

Frontier 6.0 herbicide

For use in corn (field, pop, seed, and sweet), dry bean, grass grown for seed, peanut, grain sorghum, and soybean crops

Active Ingredient:*

Dimethenamid: 2-chloro-N-[(1-methyl-2-methoxy)ethyl]-N-(2,4-	
dimethyl-thien-3-yl)-acetamide	63.14%
Inert Ingredients:**	
Total	
* contains (0 pounds of active ingredient per gellen	

contains 6.0 pounds of active ingredient per gallon

WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See inside booklet for complete **Precautionary Statements**, **Statement of Practical Treatment**, **Directions For Use**, and **Conditions of Sale and Warranty**.

Product of U.S.A.

Net contents: __ pounds (__ kilograms)

^{**} contains petroleum distillates, xylene or xylene range aromatic solvent

Precautionary Statements

Hazards to Humans and Domestic Animals WARNING. Causes substantial but temporary eye injury. Harmful if inhaled, swallowed, or absorbed through the skin. Do not get in eyes or on clothing. Avoid contact with skin. Avoid breathing spray mist.

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 by a poison control center or doctor.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

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

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below. For more options, refer to category **F** on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

Long-sleeved shirt and long pants

- Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not re-use them. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statement

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.

Environmental Hazards

Do not apply directly to water, areas where surface water is present, or intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Dimethenamid has properties that may result in groundwater contamination. Application in areas where soils are permeable or coarse and groundwater is near the surface could result in groundwater contamination.

Dimethenamid has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion.

Point source contamination: To prevent point source contamination, do not mix or load this or any other pesticide product within 50 feet of wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas as described below.

Mixing, loading, rinsing, or washing operations performed within 50 feet of a well are allowed only when conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be on or move across the pad. The pad must be selfcontained to prevent surface water flow over or from the pad. The pad capacity must be maintained at 110% that of the largest pesticide container or application equipment used on the pad and have sufficient capacity to contain all product spills, equipment or container leaks, equipment wash waters, and rainwater that may fall on the pad. The containment capacity does not apply to vehicles delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

Care must be taken when using this product to prevent 1) back siphoning into wells, 2) spills, or 3) improper disposal of excess pesticide, spray mixes, or rinsates.

Check valves or antisiphoning devices must be used on all mixing equipment.

Movement dissolved in runoff or through soil: Do not apply under conditions which favor runoff. Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen soils.

Groundwater contamination may occur in areas where soils are permeable or coarse and groundwater is near the surface. To minimize the possibility of groundwater contamination, carefully follow application rate recommendations as affected by soil type in the general information section of this label. Do not apply if all three criteria exist: coarse soils classified as sand (does not include loamy sand or sandy loam), less than 3% organic matter (as determined by soil tests, if not known) and where depth to ground water is 30 feet or less.

Movement by water erosion of treated soil: Do not apply or incorporate this product by flood or furrow irrigation. Ensure treated areas have received at least 0.5" of rainfall before using tailwater for subsequent irrigation of other fields.

Endangered Species Concerns

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of federal law.

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.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions and **Conditions of Sale and Warranty** are to be followed. This labeling must be in the user's possession during application.

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
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: Do not use or store near heat or open flame. Store in original container in a well-ventilated area separately from fertilizer, feed, or foodstuffs and away from other pesticides. Avoid cross-contamination with other pesticides. Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage

sites with an impermeable material.

Pesticide Disposal: Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal:

• Plastic Containers: Triple rinse (or equivalent) and add rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

 <u>Bulk/Mini-bulk Containers</u>: Reusable containers should be returned to the point of purchase for cleaning and refilling because the container must be thoroughly cleaned before refilling.

In Case of Emergency

In case of large-scale spillage regarding this product, call:

CHEMTREC 800-424-9300 BASF Corporation 800-832-HELP

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment.
- Your local poison control center (hospital).
- BASF Corporation (800-832-HELP)

Steps to be taken in case material is released or spilled:

Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal. Remove contaminated clothing, and wash affected skin areas with soap and water. Wash clothing before re-use. Keep the spill out of all sewers and open bodies of water.

I. General Information

Frontier® 6.0 herbicide is a selective pre-emergence herbicide for controlling annual grasses, annual broadleaf weeds, and sedges listed in Table 1 in field corn, popcorn, seed corn, sweet corn, soybean, grain sorghum, peanut, dry bean crops and grass grown for seed.

Table 1. Weeds Controlled

Annual Grasses Barnyardgrass Beggarweed, Florida¹ Crabgrass, smooth , large Cupgrass, southwestern , woolly Foxtail, giant, , green, , yellow Goosegrass Johnsongrass (seedling)² Millet, wild proso1 Panicum, fall, Texas¹ Red Rice Sandbur¹ Shattercane¹ Signalgrass, broadleaf¹ Witchgrass

<u>Sedge</u>
Flatsedge, Rice
Nutsedge, Yellow ²
Annual Broadleaves
Amaranth, Palmer
Carpetweed
Eclipta ¹
Lambsquarters, common ¹
Nightshade ² , black
, eastern black
, hairy
Pigweed, prostrate
, redroot
, smooth
_ , tumble
Purslane, common
Pusley, Florida
Ragweed. common ¹
Spurge, nodding
, spotted
Waterhemp, common ²
, tall²

¹ Partial control or suppression only. To complement control, **Frontier 6.0** should be used in tank mixes or sequential applications with other herbicides that provide additional control of these weed species.

² For best control of these species, use the highest rate recommended by soil type. If dry conditions exist near application or excessive rainfall occurs early in season, a postemergence herbicide or cultivation may be required to help control these weeds.

Mode of Action

Frontier® 6.0 herbicide is a root and shoot growth inhibitor that controls susceptible germinating seedlings before or soon after they emerge from the soil.

Cleaning Spray Equipment

Clean application equipment thoroughly by using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions and then triple rinsing the equipment before and after applying this product.

II. Application Instructions

Frontier 6.0 will provide most effective weed control when applied by ground or aerial equipment, and is subsequently incorporated into soil by rainfall, sprinkler irrigation, or mechanical tillage prior to weed seedling emergence from soil. Frontier 6.0 can also be applied through herbigation. Frontier 6.0 is recommended for preplant incorporated, preplant surface, pre-emergence, early postemergence or layby (corn) treatment. Frontier 6.0 may be applied using either water or sprayable fluid fertilizer as the spray carrier. Additionally, Frontier 6.0 may be impregnated on and applied with dry bulk fertilizer. Sprayable fluid fertilizer as a carrier is not recommended for use after crop emergence. Refer to section III. Additives for more information.

Application Rate

Recommended use rates for Frontier 6.0 when used alone, in tank mix, or sequential applications are given in Table 2. Refer to section VI. Crop-Specific **Information** for additional rate information. Recommended use rates of this product vary by soil type. The most accurate indicator of appropriate use rate for Frontier 6.0 is the Cation Exchange Capacity (CEC) of the soil to be treated. CEC values are available in standard soil testing procedures. If CEC values are not available, the recommended use rate of Frontier 6.0 may be determined using soil texture and organic matter. Soil texture groupings used in this label are coarse (sand, loamy sand, sandy loam), medium (silt, silt loam, loam, sandy clay loam), and fine (sandy clay, silty clay, silty clay loam, clay loam, and clay). Do not apply to sand-textured soil with less than 3% organic matter (as determined by soil tests, if not known) where depth to groundwater is 30 feet or

To determine **Frontier 6.0** use rates by either soil CEC values or by soil texture and organic matter, refer to **Table 2**. When use rates are expressed in ranges, use the lower rates for lower CEC values and use the higher rates for higher CEC values. If soil texture and organic matter content are used to determine use rates, use the lower rates for more coarsely textured soils low in organic matter and use the higher rates for more finely textured soils that are high in organic matter.

Application Timing

Preplant Surface Applications: For use in minimum tillage or no-tillage production systems, apply Frontier 6.0 alone or in tank mixes up to 45 days before planting. When making early preplant applications (15-45 days prior to planting), use the highest rate recommended for the specific soil type.

Table 2. Frontier 6.0 Application Rates Per Acre^{1,2}

As determined by Cation Exchange Capacity (CEC) of the soil		
Cation Exchange Capacity (CEC) of Soil	Frontier 6.0 Use Rate Per Acre	
< 5	20 fluid ounces	
5-9	20-24 fluid ounces	
10-14	24-28 fluid ounces	
15-20	28-32 fluid ounces	
> 20	32 fluid ounces	

As determined by soil texture and organic matter content					
Soil	Organic Matter Content				
Texture	Less than 3%	3% or more ³			
Coarse	20-24 fluid ounces	24-28 fluid ounces			
Medium	24-28 fluid ounces	28-32 fluid ounces			
Fine	28-32 fluid ounces	32 fluid ounces			

See tank mix descriptions for the recommended use rate ranges of other herbicides used with **Frontier 6.0**. The rates listed are intended for full season control of targeted weeds. Reduced rates (12-24 ounces of **Frontier 6.0** per acre) may be used where partial control or reduced length of soil residual control is required, such as postemergence applications, or pre-emergence applications where cultivation or sequentially applied herbicides will be used for added control of the same targeted weed species. Use 12-16, 16-20, and 20-24 fluid ounces of **Frontier 6.0** per acre on coarse, medium, and fine soil, respectively.

² For all early preplant applications, use 32 fluid ounces of **Frontier 6.0** per acre.

³ On all soils with >8% organic matter, use 32 fluid ounces of **Frontier 6.0** per acre.

Early preplant applications are not recommended for use on coarse-textured soils or in areas where average annual rainfall (or rainfall + irrigation) typically exceeds 40". Early preplant applications may be applied as part of a split application program where the second application is made after planting (use 2/3 of Frontier 6.0 rate early followed by 1/3 of rate after planting). A split application is recommended when the initial application is made more than 30 days prior to planting. Tank mixes with postemergence herbicides such as Acquire™ or Roundup Ultra® (glyphosate), Touchdown® (sulfosate), or Gramoxone® Extra (paraguat), must be used when weeds are present at the time of application. **Preplant Incorporated Applications:** Apply Frontier 6.0 and incorporate into the upper (1-2") soil surface up to 2 weeks before planting. Use a harrow, rolling cultivator, finishing disk, or other implement capable of giving uniform shallow incorporation. Avoid deeper incorporation or reduced weed control or crop injury may result.

Pre-emergence Surface Applications: Broadcast treatment uniformly to the soil surface after planting and before crop emergence. Rainfall, sprinkler irrigation, or shallow mechanical incorporation after application is required to move this product into the upper soil surface where weed seeds germinate. If adequate rainfall or irrigation does not occur and weed seedling emergence begins, a shallow cultivation or rotary hoeing will improve performance.

Early Postemergence Applications: Frontier 6.0 must be applied prior to weed seedling emergence or in a tank mix with products that control the emerged weeds. Refer to section VI. Crop-Specific Information for specific postemergence application recommendations by crop.

<u>Lay-by Application:</u> Use Frontier® 6.0 herbicide in field corn, seed corn and popcorn. See section VI. Crop-Specific Information - Corn for more details on lay-by application.

Split Applications: Frontier 6.0 may be used in split application programs where applications are made as part of the methods described above. If applications are less than 2 weeks apart, the total **Frontier 6.0** rate used must not exceed the maximum rate given for each specific soil type. If applications are 2 weeks or more apart, a total **Frontier 6.0** use rate of up to 32 fluid ounces per acre per year may be used on any soil type.

Fall Applications:

For use only in the following states: North Dakota, South Dakota, Minnesota, Wisconsin, Iowa, north of Highway 136 in Illinois and north

of Highway 91 in Nebraska

Frontier 6.0 may be used in fall applications to control weeds in minimum tillage or no-till corn or soybean production systems planted the following spring. Apply up to 32 fluid ounces of Frontier 6.0 per acre to medium- and fine-textured soils with greater than 2.5% organic matter. Fall applications must be made after October 1. Apply Frontier 6.0 in the fall after crop harvest when soil temperatures at the 4" depth are sustained at less than 55° F and before the ground freezes. Tillage operations may be conducted before or after applying Frontier 6.0. If following an application, tillage should be no more than 2-3" deep to uniformly incorporate the herbicide into the upper soil surface.

If a sequential application program (fall application followed by spring application of **Frontier 6.0**) is used, the maximum combined rate of **Frontier 6.0** that may be applied is 32 fluid ounces per acre, per

crop season.

Managing Off-target Movement

Spray Drift: High or gusty winds, high temperatures, low humidity, and temperature inversions increase the likelihood of spray drift from intended targets. Do not apply when these conditions exist. To minimize spray drift:

 Make application when conditions are favorable for even spray deposition (approximately 3-10 mph) on the soil surface. Do not apply when wind or

wind gusts exceed 15 mph.

 Use low pressure, properly calibrated, application equipment as possible to produce large spray droplets and sufficient spray volume to ensure uniform application. Do not use nozzles producing a mist droplet spray.

 Keep ground driven spray boom as low as possible above the target surface.

Wind erosion of treated soil: Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

Aerial Application Methods and Equipment

Water Volume: Use 2 or more gallons of water per

acre. The actual minimum spray volume per acre is determined by the spray equipment used. Adequate spray volume must be used to provide accurate and uniform distribution of spray particles over the treated area and to avoid drift of spray particles to nontarget areas.

The applicator must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.

Ground Application (Banding)

When applying **Frontier 6.0** by banding, determine the amount of herbicide and water volume needed using the following formula:

 $\frac{Bandwidth \ in \ inches}{Row \ width \ in \ inches} \ X \ \begin{array}{l} Broadcast \ rate \\ per \ acre \end{array} = \begin{array}{l} Banding \ herbicide \\ rate \ per \ acre \end{array}$

Bandwidth in inches Row width in inches X volume per acre = Banding water volume per acre

Ground Application (Broadcast)

Water Volume: Use 2 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Adequate spray volume must be used to provide accurate and uniform distribution of spray particles over the treated area and to avoid drift of spray particles to nontarget areas.

Ground Application (Dry Bulk Fertilizer)
Frontier 6.0 may be impregnated or coated onto dry bulk granular fertilizer carriers for preplant surface, preplant incorporated, or pre-emergence applications. Impregnation or coating may be conducted by either the in-plant bulk system or the on-board system. When impregnated onto some dry fertilizer blends, Frontier 6.0 may exhibit a strong odor. Perform the mixing operation in well-ventilated areas.

Frontier 6.0 may also be applied in herbicide tank mixes where the tank mix companion product is also registered for these application systems. Individuals or agents selling **Frontier 6.0** in these application systems are responsible for following all state and local regulations regarding fertilizer and herbicide

blending.

Addition of a drying agent may be necessary if the fertilizer and herbicide blend is too wet for uniform application due to high humidity, high urea concentration, or low fertilizer use rate. Slowly add the drying agent to the blend until a flowable mixture is obtained. Drying agents are not recommended for use with on-board impregnation systems.

Under some conditions, fertilizer impregnated with **Frontier 6.0** may clog air tubes or deflector plates on pneumatic application systems. Mineral oil may be added to **Frontier 6.0** before blending with fertilizer to reduce plugging. Do not use drying agents when mineral oil is used. To avoid separation of **Frontier 6.0** and mineral oil mixes in cold temperatures, either keep mixture heated or agitated prior to blending with fertilizer. Mineral oil may be used at in-plant blending stations or on-board injection systems.

Apply 200-750 pounds of the fertilizer and herbicide blend per acre. Application must be made uniformly to the soil to prevent possible crop injury and offer satisfactory weed control. Impregnated fertilizer spread at half rate and overlapped to obtain a full rate will offer a more uniform distribution. A shallow (1-2") incorporation is desirable for improved weed control. Deeper incorporation may result in unsatisfactory

weed control.

Formula to determine the herbicide rate when using dry bulk fertilizer applications:

Fluid ounces or pounds
of herbicide per acre
pounds of fertilizer
per acre

Fluid ounces or
pounds of herbicide
per ton of fertilizer

Incompatible Mixtures

DO NOT impregnate **Frontier*** **6.0** herbicide or **Frontier 6.0** mixes on ammonium nitrate, potassium nitrate, or sodium nitrate fertilizers or fertilizer blends. Single superphosphate (0-20-0) and triple superphosphate (0-46-0) may be impregnated only with **Frontier 6.0** alone.

Herbigation

Frontier 6.0 herbigation applications must be applied only through center pivot, lateral move, solid set, or hand move irrigation systems. Do not apply this product through any other irrigation system. Applications may be made alone or in tank mixtures with other herbicides on this label that are registered for use in specified sprinkler irrigation systems. Applications must be made within specific crop stage timings and product use rates given in container directions for use label.

Make application in volume minimums of 0.33 to 0.67 inches of water using the lower volume for coarser textured soils and the higher volume for finer textured soils. Applications made in high volumes of water (more than 1 inch) may result reduced weed control. Meter herbicide dilution into irrigation water through the entire time of water application for center pivot and lateral move systems. For solid set and hand move irrigation systems apply Frontier 6.0 through system at the beginning of the set then follow with additional water to reach volume minimums as listed by soil type. To increase calibration accuracy of injection metering equipment, dilute Frontier 6.0 in a minimum of two parts water to one part Frontier 6.0. Maintain agitation in injection nurse tanks to keep a uniform herbicide suspension during application. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. If the herbigation system needs adjustment, only the person responsible for its operation or under the supervision of the responsible person, should make the necessary adjustments.

Irrigation System Requirements

The irrigation system must contain the following:

- a functional check valve
- · vacuum relief valve
- a low pressure drain (appropriately located on the irrigation pipeline to prevent water source contamination from backflow)
- functional interlocking controls (to automatically shut off the pesticide injection pump when the water pump motor stops)
- a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with a system interlock.

The pesticide injection pipeline must contain the following:

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

Herbigation Precautions

Do not connect an irrigation system (including greenhouse systems) used for **Frontier 6.0** application to a public water system. Do not apply when wind speed favors drift beyond the area intended for treatment. Do not apply excessive water that results in run-off during application.

III. Additives

Spray adjuvants have little or no influence on performance of **Frontier 6.0** when applications are made prior to weed emergence. However, several tank mixes with **Frontier 6.0** require adjuvants to improve burndown of emerged weeds. Therefore, surfactants and/or low rate fertilizer (28%, 30%, or 32% UAN or ammonium sulfate), or crop oil concentrate may be used with **Frontier 6.0** tank mixes applied preplant, pre-emergence, or early postemergence to the crop. Follow the adjuvant recommendations on the tank mix partner's label.

Oil Concentrate

A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all of the following criteria:

be nonphytotoxic,

contain only EPA-exempt ingredients,

provide good mixing quality in the jar test, and

be successful in local experience.

The exact composition of suitable products will vary; however, vegetable and petroleum oil concentrates should contain emulsifiers to provide good mixing quality. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. For additional information, see **Compatibility Test for Mix Components**.

The use of adjuvants containing penetrants such as petroleum based oils after corn emergence may cause crop injury.

Nitrogen Source

- Urea ammonium nitrate (UAN): Use 2-4 quarts of UAN (commonly referred to as 28%, 30%, or 32% nitrogen solution) per acre. Do not use brass or aluminum nozzles when spraying UAN.
- Ammonium sulfate (AMS): AMS at 2.5 pounds per acre may be substituted for UAN. Use high-quality AMS (spray grade) to avoid plugging of nozzles. Other sources of nitrogen are not as effective as those mentioned. BASF does not recommend applying AMS if applied in less than 10 gallons per acre because of potential problems with precipitation in reduced volumes. Use AMS only if it has been demonstrated to be successful in local experience.

Nonionic Surfactant

The standard label recommendation is 1 pint of an 80% active nonionic spray surfactant per 100 gallons of water. For certain weeds, a higher spray surfactant

IV. General Tank Mixing Information

Frontier® 6.0 herbicide may be tank mixed or applied sequentially with one or more of the following herbicide products according to the specific tank mixing instructions in this label and respective product labels. Refer to section VI. Crop-Specific **Information** to determine which tank mix products can be applied to specific crops. Read and follow the applicable Restrictions and Limitations and **Directions For Use** on all products involved in tank

- Accent® (nicosulfuron)
- **Acquire**[™] (glyphosate)
- Assure® II (quizalofop)
- Atrazine
- **Authority®** (sulfentrazone)
- Backdraft™ (glyphosate + imazaguin)
- **Balan**[®] (benefin)
- **Balance**® (isoxaflutole)
- Banvel® (dicamba)
- Basagran® (bentazon)
 Beacon® (primisulfuron)
- Bladex® (cyanazine)
- Blazer® (acifluorfen)
- Buctril® (bromoxynil)
- Cadre® (imazamethapyr)
- Canopy[®] (chlorimuronethyl + metribuzin)
- Canopy® XL (sulfentrazone + chlorimuronethyl)
- Celebrity[®] (dicamba + nicosulfuron)
- **Clarity**® (dicamba)
- Classic® (chlorimuron ethyl)
- Command® (clomazone)
- **Cyclone**® (paraquat)
- Dual Magnum (s-metolachlor)
- Dual II Magnum[®] (s-metolachlor)
- Eptam[®] (EPTC)
- Eradicane® (EPTC)
- Extrazine® II
- (cyanazine + atrazine) **Extreme**[™](glyphosate
- + imazethapyr) Fallowmaster® (glyphosate + dicamba)
- Far-Go® (triallate)
- FirstRate[®]
 - (chloransulam-methyl
- Flexstar® (fomesafen) Fusilade[®]
- (fluazifop-p-butyl)
- **Fusion**[®] (fluazifop-p-butyl + fenoxaprop-p-ethyl)
- Galaxy[®] (bentazon + acifluorfen)
- Gramoxone® Extra

(paraquat)

- Laddok®S-12 (bentazon + atrazine)
- Landmaster[®] (glyphosate + 2,4-D)
- Lasso® (alachlor)
- **Lexone**® (metribuzin)
- **Liberty**® (glufosinate)
- Lightning[®] (imazethapyr + imazapyr)
- Lorox® (linuron)
- Marksman® (dicamba + atrazine)
- Northstar® primisulfuron + dicamba)
- Paramount® (quinclorac)
- Poast® (sethoxydim)
- Poast Plus® (sethoxydim)
- **Princep**[®] (simazine)
- Prowl® (pendimethalin)
 Pursuit® (imazethapyr)
 Python® (flumetsulam)

- Raptor® (imazamox) Ready Master™ ATZ
- (glyphosate + atrazine) Reliance® (thifensulfuron methyl + chlorimuron ethyl)
- Roundup® RT (glyphosate)
- Roundup Últra® (glyphosate)
- Scepter® (imazaquin)
- Select® (clethodim)
- Sencor® (metribuzin)

- Sonalan® (ethalfluralin) Starfire® (paraquat) Storm® (bentazon + acifluorfen)
- Sutan+® (butylate)
- Synchrony® STS (thifensulfuron methyl + chlorimuron ethyl)
- Touchdown® (sulfosate)
- Tough® (pyridate)
- Treflan® (trifluralin)
- 2,4-D
- 2,4-DB
- **Vernam**® (vernolate)
- Weedmaster® (dicamba + 2,4-D)
- **Zorial**® (norflurazon)

mixing. The most restrictive labeling applies to tank

Physical incompatibility, reduced weed control, or crop injury may result from mixing Frontier 6.0 with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers. Local agricultural authorities may be a source of information when using other than BASF recommended tank mixes.

Compatibility Test for Mix Components

Before mixing components, always perform a compatibility jar test.

For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes, adjust rates accordingly. Only use water from the intended source at the source temperature.

Add components in the sequence indicated in the Mixing Order using 2 teaspoons for each pound or 1 teaspoon for each pint of recommended label rate per

Always cap the jar and invert 10 cycles between component additions.

When the components have all been added to the jar, let the solution stand for 15 minutes. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible, do not mix the ingredients in the same tank.

Mixing Order

- 1) Water. Begin by agitating a thoroughly clean sprayer tank three-quarters full of clean water.
- **Agitation.** Maintain constant agitation throughout mixing and application.
- 3) Inductor. If an inductor is used, rinse it thoroughly after each component has been added.
- 4) Products in PVA bags. Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing
- 5) Water-dispersible products (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions).
- 6) Water-soluble products.
- Emulsifiable concentrates (such as Frontier 6.0 or oil concentrate when applicable)
- Water-soluble additives (such as AMS or UAN when applicable)
- Remaining quantity of water.
- Maintain constant agitation during application.

V. Restrictions and Limitations

- Maximum seasonal use rate: Do not apply more than a total of 32 fluid ounces of Frontier® 6.0 herbicide per acre, per season.
- Preharvest Interval (PHI): Refer to section VI. Crop-Specific Information for crop-specific preharvest intervals and feeding and grazing restrictions.
- Restricted Entry Interval (REI): 12 hours
- The New York State Department of Environmental Conservation prohibits use in Long Island, NY.
- Crop Rotation Restriction:
- If any labeled crop treated with Frontier 6.0 is lost to adverse weather or for other reasons, the area treated may be replanted to any of the labeled crops immediately. If the original Frontier 6.0 treatment was broadcast, do not make a second application of Frontier 6.0. If the original application was banded and the second crop is planted in the row middles, a second band application may be applied.
- Fall-seeded cereal crops may be planted 4 months or more following treatment.
- There are no rotational crop restrictions the spring following the previous year's application of Frontier 6.0.
- Stress: Applications to crops under stress due to lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures may result in crop injury.
- Do not contaminate irrigation ditches or water used for domestic purposes.

VI. Crop-Specific Information

Corn (Field, Pop, Seed, and Sweet)

Frontier® 6.0 herbicide may be applied preplant surface, preplant incorporated, pre-emergence or postemergence to corn up to 12" tall. Corn in this label refers to field corn (grown for grain, silage, or seed), sweet corn, and popcorn. Frontier 6.0 may also be applied at lay-by to field corn, seed and popcorn. Lay-by applications are made when corn is greater than 12 inches tall but before it is greater than 36 inches. Before applying to seed corn, sweet corn, or popcorn, verify with your local seed company (supplier) the Frontier 6.0 selectivity on your inbred line or hybrid to avoid potential injury to sensitive inbreds or hybrids.

For lay-by applications for control of late season germinating weeds, make application before weeds emerge from soil or in combination with a herbicide(s) and/or cultivation that controls emerged weeds. For best performance direct applications beneath the corn canopy. Lay-by applications may be made to soil previously treated with **Frontier 6.0** but must not exceed a total combined rate of 32 fluid ounces of **Frontier 6.0** per acre.

Crop-Specific Restrictions and Limitations
Corn may be grazed or fed to livestock 40 days or
more after application of Frontier 6.0.
Sweet corn ears may be harvested 50 days or more
after application of Frontier 6.0.
Do not make lay-by applications of Frontier 6.0 to
sweet corn.

Corn Tank Mixes

Frontier 6.0 may be tank mixed or applied sequentially in corn with one or more of the following herbicide products according to the specific tank mixing instructions in this label and respective product labels. Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

 Accent® Laddok® S-12 Acquire[™] • Liberty® 1 • Lightning® 2 Atrazine Balance[®] Marksman® Banvel® Northstar® Basagran® Princep[®] Beacon® Prowl[®] Bladex[®] Pursuit®

Celebrity®
Clarity®
Ready Master™ATZ³
Roundup Ultra®³
Sutant®

Eradicane®
 Extrazine® II
 Gramoxone® Extra
 Sutan+®
 Touchdown®
 2,4-D⁴

¹ Use only in **Liberty Link**® (glufosinate tolerant) corn hybrids.

² Use only in Clearfield® (imidazolinone tolerant) corn hybrids.

3 includes postemergence tank mixes on Roundup Ready[®] (glyphosate tolerant) corn hybrids.

⁴ For preplant or preemergence use only, 2,4-D is not recommended for use within 7 days prior to or 3 days after planting. For preemergence applications, make sure seed furrows are closed and corn seed is covered by a minimum of 1.5" of soil to reduce the chance of injury.

Dry Bean

Frontier 6.0 may be applied preplant surface, preplant incorporated, pre-emergence or early postemergence (first to third trifoliate stage) to all dry bean classes (such as small whites, navy, black turtle soup, pink, pinto, great northern, red Mexican, red kidney, garbanzo, and cranberry) and lentils. Frontier 6.0 is not registered for use in succulent beans or cowpeas. Before applying Frontier 6.0 to dry beans, verify with your local seed company (supplier) the selectivity of Frontier 6.0 on your specific dry bean class and variety to help avoid potential injury to sensitive classes or varieties.

If extreme conditions of high rainfall and extended periods of water saturated soil occur during dry edible bean germination or early seedling development, **Frontier 6.0** use may result in temporary growth suppression. This suppression will not reduce dry edible bean yield. **Frontier 6.0** use postemergence may occasionally result in some temporary spotting or browning of dry bean leaves.

A single or split application program may be used. Additional recommendations specific to dry beans are to use a maximum of 20 fluid ounces of **Frontier 6.0** per acre on coarse soils with CEC < 5 or organic matter less than 1.5% for soil applications made prior to crop emergence.

Crop-Specific Restrictions and LimitationsDry beans may be harvested 70 days or more after application of **Frontier 6.0**.

Dry Bean Tank Mixes

Frontier 6.0 may be tank mixed or applied sequentially in dry bean crops with one or more of the following herbicide products according to the specific tank mixing instructions in this label and respective product labels. Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

Basagran°
Eptam°
Far-Go°
Gramoxone° Extra
Poast°
Prowl°
Pursuit°
Roundup Ultra°
Sonalan°
Treflan°

The following herbicide products may only be applied sequentially with **Frontier 6.0**.

- Dual Magnum™
 Dual II Magnum®
- Lasso®

Grass Grown For Seed

Frontier 6.0 may be used as part of a weed management program in established stands of bentgrass, Kentucky bluegrass, fine fescue, tall fescue, orchardgrass and perennial ryegrass. Grass seed crops must have been established for at least one year or had a least one seed crop harvested before **Frontier 6.0** use.

Frontier 6.0 will provide preemergence control or suppression of volunteer seedlings from grass seed crops and control or suppression of the following grasses:

Annual bluegrass
Roughstalk bluegrass
California bromegrass

Downy bromegrass
Rattail fescue
Italian ryegrass

Application Instructions

Apply 24 to 32 fluid ounces of Frontier 6.0 per acre in the fall prior to emergence of targeted weeds or in a sequential use program with other herbicides that control emerged weeds. Use the higher rate in the rate range where more dense infestations of targeted annual grass or broadleaf weeds are expected. Grass straw from the previous harvest must be removed, burned or evenly spread prior to Frontier® 6.0 herbi**cide** application or reduced weed control may result. For effective control or suppression of annual grass or broadleaf weeds, this product must be moved into the upper soil surface by rainfall or sprinkler irrigation before weed emergence. Applications made in periods of cold temperatures that temporarily limit normal crop growth or in extended cold temperature periods that initiate winter dormancy in grass crops may result in crop injury.

Apply Frontier 6.0 using ground equipment in a minimum of 10 gallons of water per acre.

Crop-Specific Restrictions and Limitations Application to perennial ryegrass and fine fescue stands under stress may cause crop injury. Do not apply **Frontier 6.0** in tank mixtures with other herbicides; subsequent applications of postemergence herbicides may cause crop injury. Do not apply more than **32 fluid ounces** per acre of Frontier 6.0 per season.

Do not allow livestock to graze in treated areas. Do not feed treated grasses, forage, hay, silage, straw, seed or seed screenings to livestock.

Peanut

Frontier 6.0 may be applied preplant surface, preplant incorporated, pre-emergence, or postemergence (up to 80 days prior to harvest) alone or in tank mix combinations. Use higher rates (25-32) fluid ounces of Frontier 6.0 per acre) for improved control or suppression of difficult weeds like yellow nutsedge, Florida beggarweed, eclipta, common ragweed, and other broadleaf species.

Frontier 6.0 may also be used in a split application using 1/2 to 2/3 the maximum rate initially and the remaining 1/2 to 1/3 in sequential application. Peanut hay or straw may be grazed or fed to livestock 80 days or more after application of Frontier 6.0.

Peanut Tank Mixes

Frontier 6.0 may be applied prior to, in tank mix with, or after use of one or more of the following herbicides in peanut according to the specific tank mixing instructions in this label and respective product labels. Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

Balan[®]

• Prowl® Basagran® • Pursuit® Blazer® Sonalan®

 Cadre® Starfire® Classic® • Storm® • Tough® Dual Magnum™ Dual II Magnum®

 Treflan® • 2,4-DB Landmaster® Lasso® Vernam[®]

Zorial®

Poast Plus®

Poast®

Sorghum (Grain)

Frontier 6.0 may be used preplant surface, preplant incorporated, or pre-emergence in either a single or split application. Do not apply to grain sorghum after crop emergence.

Frontier 6.0 is not registered for use on sweet or forage sorghum.

All **Frontier 6.0** applications must only be made to sorghum seed that has been properly treated by the seed company with an approved chloroacetamide herbicide safener or severe injury may occur. Under high soil moisture or cool conditions, Frontier **6.0** application may cause temporary stunting or leaf wrapping of sorghum. Sorghum will normally outgrow these symptoms in 10-14 days.

For best performance make pre-emergence surface applications within 5 days of the last preplant tillage. If weeds have emerged, apply Frontier 6.0 with herbicides to control the emerged vegetation. For best weed control in sorghum produced under irrigation, use a minimum of 24 fluid ounces of Frontier 6.0 per acre.

Sorghum forage may be grazed or fed to livestock 60 days or more after application of Frontier 6.0. Grain and fodder may be harvested and fed 80 days or more after application of Frontier 6.0.

Sorghum Tank Mixes

Frontier 6.0 may be tank mixed or applied sequentially in sorghum with one or more of the following herbicide products according to the specific tank mixing instructions in this label and respective product labels. Read and follow the applicable Restrictions and Limitations and Directions For **Use** on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

Atrazine

 Banvel® Clarity®

• Cyclone® Fallowmaster® Gramoxone® Extra Landmaster[®]

Paramount®

Roundup Ultra®

• 2,4-D

In addition to the tank mix partners listed above, **Frontier 6.0** can be used in sequential applications with the following:

Basagran

Buctril®

Laddok® S-12

Marksman®

Weedmaster®

Soybean

Frontier® **6.0 herbicide** may be used as a preplant surface, preplant incorporated, pre-emergence or early postemergence (from first to third trifoliate leaf stage) treatment to soybeans as a single or split application.

If Frontier 6.0 is applied preplant incorporated, the incorporation must be uniform and shallow (upper 1-2" of soil). Deeper incorporation may reduce weed control or increase the potential for crop injury. Preplant incorporated treatments are not recommended on soils with CEC values less than 5 (or coarse soils with less than 1.5% organic matter). If extreme conditions of high rainfall and extended periods of water saturated soil occur during soybean germination or early seedling development, Frontier 6.0 use may result in temporary growth suppression. Temporary soybean burn and stunting may occur if application of Frontier 6.0, spray adjuvants and tank mixed herbicides are applied to emerged soybeans up through the unifoliate stage. These suppressions have not resulted in reduced soybean yield potential.

Crop-Specific Restrictions and LimitationsDo not graze or feed forage, hay, or straw to livestock.

Soybean Tank Mixes

Frontier 6.0 may be tank mixed or applied sequentially in soybean with one or more of the following herbicide products according to the specific tank mixing instructions in this label and respective product labels. Read and follow the applicable **Restrictions and Limitations** and **Directions For Use** on all products involved in tank mixing. The most restrictive labeling applies to tank mixes.

- Acquire^{™ 2}
- Assure® II
- Authority[®]
 Backdraft^{™ 2}
- Dackurant
- Basagran®
- Blazer®Canopy®
- Canopy® XL
- Command®
- Extreme^{™ 2}
- FirstRate®Flexstar®
- Fusilade®
- Fusion®
- Galaxy[®]
- Gramoxone® Extra
- Lexone®
- Liberty® 1

- Lorox®
- Poast®
- Poast Plus®
- Prowl®
- Pursuit®
- Python®
- Raptor®
- Reliance®
- Roundup Ultra® 2
- Scepter⁶
- Select®
- Sencor[®]
- Sonalan®
- Storm[®]
- Synchrony[®] STS[™]
- Touchdown^{® 2}
- Treflan®

¹ Use only in **Liberty Link**[®] (glufosinate tolerant) soybean varieties.

² includes postemergence tank mixes on Roundup Ready® (glyphosate tolerant) soybean varieties.

Crops

This product can be used on the following crops:

Corn (Field, Pop, Seed, and Sweet) Dry Bean Grass Grown for Seed Peanut Sorghum (Grain) Soybean

Look inside for complete **Restrictions and Limitations** and **Application Instructions**.

Pests listed in this label:			
Common Name	Scientific Name		
Amaranth, Palmer Barnyardgrass Beggarweed, Florida Carpetweed Crabgrass, Large , Smooth Cupgrass, Southwestern , Woolly Eclipta Flatsedge, Rice Foxtail, Giant , Green , Yellow Goosegrass Johnsongrass (seedling) Lambsquarters, Common Millet, Wild Proso Nightshade, Black , Eastern Black , Hairy Nutsedge, Yellow Panicum, Fall , Texas Pigweed, Prostrate , Redroot , Smooth , Tumble Purslane, Common Pusley, Florida Ragweed Red Rice Sandbur Shattercane	Amaranthus palmeri Echinochloa crus-galli Desmodium tortuosum Mullugo verticillata Digitaria sanguinalis Digitaria ischaemum Eriochloa gracilis Eriochloa villosa Eclipta alba Cyperus iria Setaria faberi Setaria viridis Setaria glauca Eleusine indica Sorghum halepense Chenopodium album Panicum miliaceum Solanum nigrum Solanum ptycanthum Solanum sarrachoides Cyperus esculentus Panicum dichotomiflorum Panicum texanum Amaranthus blitoides Amaranthus retroflexus Amaranthus albus Portulaca oleracea Richardia scabra Ambrosia artemisiifolia Oryza sativa Cenchrus incertus Sorghum bicolor		
Signalgrass, Broadleaf Spurge, Nodding,	Brachiaria platyphylla Euphorbia nutans		
, Spotted Waterhemp, Common , Tall	Euphorbia maculata Amaranthus rudis Amaranthus tuberculatus		
Witchgrass	Panicum capillare		





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