86004-6 ( 08/02/2012 ( 1/21

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

8 2 12

Bhushan Mandava
Mandava Associates LLC
1050 Connecticut Avenue NW
Suite 1000
Washington DC 20037 4510

Subject Label Amendment / Glycel Ultra Max Herbicide
EPA Reg No 86004 6

Dear Mr Mandava

The amended labeling referred to above submitted in connection with registration under the Federal Insecticide Fungicide and Rodenticide Act as amended is acceptable

To the label add the correct EPA Est No and Net Contents

Submit one copy of the final printed label for the record before you release the product for shipment A stamped copy of the label is enclosed for your records This master label supersedes all previously accepted labels If these conditions are not complied with the registration will be subject to cancellation in accordance with FIFRA section 6(e) Your release for shipment of the product constitutes acceptance of these conditions If you have any questions please call Erik Kraft at 703 308 9358 or email at Kraft Erik@epa gov

Sincerely

Kable Bo Davis
Product Manager 25
Herbicide Branch
Registration Division (7505P)

# Glycel Ultra Max

HERBICIDE

**Non selective broad spectrum weed control for many cropping systems farmsteads and Conservation Reserve Program acres**

| ACTIVE INGREDIENT | |
|---|---|
| *Glyphosate N (phosphonomethyl) glycine in the form of its isopropylamine salt | 50 2% |
| OTHER INGREDIENTS | 49 8% |
| TOTAL | 100 0 % |

Contains 600 grams per liter or 5 pounds per U S gallon of the active ingredient glyphosate in the form of its isopropylamine salt

**For chemical emergency spill leak fire exposure or accident call CHEMTREC 1 800 424 9300**
**For product use information call 1 866 248 7426**

## KEEP OUT OF REACH OF CHILDREN

## CAUTION'

CAUSES MODERATE EYE IRRITATION
Avoid contact with eyes or clothing

**FIRST AID**

| | |
|---|---|
| **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 Call a poison control center or doctor for treatment advice |

*Manufactured for*
**Repar – Glypho LLC**
**8070 Georgia Avenue / Suite 209**
**Silver Spring MD 20910**

EPA Reg No 86004 6 EPA Est No
NET CONTENTS _____GALLONS

## PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS
**CAUTION**

CAUSES MODERATE EYE IRRITATION
Avoid contact with eyes or clothing

DOMESTIC ANIMALS This product is considered to be relatively nontoxic to dogs and other domestic animals however ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting diarrhea colic etc ) If such symptoms are observed provide the animal with plenty of fluids to prevent dehydration Call a veterinarian if symptoms persist for more than 24 hours

**Personal Protective Equipment (PPE)**
**Applicators and other handlers must wear** long sleeved shirt and long pants shoes plus socks and gloves Follow manufacturer s instructions for cleaning/maintaining PPE (Personal Protective Equipment) 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 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**
User should
Wash hands before eating drinking chewing gum using tobacco or using the toilet
Remove clothing immediately if a pesticide gets inside Then wash thoroughly and put on clean clothing

ACCEPTED
8 2 12
Under the Federal Insecticide Fungicide, and Rodenticide Act as amended, for the pesticide registered under
EPA Reg. No 86004 6

**Environmental Hazard**

Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark Do not contaminate water when disposing of equipment washwaters or rinsate

**Physical or Chemical Hazards**

Spray solutions of this product should be mixed stored and applied using only stainless steel aluminum fiberglass plastic or plastic lined steel containers
DO NOT MIX STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS
This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture The gas mixture could flash or explode causing serious personal injury if ignited by open flame spark welder s torch lighted cigarette or other ignition source

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any 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 regulations

For control of annual and perennial weeds in Idaho Montana* Nevada* Oregon* Utah Washington* and Wyoming*

***COUNTY RESTRICTIONS**
This product can be used in certain counties in Montana Nevada Oregon Washington and Wyoming See the following sections for counties of use in these states
In **MONTANA NEVADA OREGON WASHINGTON** and **WYOMING** this product can be used in those counties listed below

**MONTANA**
Beaverhead Big Horn Blaine Broadwater Carbon Cascade Chouteau Deer Lodge Fergus Flathead Gallatin Glacier Golden Valley Granite Hill Jefferson Judith Basin Lake Lewis And Clark Liberty Lincoln Madison Meagher Mineral Missoula Musselshell Park Pondera Powell Ravalli Sanders Silver Bow Stillwater Sweet Grass Teton Toole Treasure Wheatland Yellowstone

**NEVADA**
Churchill Elko Eureka Humboldt Lyon Pershing

**OREGON**
Baker Crook Deschutes Gilliam Grant Harney Hood River Jefferson Malheur Morrow Sherman Umatilla Union Wallowa Wasco Wheeler

**WASHINGTON**
Adams Asotin Benton Chelan Columbia Douglas Ferry Franklin Garfield Grant Kittitas Klickitat Lincoln Okanogan Pend Oreille Spokane Stevens Walla Walla Whitman Yakima

**WYOMING**
Big Horn Fremont Hot Springs Johnson Lincoln Park Sheridan Sublette Teton Washakie

**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 4 hours
PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that had been treated such as plants soil or water is coveralls waterproof gloves and shoes plus socks

**Non Agricultural Use Requirements**
The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170) The WPS applies when this product is used to produce agricultural plants on farms forests nurseries or greenhouses
Keep people and pets off treated areas until spray solution had dried to prevent transfer of this product onto desirable vegetation

## STORAGE AND DISPOSAL

Do not contaminate water foodstuffs feed or seed by storage or disposal Keep container closed to prevent spills and contamination

**Storage** Store above 28 F or agitate before use

**Pesticide Disposal** Pesticide spray mixture or rinsate water that cannot be used according to label instructions must be disposed of on site or at an approved waste disposal facility

**Container Disposal**

**Nonrefillable containers 5 gallons or less**
**Container disposal Nonrefillable container Do not reuse or refill this container Offer for recycling if available**
**Triple rinse or pressure rinse container (or equivalent) promptly after emptying Triple rinse as follows Empty the remaining contents into application equipment or a mix and drain for 10 seconds after the flow begins to drip 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 of disposal Drain for 10 seconds after the flow begins to drip Repeat this procedure two more times Pressure rinse as follows Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip Hold container upside down over application equipment or mix tank or collect rinsate for later use of disposal Insert pressure rinsing nozzle in the side of the container and rinse at about 40 psi for at least 30 seconds Drain for 10 seconds after the flow begins to drip**

**Refillable containers 5 gallons or less**
**Container disposal Refillable container Refill this container with pesticide only Do not reuse this container for any other purpose**
**Cleaning the container before final disposal is the responsibility of the person disposing of this 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 a mix tank Fill the container about 10 % full with water and if possible spray all sides while adding water If practical agitate vigorously or recirculate water with the pump for two minutes**

**Pour or pump rinsate into application equipment or rinsate collection system Repeat this rinsing procedure two more times**

**Nonrefillable containers of 5 gallons or larger**
**Container Disposal Nonrefillable container Do not reuse or refill this container Offer for recycling if available**
**Triple rinse or pressure rinse container (or equivalent) promptly after emptying Triple rinse as follows Empty the remaining contents into application equipment or a mix tank Fill the container / full with water Replace and tighten closures Tip container on its side and roll 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 on 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 Pressure rinse as follows Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal Insert pressure rinsing nozzle in the side of the container and rinse at about 40 psi for at least 30 seconds Drain for 10 seconds after the flow begins to drip**

## PRODUCT INFORMATION

**(How this product works)**

**Product Description** This product is postemergent systemic herbicide with no soil residual activity It is generally non selective and gives broad spectrum control of many annual weeds and perennial weeds It is formulated as a water soluble liquid

Do not add surfactants additives containing surfactants buffering agents or pH adjusting agents to the spray solution when this product is the only pesticide used unless otherwise directed Ammonium sulfate drift control additives or dyes and colorants may be used See the MIXING section of this label for instructions

**Time to Symptoms** This product moves through the plant from the point of foliage contact to and into the root system Visible effects on most annual weeds occur within 2 to 4 days but on most perennial weeds may not occur for 7 days or more Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above ground growth and deterioration of underground plant parts

**Stage of Weeds** Refer to the ANNUAL AND PERENNIAL WEED RATE TABLES for direction for specific weeds

Always use the higher rate of this product per acre within the suggested range when weed growth is heavy or dense or weeds are growing in an undisturbed (non cultivated) area

Do not treat weeds under poor growing conditions such as drought stress disease or insect damage as reduced weed control may result Reduced results may also occur when treating weeds heavily covered with dust

**Cultural Considerations** Reduced control may result when applications are made to annual or perennial weeds that have been mowed grazed or cut and have not been allowed to regrow to the suggested stage for treatment

**Rainfastness** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control

**Spray Coverage** For best results spray coverage should be uniform and complete Do not spray weed foliage to the point of runoff

**Mode of Action** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to formation of specific amino acids

**No Soil Activity** Weeds must be emerged at the time of application to be controlled by this product Weeds germinating from seed after application will not be controlled Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow

When this product comes in contact with soil it is bound to soil particles Under directed use situations once this product is bound to soil particles it is not available for plant uptake and will not harm off site vegetation where roots grow into the treated area or if the soil is transported off site The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water

**Biological Degradation** Degradation of this product is primarily a biological process carried out by soil microbes

**Volatility** This product is non volatile Therefore it cannot move as a vapor after application to affect nearby vegetation

**Toxicology Testing** Exposure to workers and other applicators generally is expected to pose minimal risks based on results of short term toxicity studies Glyphosate has been thoroughly tested and determined not to cause cancer or other adverse long term health effects

**Tank Mixing** This product does not provide residual weed control For subsequent residual weed control follow a label approved herbicide program Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used Use according to the most restrictive label directions for each product in the mixture

Buyer and all users are responsible for all loss or damage in connection with the use or handling of

mixtures of this product with herbicides or other materials that are not expressly directed in this labeling Mixing this product with herbicides or other materials not directed on this label may result in reduced performance

**Annual Maximum Use Rate** Except as otherwise specified in a crop section of this label the combined total of all treatments must not exceed 6 5 quarts of this product per acre per year

For noncrop uses the combined total of all treatments must not exceed 8 5 quarts of this product per acre per year

**MIXING**

Clean sprayer parts immediately after using this product by thoroughly flushing with water

**NOTE** REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED SUCH AS VISIBLE MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR

**Mixing with Water** This product mixes readily with water Mix spray solutions of this product as follows Fill the mixing or spray tank with the required amount of water Add the directed amount of this product near the end of the filling process and mix well Use caution to avoid siphoning back into the carrier source Use approved anti back siphoning devices where required by state or local regulations During mixing and application foaming of the spray solution may occur To prevent or minimize foam avoid the use of mechanical agitator terminate by pass and return lines at the bottom of the tank and if needed use an approved anti foam or defoaming agent

**Tank Mixing Procedure**

Mix labeled tank mixtures of this product with water as follows

1 Place a 20 to 35 mesh screen or wetting basket over filling port
2 Through the screen fill the spray tank one half full with water and start agitation
3 If a wettable powder is used make slurry with the water carrier and add it SLOWLY through the screen into the tank Continue agitation
4 If a flowable formulation is used premix one part flowable with one part water Add diluted mixtures SLOWLY through the screen into the tank Continue agitation
5 If an emulsifiable concentrate formulation is used premix one part emulsifiable concentrate with two parts water Add diluted mixture slowly through the screen into the tank Continue agitation
6 Continue filling the spray tank with water and add the required amount of this product near the end of the filling process
7 Add individual formulations to the spray tank as follows wettable powder flowable emulsifiable concentrate drift control additive and water soluble liquid

Maintain good agitation at all times until the contents of the tank are sprayed If the spray mixture is allowed to settle thorough agitation is required to resuspend the mixture before spraying is resumed

Keep by pass line on or near the bottom of the tank to minimize foaming Screen size in nozzle or line strainers should be no finer than 50 mesh

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance

Refer to the **TANK MIXING** section of PRODUCT INFORMATION for additional precautions

**Mixing for Hand Held Sprayers**

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table

**Spray Solution**

| Amount of Glycel Ultra Max Herbicide | | | | | | |
|---|---|---|---|---|---|---|
| Desired Volume | ½% | 1 / | 1 1/2 / | 2 / | 5 / | 8 / |
| 1 Gal | 2/3 oz | 1 1/3 oz | 2 oz | 2 2/3 oz | 6 / oz | 10 / oz |
| 25 Gal | 1 pt | 1 qt | 1 / qt | 2 qt | 5 qt | 8 qt |
| 100 Gal | 2 qt | 1 gal | 1 / gal | 2 gal | 5 gal | 8 gal |

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers it is suggested that the directed amount of this product be mixed with water in a larger container Fill sprayer with the mixed solution

**Ammonium Sulfate**

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8 5 to 17 pounds per 100 gallons of water may increase the performance of this product particularly when tank mixed with certain residual herbicides on annual and perennial weeds The equivalent rate of ammonium sulfate in a liquid formulation may also be used Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides Thoroughly rinse the spray system with clean water after use to reduce corrosion

**NOTE** When using ammonium sulfate apply this product at rates directed in this label Lower rates will result in reduced performance

**Colorants or Dyes**

Agriculturally approved colorants or marking dyes may be added to this product Colorants or dyes used in spray solutions of this product may reduce performance especially at lower rates or dilutions Use colorants or dyes according to the manufacture s suggestions

**Drift control Additives**

Drift control additives may be used with all equipment types except wiper applicators sponge bars and CDA equipment When a drift control additive is used read

and carefully observe the cautionary statements and all other information appearing on the additive label

## APPLICATION EQUIPMENT AND TECHNIQUES

**SPRAY DRIFT MANAGEMENT**

AVOID CONTACT OF HERBICIDE WITH FOLIAGE GREEN STEMS EXPOSED NON WOODY ROOTS OR FRUIT OF CROPS DESIRABLE PLANTS AND TREES BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT

AVOID DRIFT EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS

Do not allow the herbicide solution to mist drip drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop plants or other areas on which treatment was not intended

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

Do not apply this product through any type of irrigation system

This product may be applied with the following application equipment

**Aerial** Fixed Wing and Helicopter

**Ground Broadcast Spray** – Boom or boomless systems pull type sprayer floaters pick up sprayers spray coupes and other ground broadcast equipment

**Hand Held and High Volume Spray Equipment** – Knapsack and backpack sprayers pump up pressure sprayers handguns handwands mistblowers lances and other hand held and motorized spray equipment used to direct the spray onto weed foliage

**Selective Equipment** – Recirculating sprayers shielded and hooded sprayers wiper applicators and sponge bars

**Injection Systems** – Aerial or ground injection sprayers

**Controlled Droplet Applicator (CDA)** – Hand held or boom mounted applicators which produce a spray consisting of a narrow range of droplet sizes

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes

**Aerial Equipment**

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL

Use the directed rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label Unless otherwise specified do not exceed 26 fluid ounces per acre Aerial applications of this product may be made in annual cropping conventional tillage systems fallow and reduced tillage systems and preharvest applications Refer to the individual use area sections of this label for directed volumes and application rates

**AERIAL SPRAY DRIFT MANAGEMENT**

The following drift management requirements must be followed to avoid off target drift movement from aerial applications to agricultural field crops

1 The distance of the outermost nozzles on the boom must not exceed ¼ 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 Where states have more stringent regulations they should be observed

**Importance of 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 the **Wind Temperature and Humidity** and **Temperature Inversions** sections of this label)

**Controlling droplet size**

**Volume** Use high flow rate nozzles to apply the highest practical spray volume Nozzles with the higher rated flows produce larger droplets

**Pressure** Use the lower spray pressures directed for the nozzle Higher pressure reduces droplet size and does not improve canopy penetration 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 backwards parallel to the airstream will produce larger droplets than other orientations Significant deflection from the 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 larger droplets than other nozzle types
- **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 must 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 the exposure of the droplets to evaporation and wind

**Swath Adjustment**
When applications are made with a crosswind the swath will be displaced downward 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 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 must 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**
The product must 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)
Avoid direct application to any body of water
Ensure uniform application – To avoid streaked uneven or overlapped application use appropriate marking devices
Thoroughly wash aircraft especially landing gear after each day of spraying to remove residues of this product accumulated during spraying or from spills

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART LANDING GEAR ARE THE MOST SUSCEPTIBLE The maintenance of an organic coating (paint) which meets aerospace specification MIL C 38413 may prevent corrosion

**Ground Broadcast Equipment**
Use the directed rates of this product in 3 to 30 gallons of water per acre as a broadcast spray unless otherwise specified As density of weeds increases spray volume should be increased within the suggested range to ensure complete coverage Carefully select proper nozzles to avoid spraying a fine mist For best results with ground application equipment use flat fan nozzles Check for even distribution of spray droplets

**Hand Held and High Volume Equipment**
Apply to foliage of vegetation to be controlled For applications made on a spray to wet basis spray coverage should be uniform and complete Do not spray to the point of runoff Use coarse sprays only
For control of weeds listed in the ANNUAL WEEDS RATE TABLES apply a 0 5 percent solution of this product to weeds less than 6 inches in height or runner length Apply prior to seedhead formations in grass or bud formation in broadleaf weeds For annual weeds over 6 inches tall or unless otherwise specified use a 1 percent solution
For best results use a 2 percent solution on harder to control perennials such as bermudagrass dock field bindweed hemp dogbane milkweed and Canada thistle
When using application methods which result in less than complete coverage use a 5 percent solution for annual and perennial weeds

**Selective Equipment**
This product may be applied through recirculation spray systems shielded applicators hooded sprayers wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically directed in cropping systems
A recirculation spray system directs the spray solution onto weeds growing above desired vegetation while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse
A shielded or hooded applicator directs the herbicide solution onto weeds while shielding desired vegetation from the herbicide
A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution
AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION
Contact of the herbicide solution with desirable vegetation may result in damage or destruction Applicators used above desirable vegetation should be

adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation Droplets mist foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration stunting or destruction Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation Better results may be obtained when more of the weed is exposed to the herbicide solution Weeds not contacted by the herbicide solution will not be affected This may occur in dense clumps severe infestations or when the height of the weeds varies so that not all weeds are contacted In these instances repeat treatment may be necessary

**Shielded and hooded applicators**

A hooded sprayer is a type of shield applicator The spray pattern is completely enclosed on the top and all 4 sides by a hood thereby shielding the crop from the spray solution This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way If the hoods are raised spray particles may escape and come into contact with the crop causing damage or destruction of the crop The spray hoods must be operated on the ground or skimming across the ground Tractor speed must be adjusted to avoid bouncing of the spray hoods Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground

Equipment must be designed maintained and operated to prevent the herbicide solution from contacting the crop CONTACT OF THIS PRODUCT IN ANY MANNER TO ANY VEGETATION TO WHICH TREATMENT IS NOT INTENDED MAY CAUSE DAMAGE Such damage shall be the sole responsibility of the applicator

**Wiper applicators and sponge bars**

Wiper applicators and devices that physically wipe appropriate amounts of this product directly onto the weed

Equipment must be designed maintained and operated to prevent the herbicide solution from contacting desirable vegetation Operate this equipment at ground speeds no greater than 5 mph Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation Better results may be obtained if 2 applications are made in opposite directions

Avoid leakage or dripping onto desirable vegetation Adjust height of applicator to ensure adequate contact with weeds Keep wiping surfaces clean Be aware that on sloping ground the herbicide solution may migrate causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator

Do not use wiper equipment when weeds are wet

Mix only the amount of solution to be used during a 1 day period as reduced activity may result from use of leftover solutions Clean wiper parts immediately after using this product by thoroughly flushing with water

Do not add surfactant to the herbicide solution

**For Rope or Sponge Wick Applicators** – Mix 1 gallon of this product with 2 gallons of water to prepare a 33 percent solution Apply this solution to weeds listed in this section

**For Porous Plastic Applicators** – Solutions ranging from 33 to 100 percent of this product in water may be used in porous plastic wiper applicators

When applied as directed this product CONTROLS the following weeds

| | | |
|---|---|---|
| Corn volunteer | Shattercane | Starbur bristly |
| Panicum Texas | Sicklepod | |
| Rye common | Spanishneedles | |

When applied as directed this product SUPPRESSES the following weeds

| | | |
|---|---|---|
| Beggarweed Florida | Milkweed | Sunflower |
| Bermudagrass | Nightshade silverleaf | Thistle Canada |
| Dogbane hemp | Pigweed redroot | Thistle musk |
| Dogfennel | Ragweed common | Vaseygrass |
| Guineagrass | Ragweed giant | Velvetleaf |
| Johnsongrass | Smutgrass | |

**Injection Systems**

This product may be used in aerial or ground injection spray systems It may be used as a liquid concentrate or diluted prior to injecting into the spray stream Do not mix this product with the concentrate of other products when using injection systems

**CDA Equipment**

The rate of this product applied per acre by vehicle mounted CDA equipment must not be less than the amount directed in this label when applied by conventional broadcast equipment For vehicle mounted CDA equipment apply 3 to 15 gallons of water per acre

For the control of annual weeds with hand held CDA units apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1 5 mph (1 quart per acre) For the control of perennial weeds apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0 75 mph (2 to 4 quarts per acre)

Controlled droplet application equipment produces a spray pattern which is not easily visible Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation as damage or destruction may result

## CROPS (Alphabetical)

This section is organized alphabetically by crop category There may be several labeled crops listed in a crop category

Unless otherwise specified applications may be made to control any weeds listed in the ANNUAL AND PERENNIAL WEED RATE TABLES Also refer to the **Selective Equipment** section

For any crop not listed in this CROPS section applications must be made at least 30 days prior to planting
For broadcast postemergent treatments do not harvest or feed treated vegetation for 8 weeks following application unless otherwise specified

**Alfalfa Clover and Other Forage Legumes**
LABELED CROPS Alfalfa clover kudzu lespedeza lupin sainfoin trefoil velvet bean vetch crown vetch milk vetch
TYPES OF APPLICATIONS Preplant preemergence at planting pereharvest ((alfalfa only) spot treatment (alfalfa and clover only) wiper applicators (alfalfa and clover only) renovation
**Preplant Preemergence and At planting**
USE INSTRUCTIONS This product may be applied before during or after planting crops listed in this section Applications must be made prior to emergence of the crop
RESTRICTIONS Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting
**Preharvest (Alfalfa only)**
USE INSTRUCTIONS This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable This application will severely injure or destroy the stand of alfalfa This product will control annual and perennial weeds including quack grass when applied prior to the harvest of alfalfa The treated crop and weeds can be harvested and fed to livestock after 36 hours Allow a minimum of 36 hours between applications and harvest Applications may be made at any time of the year Make only one application to an existing stand of alfalfa per year For control of quack grass apply in the spring late summer or fall when quack grass is actively growing Treatments for quack grass must be followed by deep tillage for complete control
RESTRICTIONS Do not apply more than 52 fluid ounces of this product per acre as a preharvest treatment Do not use for alfalfa grown for seed as a reduction in germination or vigor may occur
**Spot treatment or Wiper applications (Alfalfa and Clover only)**
USE INSTRUCTIONS This product may be applied as a spot treatment in alfalfa or clover This product may be applied with wiper applicators to control or suppress the weeds listed under WIPER APPLICATORS in the **Selective Equipment** section of this label Applications may be made in the same area at 30 day intervals
RESTRICTIONS For spot treatment and wiper applications apply in areas where the movement of domestic livestock can be controlled No more than one tenth of any acre should be treated at one time Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting
**Renovation**
USE INSTRUCTIONS This product may be applied as a broadcast spray to existing stands of alfalfa clover and other labeled forage legumes Labeled crops may be planted into the treated area
RESTRICTIONS Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting

**Asparagus**
TYPES OF APPLICATIONS Preplant preemergence spot treatment postharvest
**Preplant Preemergence**
USE INSTRUCTIONS This product may be applied prior to emergence of asparagus
RESTRICTIONS Do not apply within a week before the first spears emerge
**Spot treatment**
USE INSTRUCTIONS This product may be applied immediately after cutting but prior to the emergence of new spears
RESTRICTIONS Do not treat more than 10 percent of the total field area to be harvested Do not harvest within 5 days of treatment
**Postharvest**
USE INSTRUCTIONS This product may be applied after the last harvest and all spears have been removed If spears are allowed to regrow delay application until ferns have developed Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns stems or spears
PRECAUTIONS Direct contact of the spray with the asparagus may result in serious crop injury Select and use as directed types of spray equipment for postemergence post harvest applications A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop

**Canola**
TYPES OF APPLICATIONS Preplant preemergence
USE INSTRUCTIONS This product may be applied before during or after planting canola Applications must be made prior to emergence of the crop
RESTRICTIONS Do not apply more than 1 6 quarts of this product per acre by ground

**Cereal Crops**
LABELED CROPS Barley Buckwheat Millet (Pearl Proso) Oats Rye Teosinte Triticale Wheat (All)
TYPES OF APPLICATIONS Preplant preemergence at planting spot treatment postharvest preharvest (wheat only) wiper applicators (wheat only)
**Preplant preemergence and At planting**
USE INSTRUCTIONS This product may be applied before during or after planting of cereal crops

Applications must be made prior to emergence of the crop

**Spot treatment**

USE INSTRUCTIONS This product may be applied as a spot treatment in cereal crops Apply this product before heading in small grains

RESTRICTIONS Do not treat more than 10 percent of the total field area to be harvested The crop receiving spray in the treated area will be killed

PRECAUTIONS Take care to avoid drift or spray outside target area for the same reason

**Postharvest**

USE INSTRUCTIONS This product may be applied after harvest of cereal crops Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest Tank mixtures with 2 4 D or dicamba may be used

RESTRICTIONS For any crop not listed on this label applications must be made at least 30 days prior to planting the next crop

PRECAUTIONS Do not harvest or feed treated vegetation for 8 weeks following application

**Preharvest (wheat only)**

USE INSTRUCTIONS This product provides weed control when applied prior to harvest of wheat Apply after the hard dough stage of grain (30 percent or less grain moisture) and at least 7 days prior to harvest Wheat stubble may be grazed immediately after harvest

This product may be applied using either aerial or ground spray equipment For ground applications apply this product in 10 to 20 gallons of water per acre For aerial applications apply this product in 3 to 10 gallons of water per acre

RESTRICTIONS Do not apply more than 26 fluid ounces of this product per acre Do not apply to wheat grown for seed as a reduction in germination or vigor may occur

**Wiper applications (wheat only)**

USE INSTRUCTIONS Wiper applications may be used in wheat To control common rye or cereal rye apply after the weeds have headed and achieved maximum growth when the rye is at least 6 inches above the wheat crop

RESTRICTIONS Allow at least 35 days between application and harvest Do not use roller applicators

**Conservation Reserve Program (CRP)**

TYPES OF APPLICATIONS Renovation (rotating out of CRP) site preparation postemergence weed control in dormant CRP grasses wiper

**Rotating out of CRP Site preparation**

USE INSTRUCTIONS This product may be used to prepare CRP land for crop production

**Postemergence Weed Control in dormant CRP grasses Wiper**

USE INSTRUCTIONS This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses For selective applications with broadcast spray equipment apply 10 to 13 fluid ounces of this product per acre in early spring before desirable CRP grasses such as crested and tall wheatgrass break dormancy and initiate green growth Late fall applications can be made after desirable perennial grasses have reached dormancy

PRECAUTIONS Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant

**Corn**

TYPES OF CORN Field corn seed corn sweet corn and popcorn

TYPES OF APPLICATIONS Preplant pre emergence at planting hooded sprayers spot treatment preharvest postharvest

**Preplant Preemergence and At planting**

USE INSTRUCTIONS This product may be applied before during or after planting corn Applications must be made prior to emergence of the crop

The following tank mixtures may be applied before during or after planting in conventional tillage systems into a clover crop established sod or in previous crop residue

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre

| | | |
|---|---|---|
| ATRAZINE | EXTRAZINE [M] | MARKSMAN [M] |
| BANVEL [M] | FRONTIER [M] | MICRO TECH [M] |
| BICEP™ | GUARDSMAN™ | PARTNER® |
| BICEP II | HARNESS® | PROWL™ |
| BLADEX®/ CYANAZINE | HARNESS XTRA | SIMAZINE |
| BROAD STRIKE™ | HARNESS XTRA 5 6L | SURPASS™ |
| BULLET® | LARIAT® | SURPASS 100 |
| DUAL MAGNUM™ | LASSO®/ ALACHLOR | TOPNOTCH™ |
| DUAL MAGNUM II | LINEX™ | |
| | LOROX™ | |

For improved burndown this product may be tank mixed with 2 4 D or dicamba

**Annual weeds** – For difficult to control weeds such as fall panicum barnyardgrass crabgrass shattercane and broadleaf signalgrass up to 2 inches tall and Pennsylvania smartweed up to 6 inches tall apply this product at 26 fluid ounces per acre in these thank mixtures For other labeled annual weeds apply 20 to 26 fluid ounces of this product per acre when weeds are less than 6 inches tall and 26 to 40 fluid ounces when weeds are over 6 inches tall

RESTRICTIONS Applications of 2 4 D or dicamba must be made at least 7 days prior to planting corn

**Hooded Sprayers**

USE INSTRUCTIONS This product may be used through hooded sprayers for weed control between the rows of corn Only hooded sprayers that completely enclose the spray pattern may be used

When applying to corn that is grown on raised beds ensure that the hood is designed to completely enclose the spray solution If necessary extend the front and

rear flaps of the hoods to reach the ground in deep furrows

Follow these requirements
The spray hoods must be operated on the ground or skimming across the ground Do not apply more than 26 fluid ounces of this product per acre per application
Corn must be at least 12 inches tall measured without extending leaves
Leave at least 8 inch untreated strip over the drill row
For example if the crop row width is 38 inches the maximum width of the spray hood should be 30 inches
Maximum tractor speed 5 mph
Maximum wind speed 10 mph
Use low drift nozzles
Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated
Droplets mist foam or splatter of the herbicide solution may contact the crop and cause discoloration stunting or destruction
PRECAUTIONS Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage To the extent consistent with applicable law such damage shall be the sole responsibility of the applicator Do not graze or feed corn forage or fodder following applications of this product through hooded sprayers
RESTRICTIONS Do not apply more than 2 4 quarts of this product per acre per year for hooded sprayer applications

**Spot treatment**
USE INSTRUCTIONS For spot treatments apply this product prior to silking of corn
RESTRICTIONS Do not treat more than 10 percent of the total field acre to be harvested
PRECAUTIONS The crop receiving spray in the treated area will be killed Take care to avoid drift or spray outside target area for the same reason

**Preharvest**
USE INSTRUCTIONS Make applications at 35 percent grain moisture or less Ensure that a maximum kernel fill is complete and the corn is physiologically mature (black layer formed) For ground applications apply up to 2 4 quarts of this product per acre For aerial applications apply up to 26 fluid ounces of this product per acre
RESTRICTIONS Allow a minimum of 7 days between application and harvest It is not directed that corn grown for seed be treated because a reduction in germination or vigor may result

**Postharvest**
USE INSTRUCTIONS This product may be applied after harvest of corn Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest Tank mixtures with 2 4 D or dicamba may be used
RESTRICTIONS Do not harvest or feed treated vegetation for 8 weeks following application

**Fallow Systems**
TYPES OF APPLICATIONS Chemical fallow aid to tillage

**Chemical fallow**
USE INSTRUCTIONS This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label For any crop not listed on this label applications must be made at least 30 days prior to planting This product may be used as a substitute for tillage to control annual weeds in fallow fields Also broadcast or spot treatments will control or suppress many perennial weeds in fallow fields Ground or aerial application equipment may be used Tank mixtures with 2 4 D and dicamba may be used Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures Some crop injury may occur if Banvel is applied within 45 days of planting

**Aid to tillage**
USE INSTRUCTIONS This product may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome cheat volunteer wheat tansy mustard and foxtail Apply 6 5 fluid ounces of this product in 3 to 10 gallons of water per acre Make applications before weeds are 6 inches in height Applications must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs Allow at least 1 day after application before tillage
PRECAUTIONS Tank mixtures with residual herbicides may result in reduced performance

**Grain Sorghum (Milo)**
TYPES OF APPLICATIONS Preplant pre emergence at planting spot treatment wiper applicators hooded sprayers preharvest postharvest

**Preplant Preemergence At planting**
USE INSTRUCTIONS This product may be applied before during or after planting grain sorghum Applications must be made prior to emergence of the crop

**Spot treatment and Wiper applications**
USE INSTRUCTIONS This product may be applied as a spot treatment in grain sorghum Make spot treatments before heading of milo This product may be applied with wiper applicators to control or suppress the weeds listed under WIPER APPLICATORS in the **Selective Equipment** section of this label
RESTRICTIONS For spot treatment do not treat more than 10 percent of the total field area to be harvested
PRECAUTIONS The crop receiving spray in treated area will be killed Take care to avoid drift or spray outside target area for the same reason
For wiper applicators allow at least 40 days between application and harvest Do not use roller applicators Do not feed or graze treated milo fodder Do not ensile treated vegetation

**Hooded Sprayers**
USE INSTRUCTIONS This product may be used through hooded sprayers for weed control between the rows of milo Only hooded sprayers that completely enclose the spray pattern may be used
When applying to milo that is grown on raised beds ensure that the hood is designed to completely enclose the spray solution If necessary extend the front and rear flaps of the hoods to reach the ground in deep furrows
Follow these requirements
The spray hoods must be operated on the ground or skimming across the ground Do not apply more than 26 fluid ounces of this product per acre per application
Milo must be at least 12 inches tall measured without extending leaves Treat before milo sends tillers between the drill rows If such tillers are contacted with the spray solution the main plant may be killed
Leave at least an 8 inch untreated strip over the drill row For example if the crop row width is 38 inches the maximum width of the spray hood should be 30 inches
Maximum tractor speed 5 mph
Maximum wind speed 10 mph
Use low drift nozzles
Crop injury may occur when the foliage of treated weeds comes into direct contact with leaves of the crop Do not apply this product when the leaves of the crop are growing in direct contact with weeds to be treated Droplets mist foam or splatter of the herbicide solution may contact the crop and cause discoloration stunting or destruction
PRECAUTIONS Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage Such damage shall be the sole responsibility of the applicator Do not graze or feed milo forage or fodder following applications of this product through hooded sprayers
RESTRICTIONS Do not apply more than 2 4 quarts of this product per acre per year for hooded sprayer applications
**Preharvest**
USE INSTRUCTIONS Make applications at 30 percent grain moisture or less
RESTRICTIONS Do not apply more than 1 6 quarts of this product per acre Allow a minimum of 7 days between application and harvest of sorghum It is not suggested that sorghum grown for seed be treated as a reduction in germination or vigor may occur
**Postharvest**
USE INSTRUCTIONS This product may be applied after harvest of grain sorghum Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest Tank mixtures with 2 4 D or dicamba may be used
This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth Apply 26 fluid ounces of this product per acre for control or 20 fluid ounces of this product per acre for suppression
PRECAUTIONS Do not harvest or feed treated vegetation for 8 weeks following application

**Grass Seed Production**
TYPES OF APPLICATIONS Preplant pre emergence renovation site preparation shielded sprayers wiper applicators spot treatments creating rows in annual ryegrass
**Preplant preemergence renovation site preparation**
USE INSTRUCTIONS This product may be applied before during or after planting or renovation of turf or forage grass areas grown for seed production
Applications MUST be made prior to the emergence of the crop to avoid crop injury For maximum control of existing vegetation delay planting to determine if any regrowth from escaped underground plant parts occurs Where repeat treatments are necessary sufficient regrowth must be attained prior to application For warm season grasses such as bermudagrass summer or fall applications provide best control
RESTRICTIONS Do not disturb soil or underground plant parts before treatment Tillage or renovation techniques such as vertical mowing coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts Do not feed or graze treated areas for 8 weeks following application
**Shielded sprayers**
USE INSTRUCTIONS Apply 1 to 2 5 quarts of this product as a broadcast spray in 10 to 20 gallons of water per acre to control weeds in the rows Uniform planting in straight rows aid in shielded sprayer applications Best results are obtained when the grass seed crop is small enough to easily pass by or through the protective shields
PRECAUTIONS Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage To the extent consistent with applicable law such damage shall be the sole responsibility of the applicator
**Wiper Applications**
PRECAUTIONS Contact of the herbicide solution with desirable vegetation may result in damage of destruction Applicators should be adjusted so that the wiper contact point is at least two (2) inches above the desirable vegetation Weeds should be a minimum of six (6) inches above the desirable vegetation Better results may be obtained when more of the weed is exposed to the herbicide solution Weeds not contacted by the herbicide solution will not be affected This may occur in dense clumps severe infestations or when height of weeds varies so that not all weeds are contacted In these instances repeat treatments may be necessary Better results may be obtained if 2 applications are made in opposite directions
**Spot Treatments**
USE INSTRUCTIONS Use a 1 1 5 percent solution
RESTRICTIONS Apply this product prior to heading of grasses

PRECAUTIONS The crop receiving the spray in the treated area will be killed Take care to avoid drift or spray outside the target area for the same reason
RESTRICTIONS Do not treat more than 10 percent of the total field to be harvested

**Creating Rows in Annual Ryegrass**
USE INSTRUCTIONS Use 13 to 26 fluid ounces of this product per acre mixed with water Use the higher rate when the ryegrass is greater than 6 inches tall Best results are obtained when applications are made before the ryegrass reaches 6 inches in height
PRECAUTIONS Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets spray fines or drift to contact the ryegrass plants not treated Use of low pressure nozzles or drop nozzles designed to target the application over a narrow band are suggested

**To the extent consistent with applicable law grower assumes all responsibility for crop losses from misapplication**

**Herbs**
**TYPES OF HERBS** Peppermint spearmint
USE INSTRUCTIONS This product may be used as a spot treatment in spearmint and peppermint Apply spray to wet with hand held equipment such as backpack and knapsack sprayers pump up pressure sprayers hand guns hand wands or any other hand held or motorized spray equipment used to direct the spray solution onto a limited area
RESTRICTIONS Allow at least 7 days between application and harvest Further applications may be made in the same area at 30 day intervals No more than one tenth of any acre should be treated at one time
PRECAUTIONS The crop receiving spray in the treated area will be killed Take care to avoid drift or spray outside the target area for this reason

**Pastures**
TYPES OF PASTURES Bahiagrass bermudagrass bluegrass brome fescue orchardgrass ryegrass timothy wheatgrass alfalfa and clover
TYPES OF APPLICATIONS Spot treatment wiper application preplant preemergence pasture renovations
**Spot treatment and Wiper application**
USE INSTRUCTIONS This product may be applied as a spot treatment or with wiper applicators in pastures Applications may be made in the same area at 30 day intervals
PRECAUTIONS For spot treatment and wiper applications apply in areas where the movement of domestic livestock can be controlled
RESTRICTIONS Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting No more than one tenth of any acre should be treated at one time

**Preplant Preemergence and Pasture renovation**
USE INSTRUCTIONS This product may be applied prior to planting or emergence of forage grasses and legumes In addition this product may be used to control perennial pasture species listed on this label prior to re planting
RESTRICTIONS Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting

**Soybeans**
TYPES OF APPLICATIONS Preplant pre emergence at planting spot treatment preharvest selective equipment
**Preplant Preemergence and At planting**
USE INSTRUCTIONS This product may be applied before during or after planting soybeans Applications must be made prior to emergence of the crop
The following tank mixtures may be applied before during or after planting in conventional tillage systems into a clover crop established sod or in previous crop residue

| | | |
|---|---|---|
| CANOPY™ | LASSO/ALACHLOR | PROWL |
| COMMAND ™ | LINEX | PERSUIT ™ |
| DUAL | LOROX/LINURON | PERSUIT PLUS |
| DUAL II | LOROX PLUS | SCEPTER™ |
| FRONTIER | MICRO TECH | SENCOR™/ LEXONE™ |
| FUSION™ | PARTNER | SQUADRON™ |
| GEMINI™ | PREVIEW™ | TURBO™ |

For improved burndown this product may be tank mixed with 2 4 D or 2 4 DB See the 2 4 D label for intervals between application and planting

**Annual weeds** For difficult to control weeds such as fall panicum barnyardgrass crabgrass shattercane and broadleaf signalgrass up to 2 inches tall and Pennsylvania smartweed up to 6 inches tall apply this product at 26 fluid ounces per acre in these tank mixtures For other labeled annual weeds apply 20 to 26 fluid ounces of this product per acre when weeds are less than 6 inches tall and 26 to 40 fluid ounces when weeds are over 6 inches tall
**Spot treatment**
USE INSTRUCTIONS For spot treatments apply this product prior to initial pod set in soybeans
RESTRICTIONS Do not treat more than 10 percent of the total field area to be harvested
PRECAUTIONS The crop receiving spray in treated area will be killed Take care to avoid drift or spray outside target area for the same reason
**Preharvest**
USE INSTRUCTIONS This product provides weed control when applied prior to harvest of soybeans
Apply at rates given in the annual and perennial weeds rate tables This product may be applied using either aerial or ground spray equipment For ground applications apply this product in 10 to 20 gallons of water per acre For aerial applications apply this product in 3 to 10 gallons of water per acre

Apply after pods have set and lost all green color Allow a minimum of 7 days between application and harvest of soybeans Care should be taken to avoid excessive seed shatter loss due to ground application equipment

RESTRICTIONS DO NOT APPLY MORE THAN 4 8 QUARTS PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS DO NOT APPLY MORE THAN 26 FLUID OUNCES PER ACRE OF THIS PRODUCT BY AIR Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application

**Selective equipment**

USE INSTRUCTIONS This product may be applied through recirculating sprayers shielded applicators hooded sprayers wiper applicators or sponge bars in soybeans Allow at least 7 days between application and harvest

PRECAUTIONS See the **Selective Equipment** part of the APPLICATION EQUIPMENT AND TECHNIQUES section of this label for information on proper use and calibration of this equipment

**Sunflowers**

TYPES OF APPLICATIONS Preplant pre emergence

USE INSTRUCTIONS This product may be applied before during or after planting sunflowers Applications must be made prior to emergence of the crop

A tank mixture with Prowl may be applied before during or after planting in conventional tillage systems into a cover crop established sod or in previous crop residue

RESTRICTIONS Do not apply more than 26 fluid ounces of this product per acre for sunflowers Make only one preplant or preemergent application per year Do not feed or graze sunflower forage following application of this product

**Tree and Vine Crops**

TYPES OF APPLICATIONS Weed control middles (between rows of trees) strips (in row of trees) perennial grass suppression selective equipment (except kiwi)

**NOTE** THIS SECTION GIVES PRODUCT INFORMATION THAT APPLIES TO TREE FRUITS AND VINE CROPS SEE THE IN DIVIDUAL CROP SECTIONS FOR IN STRUCTIONS PREHARVEST INTERVALS PRECAUTIONS AND RESTRICTIONS FOR SPECIFIC CROPS

This product may be applied in middles strips and for weed control in established tree fruit orchards and vineyards Apply at 13 fluid ounces to 4 quarts per acre Repeat applications may be made up to a maximum of 8 5 quarts per acre per year This product may also be used for site preparation prior to transplanting these crops Allow a minimum of 3 days between application and transplanting Applications may be made with boom equipment CDA shielded sprayers hand held and high volume wands lances orchard guns or with wiper applicator equipment except as directed

**Middles (between rows)**

USE INSTRUCTIONS This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops If weeds are under drought stress irrigate prior to application Reduced control may result if weeds have been mowed prior to application

A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of tree fruits and vine crops This mixture is directed when weeds are stressed or growing in dense populations 13 to 26 fluid ounces per acre of this product plus 3 to 12 fluid ounces per acre of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches including crabgrass hairy fleabane (*Conyza bonariensis*) common groundsel junglerice common lambsquarters redroot pigweed London rocket common ryegrass shepherd s purse annual sowthistle common cheeseweed (malva) filaree (suppression) horseweed/marestail (*Conyza canadensis*) stinging nettle and common purslane (suppression) 10 to 26 fluid ounces per acre of this product plus 3 to 12 fluid ounces per acre of Goal 2XL will control common cheeseweed (malva) with a maximum height or diameter of 3 inches

**Strips (in rows)**

USE INSTRUCTIONS This product may be applied in rows of tree or vine crops and may also be tank mixed with the following products

| | | |
|---|---|---|
| DEVRINOL ™ 50 DF | KROVAR II | SIMAZINE 80W |
| DIREX™ 4L | PROWL | SIM TROL™ 4L |
| GOAL 2XL | PRINCEP | SOLICAM™ DF |
| KARMEX DF | CALIBER ™ 90 | SURFI AN ™ AS |
| KROVAR I | SIMAZINE 4L | SURFLAN 75W |

Refer to the individual product labels for specific crops rates geographic restrictions and precautionary statements

Apply 13 fluid ounces to 4 quarts of this product per acre in these tank mixtures Use rates at the higher end of the directed rate range when weeds are stressed growing in dense populations or are greater than 12 inches tall

**Perennial grass suppression**

This product will suppress perennial grasses such as bahiagrass bermudagrass tall fescue orchardgrass Kentucky bluegrass and quackgrass that are grown as ground covers in tree and vine crops

For suppression of tall fescue fine fescue orchard grass and quackgrass apply 6 5 fluid ounces of this product in 10 to 20 gallons of water per acre

For suppression of Kentucky bluegrass covers apply 5 fluid ounces of this product per acre Do not add ammonium sulfate

For best results mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing
For suppression of vegetative growth and seedhead inhibition of Bahia grass for approximately 45 days apply 5 fluid ounces of this product in 10 to 25 gallons of water per acre Apply 1 to 2 weeks after full green up or after mowing to a uniform height of 3 to 4 inches This application must be made prior to seedhead emergence
For suppression up to 120 days apply 3 25 fluid ounces of this product per acre followed by an application of 1 5 to 3 25 fluid ounces per acre about 45 days later Make no more than 2 applications per year
For burndown of bermudagrass apply 1 5 to 3 25 pints of this product in 3 to 20 gallons of water per acre Use this treatment only if reduction of the bermudagrass stand can be tolerated When burndown is required prior to harvest allow at least 21 days to ensure sufficient time for burndown to occur
For suppression of bermudagrass apply 13 fluid ounces of this product per acre west of the Rocky Mountains Apply in a total spray volume of 3 to 20 gallons per acre no sooner than 1 to 2 weeks after full green up If the bermudagrass is mowed prior to application maintain a minimum of 3 inches in height Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated

**Selective equipment (except kewi)**

Shielded and wiper applicators may be used in tree crops and grapes Refer to the individual crop sections for time interval between application and harvest
PRECAUTIONS/RESTRICTIONS For citron and olives apply as a post directed spray only
EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION SPRAY DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK BRANCHES SUCKERS FRUIT OR OTHER PARTS OF TREES AND VINES CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE
AVOID PAINTING CUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES

**Tree Fruits**

LABELED CROPS Apple Apricot Cherry (Sweet Sour) Crabapple Loquat Mayhaw Nectarine Olive Peach Pear Plum/Prune (All) Quince
TYPES OF APPLICATIONS Weed control middles (between rows of trees) strips (in row of trees) selective equipment
**NOTE** FOR USE DIRECTIONS SEE THE TREE AND VINE CROPS SECTION THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE FRUITS

**Restrictions on application equipment**

For cherries any application equipment listed in this section may be used in all states listed on this label
Any application equipment listed in this section may be used in apricots nectarines peaches and plumb/prunes growing in Idaho Oregon Utah and Washington In all other states use wiper equipment only
PRECAUTIONS Allow a minimum of 1 day between last application and harvest for apple crabapple loquat mayhaw pear quince
Allow a minimum of 17 days between last application and harvest for apricot cherry nectarine olive peach plum/prune

**Vegetable Crops**

LABELED CROPS Amaranth Arrugula Artichoke (Jerusalem) Beans (All) Beet greens Garden beets Broccoli (All) Brussels sprouts Cabbage (All) Cabbage (Chinese) Cantaloupe Cardoon Cavalo Broccolo Carrot Cauliflower Casaba melon Celery Celery (Chinese) Celeriac Celtuce Chard (Swiss) Chayote Chervil Chick peas Chicory Chrysanthemum Collards Corn salad Crenshaw melon Cress Cucumber Dandelion Dock (sorrel) Eggplant Endive Fennel (florence) Garlic Gherkin Ginseng Gourds Ground cherry Guar Honeydew melon Honey ball melon Horseradish Kale Kohlrabi Leek Lentils Lettuce Mango melon Melons (All) Mizuna Muskmelon Mustard greens Okra Onion Oriental radish Parsley Parsnips Peas (All) Pepinos Pepper (All) Persian melon Potato (Irish) Pumpkin Purslane Radish Rape greens Rhubarb Rutabaga Salsify Shallot Spinach (All) Mustard Spinach Squash (Summer Winter) Sugar beets Sweet potato Tomatillo Tomato Turnip Watercress Watermelon Yams
USE INSTRUCTIONS This product may be applied prior to the emergence of direct seeded vegetables or prior to transplanting vegetables
PRECAUTIONS When applying this product prior to transplanting crops into plastic mulch care must be taken to remove residues of this product which could cause crop injury from the plastic prior to transplanting Residues can be removed by a single 0 5 inch application of water either by natural rainfall or via a sprinkler system Applications made at emergence will result in injury or death to emerged seedlings
For the following crops apply only prior to planting Allow at least 3 days between application and planting of cantaloupe casaba melon Crenshaw melon cucumber eggplant gherkin gourds ground cherry honeydew melon honey ball melon mango melon melons (all) muskmelon pepper (all) persian melon pumpkin squash (summer winter) tomatillo watercress and watermelon
Wiper applicators may be used in rutabagas Allow at least 14 days between application and harvest

**Vine Crops**
LABELED CROPS Grapes (raisin table wine) Kiwi fruit
TYPES OF APPLICATIONS Weed control middles (between rows) strips (in row) selective equipment
**NOTE** FOR USE DIRECTIONS SEE THE TREE AND VINE CROPS SECTION THE FOLLOWING DIRECTIONS ARE SPECIFIC TO VINE CROPS

Applications should not be made when green shoots canes or foliage are in the spray zone
RESTRICTIONS Allow a minimum of 14 days between last application and harvest

**Farmsteads**
TYPES OF APPLICATIONS Nonselective weed control trim and edge chemical mowing rangelands
**Nonselective Weed Control Trim and edge**
USE INSTRUCTIONS This product may be used to control annual weeds perennial weeds and woody brush which are found in any part of the farmstead including building foundations along and in fences in dry ditches and canals along ditch banks farm roads shelterbelts prior to landscape plantings and equipment storage areas
This product may be tank mixed with the following products Refer to these product labels for approved farmstead sites and application rates For annual weeds use 26 fluid ounces per acre of this product when weeds are less than 6 inches tall and 1 25 quarts per acre when weeds are greater than 6 inches tall For perennial weeds apply 1 75 to 4 quarts per acre in these tank mixes For tank mixtures with these products through backpack sprayers handguns or other high volume spray to wet applications see the **Hand Held and High Volume Equipment section** of this label for directed rates

| | | |
|---|---|---|
| Arsenal | Krovar I DF | Ronstar 50 WP |
| Banvel | Oust | Sahara |
| Barricade 5WG | Pendulum 3 3 EC | Simazine |
| Diuron | Pendulum WDG | Surflan |
| Endurance | Plateau | Telar |
| Escort | Princep DF | Vanquish |
| Karmex DF | Princep Liquid | 2 4 D |

**Chemical mowing**
USE INSTRUCTIONS This product will suppress perennial grasses listed in this section to serve as a substitute for mowing Apply this product at a rate of 5 to 6 5 fluid ounces per acre Use 6 5 fluid ounces of this product per acre when treating tall fescue fine fescue orchardgrass or quackgrass covers Use 5 fluid ounces of this product per acre when treating Kentucky bluegrass Apply treatments in 10 to 20 gallons of spray solution per acre Chemical mowing applications may be made along farm ditches and other parts of farmsteads
RESTRICTIONS Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated

**Rangelands**
TYPES OF APPLICATIONS Postemergence
USE INSTRUCTIONS This product will control or suppress many annual weeds growing in perennial cool and warm season grass rangelands
Preventing viable seed production is key to the successful control invasion of annual grassy weeds in rangelands Follow up applications in sequential years should eliminate most of the viable seeds
Grazing of treated areas should be delayed to encourage growth of desirable perennials Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition
RESTRICTIONS Do not use ammonium sulfate when spraying rangeland grasses with this product Do not make more than one application per year
**Postemergence**
Apply 10 13 fluid ounces of this product to control or suppress many weeds including downy brome cheat grass cereal rye and jointed goatgrass in rangelands Apply when most mature brome plants are in early flower and before the plants including seedheads turn color Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites Fall applications are possible and directed where spring moisture is usually limited and fall germination allows for good weed growth
Apply 13 fluid ounces when the medusahead has reached the 3 leaf stage Delaying applications beyond this stage will result in reduced or unacceptable control
Fire may be useful in eliminating the thatch layer produced by slow decaying culms prior to application Allow new growth to occur before spraying after a burn Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead dominated rangelands
Slight discoloration of the desirable grasses may occur but they will regreen and regrow under moist soil conditions as effects of this product wear off

**ANNUAL WEEDS RATE TABLE**
**(Alphabetically by Species)**
Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are suggested
Apply to actively growing annual weeds Annual weeds are generally easiest to control when they are small
Older mature (hardened) annual weed species may require higher rates even if they meet the size requirements
Do not tank mix with soil residual herbicides when using these rates unless otherwise specified

For weeds that have been mowed grazed or cut allow regrowth to occur prior to treatment
For those rates less than 40 fluid ounces per acre this product may be used up to 40 fluid ounces per acre where heavy weed densities exist

| ANNUAL WEEDS RATE TABLE | | | | | |
|---|---|---|---|---|---|
| | RATE (Fluid Ounces per Acre) | | | | |
| Weed Species | 13 | 20 | 26 | 32 | 40 |
| | Maximum Height/Length | | | | |
| Barley | 18 | 18 + | | | |
| Barnyardgrass | | 3 | 6 | 7 | 9 |
| Bittercress | 12 | 20 | | | |
| Bluegrass annual | 10 | | | | |
| Bluegrass bulbous | 6 | | | | |
| Brome downy[1,2] | 6 | 12 | | | |
| Brome Japanese | 6 | 12 | 24 | | |
| Buckwheat wild[3] | | 1 | 2 | | |
| Buttercup | 12 | 20 | | | |
| Carolina foxtail | 10 | | | | |
| Carolina geranium | | | 4 | | 9 |
| Carpetweed | | 6 | 12 | | |
| Cheat[2] | 6 | 20 | | | |
| Chickweed | | 12 | 18 | | |
| Cocklebur | 12 | 18 | 24 | | 36 |
| Corn | 6 | 12 | 20 | | |
| Crabgrass | 6 | 12 | 18 | | |
| Dwarfdandelion | 12 | | | | |
| Fall panicum | 4 | 6 | 8 | 12 | 24 |
| Falseflax smallseed | 12 | | | | |
| Field pennycress | 6 | 12 | | | |
| Filaree | | | 6 | | 12 |
| Fleabane hairy *(Conyza bonariensis)* | | | 6 | | 10 |
| Florida pusley | | | 4 | | 6 |
| Foxtail | 6 | 12 | 20 | | |
| Goatgrass jointed | 6 | 12 | | | |
| Grain sorghum (milo) | 6 | 12 | 20 | | |
| Groundsel common | | 6 | 10 | | |
| Henbit | | | 6 | | 12 |
| Horsetail/ Marestail *(Conyza canadensis)* | 6 | 12 | 18 | | |
| Johnsongrass seedling | | 12 | 18 | | 24 |
| Knotweed | 3 | 8 | 12 | | 20 |
| Kochia[4] | | 3 to 6 | 12 | | |
| Lambsquarters | 6 | 8 | 12 | | 20 |
| Little barley | 12 | | | | |
| London rocket | 6 | | 24 | | |
| Morningglory annual *(Ipomoea spp.)* | | 2 | 3 | 4 | 6 |

| ANNUAL WEEDS RATE TABLE | | | | | |
|---|---|---|---|---|---|
| | RATE (Fluid Ounces per Acre) | | | | |
| Weed Species | 13 | 20 | 26 | 32 | 40 |
| | Maximum Height/Length | | | | |
| Mustard blue | 6 | 12 | 18 | | |
| Mustard tansy | 6 | 12 | 18 | | |
| Mustard tumble | 6 | 12 | 18 | | |
| Mustard wild | 6 | 12 | 18 | | |
| Oats | | 6 | 20 | | |
| Pigweed species | | 12 | 18 | 24 | |
| Prickly lettuce | | 6 | 12 | | |
| Purslane | | 6 | 8 | | 12 |
| Ragweed common | | 6 | 12 | | 18 |
| Ragweed giant | | 4 | 9 | | 18 |
| Russian thistle | | 6 | 12 | | |
| Rye cereal[2] | 6 | 18 | 18 + | | |
| Ryegrass | | | 6 | | 12 |
| Sandbur field | 6 | 12 | | | |
| Shattercane | 12 | 18 | | | |
| Shepherd s purse | 6 | 12 | | | |
| Smartweed ladysthumb | | | 6 | | 9 |
| Smartweed Pennsylvania | | | 6 | | 9 |
| Sowthistle annual | | | 6 | | 12 |
| Spurge prostrate | | 6 | 12 | | |
| Spurge spotted | | 6 | 12 | | |
| Stinkgrass | | 12 | | | |
| Sunflower | 12 | 18 | | | |
| Texas panicum | 6 | 8 | 12 | | 24 |
| Velvetleaf | | 3 | 6 | | 12 |
| Virginia Pepperweed | | 18 | | | |
| Wheat[2] | 6 | 12 | 18 | | |
| Wheat (overwintered) | | 6 | 12 | 18 + | |
| Wild oats | 6 | 20 | | | |
| Wild Proso Millet | | 6 | 12 | | 18 |
| Witchgrass | | 12 | | | |

[1]For control of Downy Brome in no till systems use 20 fluid ounces per acre

Performance is better if application is made before this weed reaches the boot stage of growth

[3]Use 20 fluid ounces per acre of this product to control wild buckwheat in the cotyledon to 2 leaf stage Use 26 fluid ounces per acre to control 2 to 4 leaf wild buckwheat For improved control of wild buckwheat over 2 inches in size use sequential treatments of 26 fluid ounces followed by 26 fluid ounces of this product per acre

[4]Do not treat Kochia in the button stage

**Annual Weeds Water Carrier Volumes of 10 to 40 Gallons Per Acre**

Apply 26 to 40 fluid ounces of this product per acre Use 26 fluid ounces per acre if weeds are less than 6 inches tall and 40 fluid ounces per acre if weeds are over 6 inches tall

These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10 to 40 gallons per acre for ground applications

**Annual Weeds Tank Mixtures with 2 4 D or Banvel**
10 to 13 fluid ounces of this product plus 0 25 pound a i of Banvel or 0 5 pound a i of 2 4 D per acre will control the following weeds with the maximum height or length indicated 6 inches prickly lettuce marestail/horseweed *(Conyza canadensis)* morningglory *(Ipomoea spp)* kochia (Banvel only) 12 inches cocklebur lambsquarters pigweed Russian thistle
13 fluid ounces of this product plus 0 5 pound a i of 2 4 D per acre will control the following weeds when they are a maximum height or length of 6 inches common ragweed giant ragweed Pennsylvania smartweed and velvetleaf
10 fluid ounces of this product plus 0 25 pound a i of Banvel or 0 5 pound a i of 2 4 D per acre will control foxtail up to 18 inches
Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures Some crop injury may occur if Banvel is applied within 45 days of planting

**PERENNIAL WEEDS RATE TABLE**
**(Alphabetically by Species)**

Apply to actively growing perennial weeds

**NOTE** If weeds have been mowed grazed cut or tilled do not treat until plants have resumed active growth and have reached the suggested stages
Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity
Repeat treatments may be necessary to control weeds regenerating from underground parts or seed Repeat treatments must be made prior to crop emergence
Unless otherwise stated allow 7 or more days after application before tillage
Best results are obtained when soil moisture is adequate for active weed growth

| Weed Species | Rate (QT/A) | Water Volume (GPA) | Hand Held / Solution |
|---|---|---|---|
| Alfalfa | 1 1 75 | 3 10 | 2% |

Make applications after the last hay cutting in the fall Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment Applications should be followed with deep tillage at least 7 days after treatment but before soil freezes up

| | | | |
|---|---|---|---|
| Bluegrass | 1 25 | 10 20 | 2% |

For suppression in grass seed production areas For ground applications only Ensure entire crown area has resumed growth prior to a fall application Bentgrass should have at least 3 inches of growth Tillage prior to treatment should be avoided Tillage 7 to 10 days after application is directed for best results

| Weed Species | Rate (QT/A) | Water Volume (GPA) | Hand Held / Solution |
|---|---|---|---|
| Bermudagrass | 2 5 4 | 3 20 | 2/ |

For control apply 4 quarts of this product per acre For partial control apply 2 5 quarts per acre Treat when bermudagrass is actively growing and seedheads are present
Retreatment may be necessary to maintain control

| | | | |
|---|---|---|---|
| Bindweed field | 0 5 4 | 3 20 | 2/ |

Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth
For control apply 3 25 to 4 quarts of this product per acre Apply when the weeds are at or beyond full bloom For best results apply in the late summer or fall Fall treatments must be applied before a killing frost
Also for control apply 1 75 quarts of this product plus 0 5 pound a i of Banvel in 10 to 20 gallons of water per acre Do not apply by air
For suppression on irrigated agricultural land apply 1 to 1 75 quarts of this product plus 1 pound a i of 2 4 D in 10 to 20 gallons of water per acre with ground equipment only
Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length The use of at least one irrigation will promote active bindweed growth
For suppression apply 13 fluid ounces of this product plus 0 5 pound a i of 2 4 D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications Apply by air in fallow and reduced tillage systems only
Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length

| | | | |
|---|---|---|---|
| Bluegrass Kentucky | 1 1 75 | 3 30 | 2/ |

Apply 1 75 quarts of this product in 10 to 30 gallons of water per acre when most plants have reached boot to early seedhead stage of development For partial control in pasture or hay crop renovation apply 1 to 1 25 quarts of this product in 3 to 10 gallons of water per acre Apply to actively growing plants when most have reached 4 to 12 inches in height

| | | | |
|---|---|---|---|
| Brakenfern | 2 5 3 25 | 3 30 | 1 1 5/ |

Apply to fully expanded fronds which are at least 18 inches long

| | | | |
|---|---|---|---|
| Bromegrass smooth | 1 1 75 | 3 30 | 2/ |

Apply 1 75 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot to early seedhead stage of development For partial control in pasture or hay crop renovation apply 1 to 1 25 quarts of this product in 3 to 10 gallons of water per acre Apply to actively growing plants when most have reached 4 to 12 inches in height

| Weed Species | Rate (QT/A) | Water Volume (GPA) | Hand Held / Solution |
|---|---|---|---|
| Canarygrass reed | 1 75 2 5 | 3 30 | 2/ |

For best results apply when most plants have reached the boot to head stage of growth

| | | | |
|---|---|---|---|
| Cattail | 2 5 4 | 3 30 | 2/ |

Apply when most plants have reached the early head stage

| | | | |
|---|---|---|---|
| Dandelion | 2 5 4 | 3 30 | 2/ |

Apply when most plants have reached the early bud stage of growth
Also for control apply 13 fluid ounces of this product plus 0 5 pound a i 2 4 D in 3 to 10 gallons of water per acre

| | | | |
|---|---|---|---|
| Dock curly | 2 5 4 | 3 30 | 2/ |

Apply when most plants have reached the early bud stage of growth
Also for control apply 13 fluid ounces of this product plus 0 5 pound a i 2 4 D in 3 to 10 gallons of water per acre

| | | | |
|---|---|---|---|
| Fescue (except tall) | 2 5 4 | 3 20 | 2/ |

Apply when most plants have reached the early head stage

| | | | |
|---|---|---|---|
| Fescue tall | 1 2 5 | 3 30 | 2/ |

Apply 2 5 quarts of this product per acre when most plants have reached boot to early seedhead stage of development
Fall applications only Apply 1 quart of this product in 3 to 10 gallons of water per acre Apply to fescue in the fall when plants have 6 to 12 inches of new growth A sequential application of 1 pint per acre of this product will improve long term control and control seedlings germinating after fall treatments or the following spring

| | | | |
|---|---|---|---|
| Jerusalem artichoke | 2 5 4 | 3 20 | 2/ |

Apply when most plants are in the early bud stage

| | | | |
|---|---|---|---|
| Johnsongrass | 0 5 2 5 | 3 30 | 1/ |

In annual cropping systems apply 1 to 1 75 quarts of this product per acre Apply 1 quart of this product in 3 to 10 gallons of water per acre Use 1 75 quarts of this product when applying 10 to 30 gallons of water per acre In noncrop or areas where annual tillage (no till) is not practiced apply 1 75 to 2 5 quarts of this product in 10 to 30 gallons of water per acre
For best results apply when most plants have reached the boot to head stage of growth or in the fall prior to frost Allow 7 or more days after application before tillage Do not tank mix with residual herbicides when using the 1 quart per acre rate

| Weed Species | Rate (QT/A) | Water Volume (GPA) | Hand Held / Solution |
|---|---|---|---|

For burndown of Johnsongrass apply 13 fluid ounces of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches For this use allow at least 3 days after treatment before tillage
Spot treatment (partial control or suppression) – Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height Coverage should be uniform and complete

| | | | |
|---|---|---|---|
| Knapweed | 3 25 | 3 30 | 2/ |

Apply when most plants have reached the late bud to flower stage of growth For best results apply in late summer or fall

| | | | |
|---|---|---|---|
| Lespedeza | 2 5 4 | 3 20 | 2/ |

Apply when most plants have reached the early bud stage

| | | | |
|---|---|---|---|
| Milkweed common | 2 5 | 3 30 | 2/ |

Apply when most plants have reached the late bud to flower stage of growth

| | | | |
|---|---|---|---|
| Mullein common | 2 5 4 | 3 20 | 2/ |

Apply when most plants are in the early bud stage

| | | | |
|---|---|---|---|
| Nutsedge purple yellow | 0 5 2 5 | 3 30 | 1 2/ |

Apply 2 5 quarts of this product per acre or apply a 1 to 2 percent solution for control of nutsedge plants and immature nutlets attached to treated plants Treat when plants are in flower or when new nutlets can be found at rhizome tips Nutlets which have not germinated will not be controlled and may germinate following treatment Repeat treatments will be required for long term control of ungerminated tubers
Sequential applications 1 to 1 75 quarts of this product in 3 to 10 gallons of water per acre will also provide control Make applications when a majority of the plants are in the 3 to 5 leaf stage (less than 6 inches tall) Repeat this application as necessary when newly emerging plants reach the 3 to 5 leaf stage Subsequent applications will be necessary for long term control
For partial control of existing plants apply 13 fluid ounces to 1 75 quarts of this product in 3 to 40 gallons of water per acre Treat when plants have 3 to 5 leaves and most are less than 6 inches tall Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants

| Weed Species | Rate (QT/A) | Water Volume (GPA) | Hand Held / Solution |
|---|---|---|---|
| Orchardgrass | 1 1 75 | 3 30 | 2/ |

Apply 1 75 quarts of this product in 10 to 30 gallons of water per acre when most plants have reached boot to early seedhead stage of development For partial control in pasture or hay crop renovation apply 1 to 1 25 quarts of this product in 3 to 10 gallons of water per acre Apply to actively growing plants when most have reached 4 to 12 inches in height

Orchardgrass sods going to no till corn Apply 1 to 1 25 quarts of this product in 3 to 10 gallons of water per acre Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications Allow at least 3 days following application before planting A sequential application of atrazine will be necessary for optimum results

| | | | |
|---|---|---|---|
| Poison hemlock | | | 1 2/ |

Apply as a spray to wet treatment Optimum results are obtained when plants are treated at the bud to full bloom stage of growth

| | | | |
|---|---|---|---|
| Quackgrass | 1 2 5 | 3 30 | 2/ |

In annual cropping systems or in pastures and sods followed by deep tillage Apply 1 quart of this product in 3 to 10 gallons of water per acre For 10 to 30 gallons of water per acre apply 1 75 quarts of this product Do not tank mix with residual herbicides when using the 1 quart rate Spray when quackgrass is 6 to 8 inches in height Do not till between harvest and fall applications or in fall or spring prior to spring application

Allow 3 or more days after application before tillage In pastures or sods use a moldboard plow for best results

In pastures sods or noncrop areas where deep tillage does not follow application Apply 1 75 to 2 5 quarts of this product in 10 to 30 gallons of water per acre when the quackgrass is greater than 8 inches tall

| | | | |
|---|---|---|---|
| Ryegrass perennial | 1 2 5 | 3 30 | 1/ |

In annual cropping systems apply 1 to 1 75 quarts of this product per acre Apply 1 quart of this product in 3 to 10 gallons of water per acre Use 1 75 quarts of this product when applying 10 to 30 gallons of water per acre In noncrop or areas where annual tillage (no till) is not practiced apply 1 75 to 2 5 quarts of this product in 10 to 30 gallons of water per acre

For best results apply when most plants have reached the boot to head stage of growth or in the fall prior to frost Do not tank mix with residual herbicides when using the 1 quart per acre rate

| Weed Species | Rate (QT/A) | Water Volume (GPA) | Hand Held / Solution |
|---|---|---|---|
| Smartweed swamp | 2 5 4 | 3 30 | 2/ |

Apply when most plants have reached the early stage of growth

Also for control apply 13 fluid ounces of this product plus 0 5 pound a i of 2 4 D in 3 to 10 gallons of water per acre in the late summer or fall

| | | | |
|---|---|---|---|
| Sowthistle perennial | 1 75 2 5 | 3 30 | 2/ |

Apply when most plants are at or beyond the bud stage of growth After harvest mowing or tillage in the late summer or fall allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product Fall treatments must be applied before a killing frost Allow 3 or more days after application before tillage

| | | | |
|---|---|---|---|
| Spurge leafy | | 3 10 | 2/ |

For suppression apply 13 fluid ounces of this product plus 0 5 pounds a i 2 4 D in 3 to 10 gallons of water per acre in the late summer or fall If mowing has occurred prior to treatment apply when most of the plants are 12 inches tall

| | | | |
|---|---|---|---|
| Starthistle yellow | 1 75 | 10 40 | 2/ |

Best results are obtained when applications are made during the rosette bolting and early flower stages

| | | | |
|---|---|---|---|
| Thistle Canada | 1 75 2 5 | 3 30 | 2/ |

Apply when most plants are at or beyond the bud stage of growth After harvest mowing or tillage in the late summer or fall allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product Fall treatments must be applied before a killing frost Allow 3 or more days after application before tillage

For suppression apply 1 quart of this product or 13 fluid ounces of this product plus 0 5 pound a i 2 4 D in 3 to 10 gallons of water per acre in the late summer or fall after harvest mowing or tillage Allow rosette regrowth to a minimum of 6 inches in diameter before treating Applications can be made as long as leaves are still green and plants are actively growing at the time of application Allow 3 or more days after application before tillage

| | | | |
|---|---|---|---|
| Timothy | 1 75 2 5 | 3 30 | 2/ |

For best results apply when most plants have reached the boot to head stage of growth

| | | | |
|---|---|---|---|
| Wheatgrass western | 1 75 2 5 | 3 30 | 2/ |

For best results apply when most plants have reached the boot to head stage of growth

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