harvest.	

**RESTRICTIONS:** Do not use treated foliage for feed or forage.

**SUGARCANE-Louisiana and Texas Only**

**WEEDS CONTROLLED IN IRRIGATED AND NON-IRRIGATED SUGARCANE**

Preemergence and post-emergence applications of MANITOU DF with aerial or ground spray equipment are recommended for control of the following weeds in sugarcane in Louisiana and Texas:

Broadleaves	Grasses
Amaranth, spiny ( <i>Amaranthus spinosus</i> ) Bindweed, Field ( <i>Convolvulus arvensis</i> ) Chickweed ( <i>Cerastium vulgatum</i> ) Henbit ( <i>Lamium amplexicaule</i> ) Lambsquarters ( <i>Chenopodium album</i> ) London rocket ( <i>Sisymbrium irio</i> ) Marestail ( <i>Conyza Canadensis</i> ) Mustard, Wild ( <i>Brassica kaber</i> ) Pigweeds ( <i>Amaranthus spp.</i> ) Purslane ( <i>Portulaca oleracea</i> ) Sowthistle ( <i>Sonchus spp.</i> )	Broadleaf Signalgrass ( <i>Brachiaria platyphylla</i> ) Crabgrass ( <i>Digitaria spp.</i> ) Foxtails ( <i>Setaria spp.</i> ) Johnsongrass, Seedling ( <i>Sorghum halepense</i> ) Oats, Winter ( <i>Avena spp.</i> )

**SUGARCANE- APPLICATION RATES AND DIRECTIONS-Louisiana and Texas Only**

MANITOU DF (Lb./Acre)	REMARKS
2 to 4	<b>Broadcast:</b> Apply specified dosage per acre using 20 to 30 gallons of water with ground equipment or 5 gallons of water with aircraft spray equipment. Apply as a broadcast spray during the Fall after planting or to the stubble after harvest. Make a second application early in the Spring.
1 to 2	<b>Band:</b> Apply specified dosage in 10 to 20 gallons of water per acre in a 30 to 36 inch band over the row during the Fall after planting or to the stubble after harvest. Make a second application early in the Spring.

**RESTRICTION:** DO NOT USE TREATED FOLIAGE FOR FEED OR FORAGE.

**SPECIAL PRECAUTIONS (Louisiana and Texas only):** Use the higher rate on heavy clay soil and soil with a high percentage of organic matter. If necessary, a third application may be made in late spring at lay-by. Do not apply within 60 days of harvest.

**SUGARCANE-Florida Only**

Post-emergence over-the-top or directed spray applications of MANITOU DF are recommended for the control of the following weeds in sugarcane in Florida.	
Broadleaves	Grasses
Amaranth, spiny (seedling) ( <i>Amaranthus spinosus</i> ) Butlerweed (Cressleaf groundsel) ( <i>Senecio glabellus</i> ) Cudweed ( <i>Gnaphalium spp.</i> ) Purslane ( <i>Portulaca oleracea</i> )	*Crabgrass, large ( <i>Digitaria sanguinalis</i> ) Foxtail, bristleglass ( <i>Setaria magna</i> ) Goosegrass ( <i>Eleusine indica</i> ) Panicum, broadleaf ( <i>Panicum adspersum</i> ) Signalgrass, broadleaf ( <i>Brachiaria platyphylla</i> )

APPLICATION RATES AND DIRECTIONS	
MANITOU DF (Lb./Acre)	REMARKS
1½ to 2½	<b>Ground Application:</b> MANITOU DF is labeled for use in one or two applications with a minimum of 14 days between each application. Apply when weeds are less than 6 inches tall in 10 to 40 gallons of spray mixture per acre. <b>Post-emergence Broadcast or Band:</b> Apply over-the-top of stubble or plant cane while sugarcane is less than 14 inches tall. <b>Post-emergence Directed Spray:</b> Apply to sugarcane that is a minimum of 14 inches tall and before row closing.
1½ to 2	<b>Aerial Application:</b> Apply when weeds are less than 4 inches tall in 5 to 10 gallons of spray mixture per acre. Apply to stubble or plant cane while the sugarcane is less than 14 inches tall.

**MANITOU DF PLUS Atrazine TANK MIX:** MANITOU DF may be used with atrazine as a preemergence or post-emergence (before row closing) application to sugarcane. Rates for MANITOU DF are 1 to 2½ lb./acre and atrazine 80% WP (4L) are 2½ to 5 lb./acre (2 to 4 qt./acre). For additional information on precautions, instructions, limitations, application, and weeds controlled, refer to this label and the atrazine label.

**RESTRICTIONS:** Do not use more than 2½ lb. per acre in a single growing season.  
Do not use on sand soils.  
Do not apply within 60 days of harvest. Do not use treated crop for feed or forage.

**SPECIAL PRECAUTIONS (Florida Only):** Spray contact with sugarcane foliage may result in minor leaf margin chlorosis and/or necrosis. Avoid spray overlaps or variations in application speed that may result in insufficient or excessive rates of application.

#### TOMATOES

Apply MANITOU DF herbicide with ground equipment to seeded and transplanted tomatoes as specified below under labeled APPLICATIONS.

Aerial application is prohibited.

For effective control of grasses and broadleaf weeds with post-emergence applications, apply MANITOU DF before weeds are 1-inch tall. Thorough spray coverage on weed foliage is essential for adequate control with post-emergence applications.

Do not use air blast or other high pressure spray equipment to make post-emergence applications of MANITOU DF. Refer to the appropriate section of the label for additional information regarding spray equipment, dilution rates, mixing, sprayer cleanup, restrictions, container disposal, and cautions.

For specific application information see the PRODUCT INFORMATION section in the front of this label.

WEEDS CONTROLLED	
PREPLANT INCORPORATED APPLICATIONS TRANSPLANT TOMATOES ONLY Broadcast Sprays-½ to ¾ lb. MANITOU DF/Acre	
<b>Broadleaves</b> Galinsoga (Galinsoga spp.) Lambsquarters (Chenopodium album) *Pigweed, Redroot (Amaranthus retroflexus) *Purslane, Common (Portulaca oleracea)	<b>Grasses</b> Goosegrass ( <i>Elyusine indica</i> )
<b>(Continued)</b> Preplant incorporated applications applied as directed will suppress foxtails, panicums, and barnyardgrass. <b>MANITOU DF/Trifluralin Tank Mix:</b> This tank mix combination applied preplant incorporated as directed on this label will control the weeds listed above plus those weeds listed on the trifluralin label.	
*For optimum control of these weeds, use the highest rate on the label for the type of application to be made. Repeat post-emergence applications may be needed for best control. Post-emergence applications as directed on this label will suppress barnyardgrass and crabgrass when these weeds are less than 1-inch tall.	

**WEEDS CONTROLLED**

**POSTEMERGENCE APPLICATIONS- ESTABLISHED TOMATOES**

For effective control of weeds with post-emergence applications, apply MANITOU DF before weeds are 1-inch tall.

Broadcast Sprays- 1/2 to 2/3 lb. MANITOU DF/Acre	Directed Sprays- 2/3 to 1 1/2 lb. MANITOU DF/Acre
<b>Broadleaves</b> Carpetweed ( <i>Mollugo verticillata</i> ) Fumitory ( <i>Fumaria officinalis</i> ) Galinsoga ( <i>Galinsoga</i> spp.) *Jimsonweed ( <i>Datura stramonium</i> ) *Ladythumb ( <i>Polygonum persicaria</i> ) Lambsquarters ( <i>Chenopodium album</i> ) Mustard, Wild ( <i>Brasica kaber</i> ) Pigweeds ( <i>Amaranthus</i> spp.) Purslane ( <i>Portulaca oleracea</i> ) *Ragweed, common ( <i>Ambrosia artemisiifolia</i> ) *Smartweed, Pennsylvania ( <i>Polygonum pennsylvanicum</i> ) Toadflax ( <i>Linaria</i> spp.) *Velvetleaf ( <i>Abutilon theophrasti</i> )	<b>Grasses</b> *Foxtail, Yellow ( <i>Setaria glauca</i> ) Goosegrass ( <i>Elyusine indica</i> )  <b>Plus Weeds Listed Under Broadcast Sprays</b>

\*For optimum control of these weeds, use the highest rate on the label for the type of application to be made. Repeat post-emergence applications may be needed for best control. Post-emergence applications as directed on this label will suppress barnyardgrass and crabgrass when these weeds are less than 1-inch tall.

**BROADCAST APPLICATIONS FOR TOMATOES**

MANITOU DF (Lb./Acre)	REMARKS
1/2 to 2/3	<b>Preplant Incorporated-Transplant Tomatoes Only:</b> Apply specified dosage in 10 or more gallons of water per acre as a broadcast spray to the soil surface immediately before transplanting. Incorporate to a depth of 2 to 4 inches with equipment capable of uniformly mixing the chemical into the soil. This application may be made alone or in a tank mix combination with trifluralin. When transplanting tomatoes, place the root system of the plants below the herbicide incorporation zone or injury may occur. Refer to the trifluralin label for specific rate of application and for additional precautions and restrictions for tomatoes.
1/2 to 2/3	<b>Post-emergence Broadcast Spray-Established Tomatoes:</b> Apply specified dosage in 20 or more gallons of water per acre as a broadcast spray or apply in 1/4 to 3/4 inch of water (use 1/4 to 1/2 inch of water on sandy soils) per acre as a continuous injection in center pivot and lateral move systems or apply in the last 15 to 30 minutes of set in permanent solid set sprinkler systems. One or more applications may be applied per use season. Allow at least 14 days between applications or severe crop injury may occur. For transplanted tomatoes, do not apply until transplants have recovered from transplant shock and new growth is evident. Do not apply to tomatoes within 24 hours of application of other pesticides. Do not tank mix with other pesticides. (See RESTRICTIONS AND SPECIAL PRECAUTIONS below.)
2/3 to 1 1/2	<b>Post-emergence Directed Spray-Established Tomatoes:</b> Apply specified dosage in 20 or more gallons of water per acre as a directed spray. One or more applications may be applied per use season. Allow at least 14 days between applications or severe crop injury may occur. Avoid contacting tomato foliage with spray. This method of treatment is recommended for use in fields with a history of severe weed pressure or in fields infested with hard-to-control weeds. For transplanted tomatoes, do not apply until transplants have recovered from transplant shock and new growth is evident. Do not apply to tomatoes within 24 hours of application of other pesticides. (See RESTRICTIONS AND SPECIAL PRECAUTIONS below.) When banding, see the appropriate section in the front of this label.
*Use the higher rate in fields with a history of severe weed pressure and for maximum residual weed control.	

**RESTRICTIONS:**

Do not apply more than a total of 1 1/2 lb. MANITOU DF per crop season. Do not apply the total amount of 1 1/2 lb. MANITOU DF within a time span of less than 35 days except in the case of directed sprays.

Do not apply within 7 days of harvest.

Do not apply within 3 days after periods of cool, wet, or cloudy weather or crop injury will occur.

Do not use hot caps on tomatoes within 7 days before or at any time after application of MANTOU DF. Do not treat seeded tomatoes until plants have reached the 5- to 6-leaf stage or severe crop injury may occur.

**SPECIAL PRECAUTIONS (Tomatoes):**

Allow at least 14 days between applications regardless of dosage or method of application or severe crop injury may occur.

Crop injury or delayed maturity may result from broadcast or directed spray applications if tomatoes are growing under stress conditions such as periods of drought or cool, wet, and cloudy weather preceding application.

For newly introduced tomato varieties with unknown tolerance to MANITOU DF, treat only a small area to determine if MANITOU DF can be used without injury to the crop.

**DO NOT USE MANITOU DF ON TOMATOES IN KERN COUNTY, CALIFORNIA.**

### CEREALS-Spring and Winter Barley and Winter Wheat

MANITOU DF herbicide is labeled for control or suppression of certain grasses and broadleaf weeds when applied post-emergence to spring and winter barley or winter wheat. MANITOU DF alone and several tank mixture treatments are labeled for use in the following states: AR, GA, ID, IL, IN, KS, KY, LA, MS, MO, MT, NV, OH, OK, OR, TN, TX, UT, WA.

**Mixing:** See the PRODUCT INFORMATION section of this label for specific mixing procedures. When tank mixing, carefully follow the instructions on this label. Refer to the other product labels registered for use in barley and winter wheat for additional use directions, rates, weeds controlled, and restrictions.

**Application:** MANITOU DF may be applied by aerial or ground application equipment. Use a minimum spray volume of 2 GPA by air and 10 GPA by ground. Uniform spray coverage is necessary to obtain optimum weed control and to minimize potential for crop injury. Do not exceed rate specified on this label. Do not apply MANITOU DF through any type of irrigation equipment. Apply MANITOU DF when the crop is healthy and actively growing. MANITOU DF may be applied more than once per crop season. Allow a minimum of 21 days between applications if wheat is actively growing or allow 45 days between applications if wheat is growing in adverse conditions, has entered dormancy or is stressed due to frost damage, disease, drought, or excessive moisture. Do not use on soils containing less than 0.75% organic matter. Do not apply more than a total of 10.66 ounces MANITOU DF (8 ounces active ingredient) per acre per year. On irrigated cereals, do not apply more than 0.5 inch of water for the first irrigation. The maximum amount for each additional irrigation should not exceed 1 inch. Allow a minimum of 14 days between the first irrigation and subsequent irrigations.

**Performance Factors:** Weed control may not be observed for 2 to 4 weeks under normal growth conditions and for 4 to 6 weeks under very dry conditions. Moisture (at least ½ inch) is required within 2 to 3 weeks after application to move MANITOU DF into the weed root zone. Lack of adequate moisture after application may result in poor or erratic weed control. Control or suppression of listed weeds is dependent on weed size at time of application. Control or suppression may be reduced if broadleaf weeds are taller than 1 inch or grasses have more than 2 leaves.

**Tank mixtures:** MANITOU DF may be tank mixed with Ally, Amber, Finesse, Glean FC, Harmony Extra, 2,4-D, MCPA, Igran, Banvel/Banvel SGF, Bronate, or Buctril herbicides. A nonionic surfactant containing at least 80% active ingredient may be used in MANITOU DF tank mixes with sulfonylurea herbicides (Ally, Amber, Finesse, Glean FC, Harmony Extra). Do not use a crop oil concentrate or any adjuvant containing vegetable or petroleum oils with any MANITOU DF mix as crop injury may result. Additional pesticides may also be tank mixed with MANITOU DF unless specifically prohibited on the mix products' label. In some instances, combinations with organophosphate insecticides may cause temporary leaf yellowing and/or crop injury, especially when widely fluctuating day/night temperatures occur near application. Always refer to the other product labels registered for use on cereals for additional directions, rates and weed species controlled. Observe all precautions and limitations on labeling of all products used in mixtures.

**Feeding Restrictions:** Do not graze wheat within 14 days of MANITOU DF application or harvest grain within 21 days after last application. Do not graze or harvest barley before crop maturity. For tank mix combinations, follow the most restrictive label.

**SPECIAL PRECAUTIONS: Cereal Injury-Crop injury may occur if MANITOU DF is applied:**

1. When the crop is under stress such as winterkill, frost damage, disease, drought or excessive moisture, severe grazing, or when these conditions follow the application.
2. In combination with fluid fertilizer especially with the addition of surfactant.
3. Prior to the growth stage specified on this label.
4. To soils high in lime or sodium, a pH greater than 7.7, calcareous, gravelly, thinly covered, or exposed subsoil areas.
5. To fields where cereal seeds have been planted less than 1 inch deep.
6. To a non-winter hardy wheat or barley variety.
7. To a sensitive wheat or barley variety as listed below.
8. To frozen soil or crop still in winter dormancy.

**Cereal Rotations Following Potatoes Treated with MANITOU DF:** If planting a sensitive cereal variety (listed under the wheat and barley variety tolerance portion of this label), following potatoes treated with MANITOU DF or metribuzin containing products, refer to the potato section of the MANITOU DF label for special cultural practices to follow.

**APPLICATION RATES AND DIRECTIONS**

MANITOU DF alone or in a tank mix with labeled broadleaf herbicides may be applied by aerial or ground spray equipment as a broadcast post-emergence spray.

<b>POSTEMERGENCE BROADCAST APPLICATIONS OF MANITOU DF</b>			
<b>CROP GROWTH STAGE</b>	<b>SOIL TEXTURE</b>	<b>MANITOU DF RATE (oz./A) % ORGANIC MATTER</b>	
		<b>0.75 TO 2.0</b>	<b>OVER 2.0</b>
2 Leaf To	<b>Coarse</b>	1 to 2	1 to 3
	<b>Medium</b>	1 to 3	2 to 3
	<b>Fine</b>	2 to 3	2 to 4
2 Tiller	Use these rates on crops with secondary roots smaller than 1 inch. For dryland winter wheat (nonirrigated), apply the highest rate to achieve maximum weed suppression/control.		
3 Tiller To	<b>Coarse</b>	3 to 4	4 to 5
	<b>Medium</b>	4 to 5	5 to 6
	<b>Fine</b>	5 to 6	5 to 6
4 Tiller	Do not apply within 2 weeks after grazing or breaking of winter dormancy. Apply after the crop is at or beyond the 3-tiller growth stage but before jointing. Secondary roots should be developed and larger than 1-inch long. Do not apply before 75 days after planting. For dryland winter wheat (nonirrigated), apply the highest rate to achieve maximum weed suppression/control. <b>GEORGIA ONLY:</b> Wheat must be planted before November 15 in the Piedmont area and Northern part of the state and before December 1 in the Coastal Plain area.		
Over 4 Tillers	<b>Coarse</b>	4 to 6	5 to 8
	<b>Medium</b>	4 to 8	5 to 8
	<b>Fine</b>	5 to 8	8 to 10-2/3
Do not apply within 2 weeks after grazing or breaking of winter dormancy. Apply after the crop is at or beyond the 3-tiller growth stage but before jointing. Secondary roots should be developed and larger than 1-inch long. Do not apply before 75 days after planting. For dryland winter wheat (nonirrigated), apply the highest rate to achieve maximum weed suppression/control. <b>GEORGIA ONLY:</b> Wheat must be planted before November 15 in the Piedmont area and Northern part of the state and before December 1 in the Coastal Plain area.			

**WHEAT AND BARLEY VARIETAL TOLERANCE\***

Wheat and barley varieties vary in their tolerance to MANITOU DF. Varieties below are **tolerant** to and are **labeled** for use with MANITOU DF:

**Winter Wheat:** Abe, AgriPro Mason, AgriPro Shiloh, Arthur, AS 7846, AS 7853, Baker Seed 32, Barbie VI, Basin, Baturu, Bayles, Becker, Bintee V, Buchshot DS 2368, Caldwell, Cardinal, Cashup, Centurk, Cherokee, Cheyenne, Clark, Coker 747, Coker 762, Coker 797, Coker 68-15, Coker 9134, Coker 9543, Coker 9904, Coker 9907, Daws, DB 533W, DB 562W, DB 580W, Delta King 502, Delta King 9027, Dixie 952, Doublecrop, Dusty, Dyna-gro 426, Dynasty, Excel, Faro, FFR 525W, Florida 302, FS 432, FS 433, FS 435, Gains, Garst 64, Georgia 100, Genie V, Hatton, Hawk, Hill 81, Howell, Hunter, Hyak, Hystop, Katie V, KY 16-2, Larned, Lewis 833, Lewjain, Lisa, Longhorn, Luke, Madsen, Magnum, Malcom, McDermaid, McNair 1003, McNair 1813, Molly, Moro, Neely, Nelson, Newton, Norstar, Norwin, Nugaines, Oasis, Omega 78, Paha, Peck, Pike, PI 2157, PI 2180, PI 2545, PI 2548, PI 2550, PI 2552, PI 2555, PI 2566, PI 2571, PI 2580, PI 2684, Quantum 577, Redwin, Rocky, Saluda, Sawyer, SC 104, Slouxiand, Sprague, Southern Belle, Stacy, Stallion, Stephens, TAM W101, TAM 105, TE 877, TE 2548, TE SR204, Timber, Tomahawk, TR 8555, TR 8557, TR 8768, Traveler, Tres, Tye, Tyler, Verne, Victory, Wakefield, Wanser, Weston, Winata, Wrangler.

**Barley:** Advance, Boyer, Clark, Compana, Hannchen, Hector, Hesk, Hudson, Lud, Luther, Kamiak, Klages, Olympic, Piroline, Steptoe, and Triumph.

The following cereal varieties are **sensitive** to MANITOU DF and are **not labeled** for use:

**Winter Wheat:** AgriPro Clemens, AT 90W, AT 91W, Arapaho, Baker Seed 33, Century, Cimarron, Coker 833, Coker 916, Coker 983, Coker 9024, Coker 9105, Coker 9323, Coker 9474, Coker 9663, Coker 9835, Coker 9766, Coker 9877, EK 102, EK 114, FFR 555, Florida 304, Freedom, FS 417, FS 423, FS 425, FS 430, Gore, Hazen, Hickory, Jackson, Julie III, KY 49-25, Linden, Madison, Mesa, Mustang, Pacer, PI XW 522, PI 2551, PI 2163, Pioneer 2691, Princeton 733, PSR W 71, PSR 226, PSR 278, Rosen, Savannah, Sierra, TAM 107, TR 101, TR 1011, TR 8822, Triumph 64, Vona, Wings, Winridge, Yamhill.

**Spring/Durum Wheat:** Avoid use on Spring wheat and Durum wheat varieties.

**Barley:** Glenn, Moxed, Moravian 3, Larker, Summit, Bracken, Anheuser Busch B2601, and varieties with Morex parentage.

**Varieties Not Listed:** To avoid possible crop injury on any variety not mentioned in this label, contact a ALTITUDErepresentative or herbicide expert for a variety recommendation prior to treatment or treat a small strip of the unlisted variety with the directed MANITOU DF rate to ascertain crop tolerance before treating an entire field.

\***Abbreviated names of vendors:** AS (Agseco), AT (Agratech), DB (Diener Bros.), FS (Growmark FS), PI (Pioneer), PSR (Hybritech), SC (J.M. Schultz), TE (Terra), and TR (Terral).

**WEEDS CONTROLLED**

Used at labeled rates, MANITOU DF will control many annual broadleaf weeds. Control is best when applied to young, actively growing weeds. Weeds controlled by MANITOU DF include:

Bittercross Catchfly, Conical (Sand) Catchweed (Madwort) Chickweed, Common Chickweed, Mouseear Comcockle Dogfennel (Mayweed)	Evening Primrose, Cutleaf Falseflax, Smallseed Fiddleneck, Tarweed Filaree, Redstem Geranium, Carolina Gromwell, spp. Henbit	Knotweed, Prostrate Lambsquarter, Common Lettuce, Miners Mustard, Blue Mustard, Wild Pennycress, Field Pepperweed, Virginia	Pigweed, spp. Piriappleweed Polemonium, Annual (Jacob's Ladder) Radish, Wild Shepardspurse Speedwell, Ivyleaf Turnip, Wild
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**WEEDS SUPPRESSED**

MANITOU DF control of the following weeds varies from poor to excellent depending on time of application, stage of growth at application, temperatures and soil moisture conditions following treatment. For maximum effect on these weeds, apply the highest rate at the earliest growth stage timing for each particular soil type and organic matter. Suppression is a reduction in weed size and growth as compared to a non-treated area in the same field.

<b>Broadleaves</b> Buckwheat, Wild* Buttercup, spp. Cowcockle Kochia* Lettuce, Prickly	Mustard, Tumble (Jim Hill)* Tansy mustard Thistle, Russian Vetch, Winter
<b>Grasses</b> Barley, Hare (Wild) Barley, Little Blackgrass Bluegrass, Annual Bluegrass, Bulbous Brome, Downy* Brome, Japanese*	Brome, Ripgut* Cheat* Foxtail, spp.* Oat, Wild* Rescuegrass* Whitlowgrass, Spring (Vernal) Windgrass

\* Use the highest labeled MANITOU DF rate for maximum weed suppression.

**FOR WEED CONTROL IN A WHEAT/FALLOW/WHEAT ROTATION****Idaho, Oregon, Utah, and Washington Only**

MANITOU DF may be applied to provide weed control during the fallow period after wheat harvest or in the spring before winter wheat is planted. Winter wheat can be seeded 4 months (120 days) after spring application. Mechanical tillage or the application of a contact herbicide may be required to control weeds germinating prior to seeding of winter wheat. Best results will be obtained where straw and chaff are evenly distributed across the field.

For specific application information see the PRODUCT INFORMATION section in the front of this label.

Where weed growth is present at application time, MANITOU DF should be applied with Gramoxone or other contact herbicide. Refer to the other product label registered for additional directions, rates, and weed species controlled.

**WEEDS CONTROLLED**

<b>Broadleaves</b> Chickweed, Common ( <i>Stellaria media</i> ) Henbit ( <i>Lamium amplexicaule</i> ) *Kochia ( <i>Kochia scoparia</i> ) Lambsquarters ( <i>Chenopodium album</i> ) Mustard, Blue or Purple ( <i>Chorispora tenella</i> ) Mustard, Jim Hill ( <i>Sisymbrium altissimum</i> )	Mustard, Tansy ( <i>Descurainia pinnata</i> ) Mustard, Treacle ( <i>Eyrsmium repandum</i> ) Mustard, Wild ( <i>Brassica kaber</i> ) Pennycress, Field (Fanweed) ( <i>Thlaspi arvense</i> ) Pigweeds ( <i>Amaranthus</i> spp.) Russian Thistle ( <i>Salsola iberica</i> ) Sunflower ( <i>Helianthus</i> spp.)
<b>Grasses</b> Cheatgrass ( <i>Bromus secalinus</i> ) Downy brome ( <i>Bromus tectorum</i> )	*Wheat, Volunteer ( <i>Triticum</i> spp.)

\*NOTE: Since control of these weeds may be variable depending on moisture following application, the higher labeled rate is recommended.

**After Harvest Application (Fall Fallow):** MANITOU DF may be applied to wheat stubble after harvest in the fall. Apply  $\frac{3}{4}$  to  $\frac{1}{2}$  lb. per acre broadcast before weeds emerge. Use the higher rate for longer weed control or for weeds designated as requiring the higher rate for control. Rainfall ( $\frac{1}{2}$  inch or more) is necessary for herbicide activation.

Do not plant crops in treated areas for at least 10 months following fall applications.

MANITOU DF may be applied at  $\frac{3}{4}$  to  $\frac{1}{2}$  lb. per acre as directed above for a fall application. If other vegetation is present at the time of application use a contact herbicide.

**Spring Application (Summer Fallow):** MANITOU DF may be applied to wheat stubble in the spring. Apply  $\frac{1}{2}$  to  $\frac{3}{4}$  lb. per acre broadcast before weeds emerge in the spring. Use the higher rate for longer weed control or for weeds designated as requiring the higher rate for control. Rainfall ( $\frac{1}{2}$  inch or more) is necessary for herbicide activation.

**Restrictions:** Do not graze treated fields.

Do not plant spring-seeded cereals following fall fallow applications of MANITOU DF.

Where MANITOU DF was applied in the fall, do not apply MANITOU DF in the spring.

Do not rotate any crop not listed on this label for 18 months following application of MANITOU DF.

#### FOR WEED CONTROL IN A FALLOW ROTATION WITH BARLEY AND WHEAT

#### Colorado, Kansas, Montana, Nebraska, and Wyoming Only

MANITOU DF may be applied to provide weed control during the fallow period after wheat or barley harvest or in the spring before planting of winter wheat or barley. Mechanical tillage or the application of a contact herbicide may be required to control weeds germinating prior to seeding of winter wheat or barley.

For specific application information see the PRODUCT INFORMATION section in the front of this label.

Where weed growth is present at application time, MANITOU DF should be applied with Gramoxone, Roundup, or other contact herbicide. Refer to the other product label registered for additional directions, rates, and weed species controlled. Do not plant crops in treated areas earlier than 10 months following fall applications.

Do not rotate any crop not listed on this label for 18 months following application of MANITOU DF

#### WEEDS CONTROLLED

##### Broadleaves

Chickweed, Common (*Stellaria media*)

Cowcockle (*Vaccaria pyramidata*)

Henbit (*Lamium amplexicaule*)

\*Kochia (*Kochia scoparia*)

Lambsquarters (*Chenopodium album*)

Mustard, Blue or Purple (*Chorispora tenella*)

Mustard, Jim Hill (*Sisymbrium altissimum*)

Mustard, Tansy (*Descurainia pinnata*)

Mustard, Treacle (*Erysimum repandum*)

Mustard, Wild (*Brassica kaber*)

Pennycress, Field (Fanweed) (*Thlaspi arvense*)

Pigweeds (*Amaranthus* spp.)

Russian Thistle (*Salsola iberica*)

Sunflower (*Helianthus* spp.)

##### Grasses

Cheatgrass (*Bromus secalinus*)

Downy brome (*Bromus tectorum*)

\*Foxtail, Green (*Setaria viridis*)

\*Wheat, Volunteer (*Triticum* spp.)

\*Wild Oats (*Avena fatua*)

\*NOTE: Since control of these weeds may vary depending on moisture following application, use the higher rate recommended below.

**After Harvest Application (Fall Fallow):** MANITOU DF may be applied to stubble after harvest in the fall. Apply  $\frac{3}{4}$  to 1 lb. per acre broadcast before weeds emerge. Use the higher rate for longer weed control or for weeds designated as requiring the higher rate for control. Rainfall ( $\frac{1}{2}$  inch or more) is necessary for herbicide activation.

**Spring Application (Summer Fallow):** MANITOU DF may be applied to wheat stubble in the Spring. Apply  $\frac{1}{2}$  to  $\frac{3}{4}$  lb. per acre broadcast before weeds emerge in the spring. Use the higher rate for longer weed control or weeds designated as requiring the higher rate for control. Rainfall ( $\frac{1}{2}$  inch or more) is necessary for herbicide activation. Wheat or barley can be seeded 120 days after spring application.

**Restrictions:** Do not graze treated fields.

Do not plant spring-seeded cereals following fall applications for fallow.

Where MANITOU DF was applied in the fall, do not apply MANITOU DF in the spring.

#### For use on Bentgrass Grown for Seed and For Weed Control in Established<sup>1</sup> Perennial Grasses Grown for Seed – Oregon Only

<sup>1</sup>Established grasses are those which have been harvested at least once for seed or were planted one year or more prior to application.

#### For Weed Control in Established Perennial Bentgrass Grown For Seed in Oregon West of the Cascade Mountains and in Crook, Deschutes, and Wasco Counties

#### WEEDS CONTROLLED

When used as directed below, MANITOU DF will reduce competition from seedlings of annual Bromus species, annual ryegrass, and annual bluegrass. MANITOU DF will control rattail grass, henbit, ivyleaf speedwell, chickweed, mustards, and shepherds-purse.

**Crop Tolerance:** Crop tolerance is marginal and crop injury and yield reduction are possible. To minimize crop injury, apply when the crop is not under stress. Use of adjuvants will reduce crop tolerance. Making the application after three consecutive sunny days will reduce the potential for crop injury.

CROP	MANITOU DF (Lb./Acre)	REMARKS
Bentgrass grown for seed	0.38 to 0.5	Apply MANITOU DF as a broadcast spray in at least 15 gallons of spray solution per acre when the volunteer grasses are in the 1- to 2-leaf growth stage following fall rainfall or irrigation and before active spring growth. Excessive crop injury and/or failure to control weeds may result if application is made after mid-February. Allow at least 120 days between application and harvest for seed.

#### Application Restrictions:

1. Do not apply more than once per year.
2. Do not apply to a crop that is under stress, for example, from disease, severe insect damage, nutrient deficiency, cool to cold temperatures, or deficient or excessive moisture.
3. Apply only to Colonial and Creeping Bentgrass.
4. Apply only to established bentgrass that is at least one year old and has been harvested for seed at least once.
5. Do not tank mix with other herbicides.

**Feeding Restrictions:** Do not use the crop or crop residues as feed or livestock bedding for at least 28 days following the last application.



**For weed control in Established Perennial Grasses Grown For Seed in  
Oregon West of the Cascade Mountains and in Crook, Deschutes, Jefferson, and Wasco Counties**

**WEEDS CONTROLLED**

When used as directed below, MANITOU DF will reduce competition from volunteer seedlings of the indicated crop, annual Bromus species, annual ryegrass, and annual bluegrass. MANITOU DF will control rattail fescue, henbit, ivyleaf speedwell, chickweed, mustards, and shepherdspurse. The addition of wetting agents containing crop oil may enhance control of the volunteer crop and grassy weeds. When adding wetting agents, follow the directions for use and directed rates on the wetting agent label. MANITOU DF is compatible with most fertilizers, fungicides, and insecticides. MANITOU DF may be combined with other herbicides for enhanced weed control. Prior to tank mixing with another herbicide, refer to the **PRODUCT INFORMATION** section of the MANITOU DF label booklet and a knowledgeable authority or a Altitude representative.

CROP	MANITOU DF (Lb./Acre)	REMARKS
Perennial Ryegrass Tall Fescue	1/3 to 3/4	Apply specified dosage as a broadcast spray in at least 15 gallons of spray solution per acre when the volunteer grasses are in the 1- to 2-leaf stage following fall rainfall or irrigation but prior to active spring growth. Excessive crop injury and/or failure to control weeds may result if application is made after mid-February. Allow at least 120 days between application and harvest.
Bluegrass Fine Fescue Orchardgrass	1/3 to 1/2	

**Application Restrictions:**

1. Do not apply more than once per year.
2. Do not apply MANITOU DF through any type of irrigation system.
3. Crop and crop residues may be fed to livestock or used as bedding. If the seed crop is terminated and grazed or cut for forage, allow at least 28 days between application and use as animal feed.

**CROP ROTATION RESTRICTIONS**

**Waiting Period After MANITOU DF Herbicide Application<sup>1</sup>**

<p><b>4 Months</b> Alfalfa Asparagus Barley<sup>2</sup> Corn Forage Grasses Sainfoin Soybeans Sugarcane<sup>3</sup> Tomatoes Wheat<sup>2</sup></p>	<p><b>8 Months</b> Barley Lentils Peas Wheat</p>	<p><b>12 Months</b> Potatoes Rice</p> <p><b>18 Months</b> Sugar Beets Onions And Other Root Crops not listed on this label and all other crops not listed on this label</p>
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<sup>1</sup> Cover crops for soil building or erosion control may be planted any time, but do not graze or harvest for food or feed. Stand reductions may occur in some areas.

<sup>2</sup> Following peas, lentils, or soybeans.

<sup>3</sup> Do not rotate any crop not listed on this label after application of MANITOU DF to sugarcane.

#### STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

#### CONTAINER DISPOSAL:

**Nonrefillable Container (flexible-bag-all weights):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available.

**Nonrefillable Container (rigid-fifty lbs. or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**Nonrefillable Container (rigid-greater than fifty lbs.):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Refillable Container:** Refillable container. Refill this container with metribuzin only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

In case of spill, avoid contact, isolate area, and keep out animals and unprotected persons. Confine spills. Call INFOTRAC: 1-800-535-5053.

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of ALTITUDE CROP INNOVATIONS, LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold ALTITUDE CROP INNOVATIONS, LLC and Seller harmless for any claims relating to such factors.

ALTITUDE CROP INNOVATIONS, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ALTITUDE CROP INNOVATIONS, LLC, and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALTITUDE CROP INNOVATIONS, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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