

Reg no: 352-404

PM-25

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"GLEAN"
HERBICIDE
DRY FLOWABLE

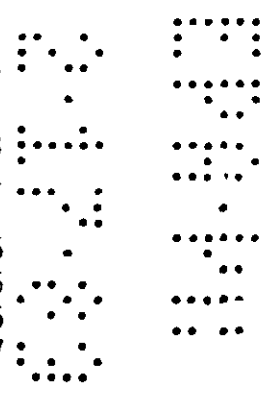
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U.S. Environmental Protection Agency
Federal Insecticide, Fungicide, and Rodenticide Act
This pesticide is registered under
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"GLEAN"
HERBICIDE
DRY FLOWABLE

BY WEIGHT

ACTIVE INGREDIENT:

Chlorsulfuron 2-Chloro-N-[(4-methoxy-6-methyl-
1,3,5-triazin-2-yl)aminocarbonyl]benzenesulfonamide.....75%

INERT INGREDIENTS.....25%
TOTAL 100%

EPA Reg. No. 352-404

U.S. Pat. 4,127,405

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS--HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! MAY IRRITATE EYES, NOSE, THROAT OR SKIN.

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

If on skin: Wash with plenty of soap and water. Call a physician if irritation persists.

For medical emergencies involving this product, call toll-free 1-800-441-3637.

ENVIRONMENTAL HAZARDS

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of waste.

IMPORTANT INFORMATION--(READ BEFORE USING)

"Glean" is recommended for use on land primarily dedicated to the long-term production of wheat, barley, oats, rye or triticale. "Glean" should not be used in any area where annual crop rotation is frequently practiced except as indicated for the states of AR, KS, LA, OK and TX. See "Cereal Recropping Intervals" and "Crop Rotation Recommendations (Noncereal Crops)" sections for details.

"GLEAN"

In areas having soil pH greater than 7.0, a short growing season, prolonged periods of low soil temperature and low annual rainfall, "Glean" can remain in the soil for 3 to 4 years or more and cause severe injury to crops other than wheat, barley, oats, rye or triticale.

Before using "Glean", carefully consider your crop rotation plans and options. For rotational flexibility, do not treat all your wheat, barley, oats or fallow acres.

Injury to or loss of desirable trees or vegetation may result from failure to observe the following: Do not apply, drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with roots. Do not use on lawns, walks, driveways, tennis courts or similar areas. Prevent drift of spray to desirable plants. Do not contaminate any body of water, including irrigation water that may be used on other crops.

Carefully observe sprayer cleanup instructions, as spray tank residue may damage crops other than wheat, oats or barley.

INFORMATION ON RESISTANT WEEDS:

Following the use of "Glean" in monoculture cereals production (continuous cereals or cereal-fallow-cereal), some naturally-occurring biotypes* of certain weeds listed on this label may not be effectively controlled by this product.

If weeds listed on this label are not satisfactorily controlled, respray problem areas in a timely and effective manner using a broadleaf herbicide having a different mode of action**, such as: 2,4-D, Banvel[1]***, Buctril[2], Bronate[2], Curtail[3], MCPA, Du Pont "Karmex" Herbicide or Du Pont "Lexone" Herbicide.

To delay the occurrence of resistant biotypes, use "Glean" in tank mixes and/or sequential treatments with other herbicides effective on the same broadleaf weed species. Do not let weed escapes go to seed.

Consult your Ag chemical dealer, applicator, consultant, appropriate state agricultural extension service representative or your local Du Pont representatives for specific recommendations.

* Biotypes are naturally-occurring individuals of the species which have a slightly different genetic makeup. Resistant biotypes may look exactly the same as susceptible biotypes. Herbicide resistant biotypes are able to survive a use rate several times higher than needed to control susceptible biotypes.

** Mode of action is the chemical interaction that interrupts a biological process necessary for plant growth and development.

"GLEAN"

*** Tank mixes with "Banvel" may result in reduced control of some broadleaf weeds.

GENERAL INFORMATION

"Glean" Herbicide is a dry flowable granule containing 75% active ingredient, to be mixed in water and applied as a uniform broadcast spray for selective weed control in wheat (including durum), barley and spring oats. In the states of Texas, western Oregon and western Washington, "Glean" may also be used on winter oats. "Glean" is also recommended for selective weed control in grasses on acreage enrolled in the Conservation Reserve Program. It is noncorrosive, nonflammable, nonvolatile and does not freeze.

Prior to using "Glean", careful consideration should be given to crop rotation plans. Crops other than wheat, barley, oats, rye and triticale can be extremely sensitive to low concentrations of "Glean" in the soil.

READ AND FOLLOW ALL APPROPRIATE SECTIONS OF LABEL INCLUDING PRECAUTIONS BEFORE USING THIS PRODUCT.

GRAZING

"Glean" has no grazing restrictions.

SOIL RESIDUAL ACTIVITY

In the states of CA, Northern ID, OR and WA, "Glean" is recommended for use on land having a soil pH of 7.9 or lower and dedicated to the long-term production of cereal grains. **The soil residual activity of "Glean" can injure crops other than wheat, barley, oats, rye or triticale for 2 to 3 years or more.** "Glean" should not be used on soils above pH 7.9, as extended soil residual activity could adversely affect crop rotation options beyond normal intervals.

In the states of Southern ID, MN, MT, ND, SD, UT and Northern WY, "Glean" is recommended for use on land having a soil pH of 7.9 or lower and dedicated to the long-term production of cereal grains. **The soil residual activity of "Glean" can injure crops other than wheat, barley, oats, rye or triticale for 3 to 4 years or more.** "Glean" should not be used on soils above pH 7.9, as the extended soil residual activity could adversely affect crop rotation options beyond normal intervals and under certain conditions cause injury to wheat, barley, oats, rye and triticale.

"GLEAN"

In the states of AR, Central KS, LA, Central NE, Central OK and North Central TX, "Glean" is recommended for use on land having a soil pH of 7.9 or lower. The soil residual activity of "Glean" can injure crops other than wheat, barley, oats, rye or triticale for 2 to 4 years or more. "Glean" should not be used on soils higher than pH 7.9, as extended soil residual activity could adversely affect crop rotation options beyond normal intervals.

Rainfall, soil temperature and soil pH are important factors affecting "Glean" breakdown in soil. "Glean" breakdown is more rapid under conditions of low soil pH, high soil temperature and moist soil. The breakdown process is slow under conditions of high soil pH, low soil temperature and dry soil.

IMPORTANT: UNLESS OTHERWISE SPECIFIED IN THE "CROP ROTATION RECOMMENDATIONS (NONCEREAL CROPS)" SECTION OF THIS LABEL, land previously treated with "Glean" cannot be rotated to crops other than wheat, oats, barley, rye or triticale until a bioassay confirms that residues of "Glean" that could cause crop injury are not present. See "Bioassay" section of this label for details. Failure to follow these instructions could result in injury to subsequent crops.

For crop rotation flexibility do not use "Glean" on all your wheat, barley or spring oats.

HOW APPLICATION TIMING AND ENVIRONMENTAL CONDITIONS AFFECT WEED CONTROL AND CROP SAFETY

How Growing Conditions and Crop Density Affect Weed Control

Postemergence application to weeds are most effective when "Glean" is applied to young, actively growing weeds which are less than 2" tall or 2" across. Warm, moist growing conditions promote active weed growth and enhance the activity of "Glean" by allowing maximum foliar uptake. If cold, dry conditions exist, delay postemergence treatment until weather conditions promote active weed growth. For best results with treatments made postemergence to weeds during periods of cold temperatures, apply "Glean" when minimum day/night temperatures are 40° F or higher.

Avoid postemergence applications to weeds which are inactive due to adverse weather conditions. Weeds hardened off by cold weather or drought stress may not be controlled.

A vigorously growing crop will aid weed control by shading and providing competition for weeds. However, a dense crop canopy at time of application can intercept spray and result in reduced weed control. Weeds may not be adequately controlled in areas of thin crop stand or seeding skips.

"GLEAN"

How Rainfall After Treatment Affects Weed Control--Rainfall after treatment will affect "Glean" performance when applied postemergence or preemergence to weeds. Without sufficient rainfall to move "Glean" into the weed root zone, weeds that germinate after treatment will not be controlled.

Postemergence treatments control or suppress weeds through both foliar and root uptake. To maximize "Glean" activity on existing weeds, sufficient rainfall is needed soon after treatment to move "Glean" into the weed root zone, **before** weeds develop an established root system and grow beyond the seedling stage.

Avoid making applications postemergence to weeds when rainfall is threatening. Rainfall immediately after treatment can wash "Glean" off weed foliage and result in reduced weed control effectiveness. Several hours of dry weather is needed to allow "Glean" to be absorbed by weed foliage.

When weed emergence is uneven, control of weeds that germinate after treatment will be dependent on the timing and amount of rainfall following application. Sufficient rainfall is needed to move "Glean" 2 to 3" deep into the weed root zone before weeds that germinate after treatment can develop an established root system. When favorable growing conditions exist, rainfall may be needed within a few days after treatment.

For best preemergence results, it is important to apply "Glean" when you can expect at least 1 to 2" (clay soils require more than sandy soils) of rain or sprinkler irrigation to move "Glean" 2 to 3" deep into the soil profile **before** weed seeds germinate and develop an established root system. Weeds that germinate after treatment and develop an established root system before rainfall moves "Glean" into the soil profile may not be controlled.

How Growing Conditions Affect Crop Safety--Prolonged cold weather (daily maximum temperature below 50°F) and/or drought, and/or low fertility while crop is in seedling stage (1 to 5 leaf) can cause crop injury following either a preemergence or postemergence treatment.

To avoid the risk of cold weather related injury, apply "Glean" when good growing conditions are expected to continue until crop has started to tiller.

DIRECTIONS FOR USE

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

"Glean" Herbicide should be used only in accordance with recommendations on this label or in separate published Du Pont recommendations available through local dealers.

Du Pont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Du Pont. User assumes all risks associated with such nonrecommended use.

MAXIMUM USE RATES AND SOIL pH LIMITATIONS

In the states of CA, Northern ID, OR and WA, the maximum use rate is 1/3 oz/A per crop on soils having a pH of 7.9 or lower. Do not apply more than 1/3 oz/A in an 18 month period. Do not use on soils having a pH greater than 7.9.

In the states of Southern ID, MN, MT, ND, SD, UT and Northern WY, the maximum use rate is 1/3 oz/A in a 48 month period on soils having a pH of 7.9 or lower. Do not use on soils having a pH greater than 7.9.

In the states of Central KS, Central NE and Central OK, the maximum use rate is 1/3 oz/A per crop period on soils having a pH of 7.9 or lower. Do not use on soils with a pH greater than 7.9.

In the states of AR, LA, Central and North Central TX and Southern OK, the maximum use rate is 1/2 oz/A per crop period on soils having a pH of 7.9 or lower. Do not use on soils with a pH greater than 7.9.

NOTE: Prior to use of "Glean", take soil samples at 0-4" depth and determine soil pH by laboratory analysis using a 1:1 (soil:water) suspension. Samples should be representative of the different conditions in the field (for example, slope, soil texture, low areas, eroded areas, etc.). Consult local extension publications for recommended soil sampling procedures.

APPLICATION TECHNIQUES AND TIMING

Preemergence (After Planting) To Wheat (Including Durum)

Preemergence applications of "Glean" are only recommended where foxtail or annual ryegrass are the target weeds.

Apply "Glean" (1/6 - 1/3 oz/A for foxtail or 1/6 to 1/2 oz/A for ryegrass) after planting, but before crop emergence. Rainfall or sprinkler irrigation following treatment is necessary to activate "Glean" before weed seeds germinate and develop an established root system. **Wheat must be planted at least 1" deep.** For best results apply "Glean" uniformly to a smooth seedbed.

Do not apply preemergence to late fall seedlings when cold and/or dry weather can delay seedling emergence and reduce seedling vigor. If these conditions exist, delay treatment until crop has emerged and weather conditions allow active wheat growth and wheat is showing good vigor.

Preemergence applications of "Glean" are not recommended where organophosphate insecticides (such as "Di-Syston"[4], etc.) have been used as an in-furrow treatment as crop injury may occur.

"GLEAN"

When environmental conditions cause delayed seedling emergence and/or poor seedling vigor, delay post treatment irrigation until after the wheat is actively growing and is showing good vigor.

NOTE: DO NOT APPLY PREEMERGENCE (FALL OR SPRING) TO IRRIGATED DURUM WHEAT.

NOTE: DO NOT APPLY PREEMERGENCE (FALL OR SPRING) TO BARLEY, SPRING OATS OR WAMPUM VARIETY OF SPRING WHEAT AS CROP INJURY MAY RESULT.

Split-Treatment To Wheat

"Glean" can be applied fall postemergence plus spring postemergence provided that each application is made with another broadleaf herbicide. Refer to "TANK MIXTURES FOR RESISTANT WEED MANAGEMENT". Allow at least 30 days between treatments. Do not apply more than the maximum use rate, per crop year, as indicated in the **MAXIMUM USE RATES AND SOIL pH LIMITATIONS** section of label. Do not make more than 2 treatments per crop. Apply last application before boot stage. Base recropping interval on date of last application and total amount of "Glean" used.

Preplant Incorporation (PPI) and Preplant Surface (PPS) Applications to Early Seeded Winter Wheat in the States of MT, ND, SD and Northern Wyoming Where Foxtail is the Target Weed

NOTE: Preplant incorporation and preplant surface treatments are only recommended for early seeded winter wheat where growing conditions are favorable (good soil moisture, moderate temperatures) for good stand establishment prior to winter dormancy.

Apply "Glean" as a uniform broadcast spray not more than 3 weeks prior to the anticipated planting of early seeded winter wheat.

Use 1/3 oz/acre.

Winter wheat may be planted anytime after treatment.

- **INCORPORATION (PPI)**--Follow spray application with shallow (not deeper than 3 to 4") mechanical incorporation. Use either single pass or double pass incorporation (second pass at right angle to first pass) with sweeps (duckfoot cultivator), spring tooth or field cultivator. Incorporation may be improved if a harrow is pulled behind the primary incorporation implement.
- **SEEDING AFTER EITHER PPI OR PPS TREATMENT**--The use of disc type drills is recommended because of minimal soil disturbance. A hoe type drill may be used if drill spacing is not more than 10" wide and tractor speed is at least 5 mph. If a hoe drill is used, weed control results may be variable depending on amount of soil displacement in seed row. Where practical, a harrow pulled behind a hoe drill should increase the effectiveness of this treatment.

"GLEAN"

- PRECAUTIONS

Because of variations in incorporation equipment and seeding techniques, it is recommended that growers limit first use of either PPI or PPS to a small area to be sure weed control results are satisfactory.

Excessive displacement of treated soil may result in poor weed control in the seed row.

In high rainfall situations or on low pH soils (pH less than 6.5) a second application may be needed in the spring. Refer to instructions for split application.

Do not apply prior to late fall plantings as cold/dry weather can delay seedling emergence and reduce seedling vigor, making crop more vulnerable to the combination of herbicide and weather stress, resulting in crop injury.

DO NOT MAKE A PREPLANT INCORPORATED OR PREPLANT SURFACE APPLICATION PRIOR TO PLANTING BARLEY OR SPRING OATS.

Dry Fertilizer Impregnation And Application To Winter/Spring Wheat And Durum In Montana And The Dakotas

- **IMPREGNATION**--The herbicide/fertilizer impregnation process must be done at commercial fertilizer or chemical dealerships that are properly equipped for this procedure.

NOTE: The practice of impregnating "Glean" on dry fertilizer is recommended only for dealers whose primary crop business is wheat, barley and oats. Failure to thoroughly clean all traces of "Glean" from equipment used to mix or apply dry fertilizer for use on other crops result in crop injury.

Not more than 1/4 to 1/3 oz of "Glean" should be impregnated on a minimum of 150 lbs of dry fertilizer per acre.

Slurry the "Glean" in water using 1 part "Glean" to at least 5 parts water (1-18 oz jug in 3 qts water). Do not exceed slurry volume of 1 pt per 100 lbs of fertilizer. Continuous agitation (mechanical or recirculating) is required to keep "Glean" in suspension during the impregnation process.

To impregnate, mix and blend the dry fertilizer and herbicide in a closed rotary drum-type mixer allowing sufficient time to ensure uniform coverage. The delivery nozzle(s) must be placed inside the mixer and positioned to provide uniform spray coverage of the tumbling fertilizer. Use "Glean" impregnated dry fertilizer as soon as possible after blending.

"GLEAN"

Before using blending and/or application equipment to subsequently mix or apply fertilizer to crops other than wheat, barley, oats, rye or triticale, thoroughly clean all traces of "Glean" and "Glean" impregnated fertilizer from equipment.

NOTE: All state regulations relating to dry bulk fertilizer blending, registration, labeling and application are the responsibility of the individual and/or company selling the fertilizer/herbicide mixture.

- **APPLICATION**--Apply "Glean" impregnated dry fertilizer as an early fall treatment before planting or after crop emergence. Spring applications should only be made before planting. Spring wheat and durum may be planted into fall applications in accordance to directions provided in the "Fall Application Prior to Planting Spring Wheat (including Durum)" section of this label. Spread the herbicide treated fertilizer uniformly with a properly calibrated applicator. When using fan spreaders, a 100% overlap is recommended. Fan spreaders should be calibrated to apply 1/2 the desired rate per acre. Application pattern should be overlapped to cover 1/2 of the previous swath.

- **INCORPORATION**

FALL--Mechanical incorporation is not needed for early fall applications as fall and winter rain and snow is usually sufficient to move "Glean" into the weed root zone. Weed control may not be satisfactory in dry years or from late fall applications.

If mechanical incorporation is desired prior to planting, use single pass, double incorporation with sweeps (duckfoot cultivator) followed by springtooth (flexline) harrow, or use double-pass incorporation (second pass at right angle to first pass) with a culti-harrow, spike tooth or springtooth harrow or sweeps (duckfoot cultivator). Shallow incorporation not deeper than 3-4" is recommended.

SPRING--Because spring rainfall is often undependable, mechanical incorporation is recommended prior to planting. Use same incorporation procedures described for fall mechanical incorporation. Best results are obtained when rainfall (1-2") follows mechanical incorporation prior to weed emergence. In dry conditions, weed control may not be satisfactory.

Fall Application Prior to Planting Spring Wheat (Including Durum) in the States of MT, ND, SD and Northern Wyoming Where Foxtail is the Target Weed

Apply "Glean" (1/3 oz/A) in the fall to undisturbed stubble where straw is spread evenly or after cultivation to a uniform soil surface. Shallow tillage, not more than 4" deep, may be done after application. In the spring use shallow tillage to prepare a seedbed. Do not moldboard plow. Fall application is not effective for Canada thistle emerging the following spring. See Canada thistle under, **SPECIFIC WEED PROBLEMS**.

"GLEAN"

NOTE: DO NOT PLANT IRRIGATED DURUM WHEAT AFTER A FALL APPLICATION OF "GLEAN".

NOTE: DO NOT PLANT SPRING BARLEY, WAMPUM SPRING WHEAT OR SPRING OATS AFTER A FALL APPLICATION OF "GLEAN".

Postemergence To Winter/Spring Wheat, Durum*, Winter/Spring Barley and Spring Oats

- WINTER WHEAT/WINTER BARLEY

Apply "Glean" ($1/6$ - $1/3$ oz/A) in the fall or spring anytime after the crop is in the 2-leaf stage--but before boot stage.

Do not make an early postemergence treatment to late seeded wheat or barley as the combined effect of herbicide stress plus cold weather and/or moisture stress could cause crop injury. Delay making a postemergence treatment to late seeded wheat or barley until crop has started to tiller.

In areas where cold weather conditions can be severe (ID, OR, UT, WA, WY, MT, ND, SD, MN) do not make a late fall, winter or early spring application to wheat or barley until crop is well established and has started to tiller.

Do not apply "Glean" within 60 days of crop emergence where organophosphate insecticides (such as "Di-Syston", etc.) have been used as an in-furrow treatment as crop injury may result.

DO NOT apply during boot stage or early heading as crop injury may occur.

- SPRING WHEAT, DURUM*, SPRING BARLEY AND SPRING OATS

In the Pacific Northwest, apply "Glean" ($1/6$ to $1/3$ oz/A) anytime after crop is in the 2-leaf stage through the 2nd joint stage. **DO NOT** apply once the flag leaf is visible as crop injury may occur.

In all other areas, apply "Glean" ($1/6$ to $1/3$ oz/A) anytime after crop is in the 2-leaf stage--but before boot stage. Do not apply during boot stage as crop injury may occur.

For irrigated cereal crops, delay first post treatment irrigation for at least 3 days after treatment.

To avoid the risk of cold weather related crop injury, apply "Glean" when good growing conditions (adequate soil moisture, daily high temp. of 50°F or more) are expected to continue until crop has started to tiller.

"GLEAN"

Do not apply prior to tillering when cold and/or dry weather can reduce seedling vigor making crop more vulnerable to the combination of herbicide and weather stress. The combined effect of herbicide plus stress from cold and/or dry weather can result in temporary yellowing or crop injury (yield reduction).

***NOTE: APPLY TO VIC DURUM AFTER EARLY TILLERING, BUT BEFORE BOOT STAGE.**

Weed Control For The Conservation Reserve Program (CRP)

"Glean" is registered for CRP use in CO, IA, ID, KS, MN, MT, NE, NM, ND, OK, OR, SD, TX, UT, WA and WY. Consult "Glean" supplemental label for CRP use instructions.

Preemergence Or Postemergence Application To Winter Oats - Texas, Western Oregon And Western Washington Only

Preemergence to Oats: Apply "Glean" at $\frac{1}{3}$ oz/A as a post planting preemergence treatment to early seeded winter oats. Use $\frac{1}{2}$ oz/A (Central and Northeast TX) rate where annual ryegrass is the primary weed problem.

Do not make a preemergence treatment to late fall plantings (after November 1) as herbicide stress plus cold weather stress can cause crop injury.

Remove grazing cattle during wet (muddy) field conditions to avoid disturbing the herbicide barrier.

Heavy rainfall between the time of treatment and the 2-leaf crop stage can result in temporary yellowing and stunting and may result in crop injury.

Postemergence to Oats (broadleaf control only): Apply "Glean" at $\frac{1}{6}$ to $\frac{1}{3}$ oz/A when crop is in 2-leaf to boot stage. When weeds are present at the time of application, add a surfactant (80% active ingredient or more) at the rate of 1 to 2 quarts per 100 gallons of spray solution. Fall applications of less than $\frac{1}{3}$ oz/A may not provide adequate control of spring germinating broadleaf weeds.

NOTE: Under abnormally wet conditions, especially on coarse textured soils, fall applications may not provide adequate control of ryegrass and/or spring control of ryegrass and/or spring germinating broadleaf weeds.

Remove grazing cattle during wet (muddy) field conditions to avoid disturbing the herbicide barrier.

Postemergence applications generally do not provide adequate suppression of annual ryegrass.

WEED CONTROL IN REDUCED TILLAGE FALLOW

"GLEAN"

DO NOT USE "GLEAN" IN FALLOW EXCEPT FOR FALL APPLICATIONS PRIOR TO PLANTING SPRING WHEAT FOR THE CONTROL OF FOXTAIL IN THE STATES OF MT, ND, SD AND NORTHERN WYOMING.

WEED CONTROL

General Information

"Glean" rapidly inhibits growth of susceptible weeds. However, typical symptoms (discoloration) of dying weeds may not be noticeable for 1 to 3 weeks after application depending on growing conditions and weed susceptibility.

Degree of control and duration of effect depend on: a) rate used, b) weed spectrum, c) weed size, d) degree of weed infestation, e) growing conditions at and following time of treatment, f) length of growing season, g) soil pH, h) soil organic matter and i) precipitation.

for maximum weed control or suppression, always use the highest recommended rate for your area, soil pH and weed problem. Do not use less than 1/6 oz/A.

Because of rapid breakdown in soil, "Glean" may not provide season long weed control on soils below pH 6.5.

For best results with application made postemergence to weeds, apply "Glean" to small (less than 2" tall or 2" across), actively growing weeds. Add a surfactant of at least 80% active ingredient at the rate of 1-2 quarts/100 gallons of spray solution. The higher rate of surfactant is particularly useful with spray volumes of 5 GPA or less and when using low rates of "Glean". The use of surfactants having less than 80% active ingredient may reduce weed control.

Sufficient rainfall after preemergence or postemergence treatment is necessary to move "Glean" 2-3" into the weed root zone before weed seeds germinate and develop an established root system or existing weeds grow beyond the seedling stage. In most areas, fall treatments provide the best opportunity for rainfall activation and most consistent residual weed control. Late spring applications may not receive enough rainfall after treatment resulting in poor weed control. Without sufficient rainfall to move "Glean" into the weed root zone, weeds that germinate after treatment will not be controlled.

Weed Control/Use Rate Table

NOTE: Read and follow all instructions under "Specific Weed Problems" for all weeds marked with "***".

The 1/6 oz/A use rate is recommended only for short-term control or suppression. Use 1/3 oz/A where soil residual weed control is important.

"GLEAN"

Where soil pH is 6.5 or lower, use the 1/3 oz/A rate where maximum soil residual weed control is important.

The 1/2 oz/A use rate is recommended only for the control/suppression of annual ryegrass in AR, LA, OK and TX.

Weeds Controlled at 1/6 thru 1/4 Ounce Per Acre

Blue mustard
Conical catchfly
Curly dock
Field pennycress
Flixweed** (except ID, OR, UT, WA)
Hempnettle
Henbit
Mayweed
Miners lettuce
Pineappleweed
Prostrate pigweed
Redroot pigweed
Sheperdspurse
Smooth pigweed
Tansymustard** (except ID, OR, UT, WA)
Treacle mustard
Tumble mustard (Jim Hill)
Waterpod
Wild mustard

Weeds Controlled at 1/3 Ounce Per Acre

Bur beakchervil
Buttercup
Coast fiddleneck (tarweed)
Common chickweed
Common groundsel
Corn spurry
Cow cockle
False chamomile
False flax
+Kochia** (in MT and ND only)
Ladysthumb
Lambsquarters **
Mouseear chickweed
Purslane (common)
Redstem filaree
+Russian thistle** (in MT and ND only)
White cockle
Wild carrot
Wild turnip

"GLEAN"

Weeds Suppressed¹ at 1/3 Ounce Per Acre

Annual ryegrass**
Bedstraw
Canada thistle**
Corn gromwell
Flixweed**
Giant foxtail**
Green foxtail** (pigeongrass)
+Kochia**
Pennsylvania smartweed
+Prickly lettuce
Prostrate knotweed**
+Russian thistle**
Sunflower** (in TX partial control only)
Speedwell
Tansymustard**
Wild buckwheat
Wild garlic/Wild onion**
Wild radish**
Yellow foxtail**

¹ Weed suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated area. Degree of suppression will vary with rate used, size of weeds and environmental conditions following treatment.

+Naturally-occurring resistant biotypes of these weeds are known to occur in the Central Plains and the Pacific Northwest. See "Tank Mixtures for Resistant Weed Management" section of label for additional information.

**See "Specific Weed Problems".

SPECIFIC WEED PROBLEMS

Canada Thistle: Apply "Glean" plus surfactant after majority of thistles have emerged and while they are small (rosette stage to 4"-6" tall), but actively growing. A single application will effectively inhibit the ability of Canada thistle to compete with the crop. For maximum long-term effect, yearly treatment may be required.

Annual Ryegrass: (Southwest Arkansas/Northwest Louisiana): Apply "Glean" at 1/2 oz/A preemergence to ryegrass. 1/2 to 1" of rainfall is needed to move "Glean" into the weed root zone prior to ryegrass emergence. Remove grazing cattle during wet (muddy) field conditions to avoid disturbing the herbicide barrier. Under abnormally wet conditions, especially on coarse textured soils, fall applications may not adequately control ryegrass and/or spring germinating broadleaf weeds.

"GLEAN"

Annual Ryegrass: (Southeast Oklahoma, Central and North Central TX): Apply "Glean" at 1/2 oz/A preemergence to ryegrass. 1/2 to 1" of rainfall is needed to move "Glean" into the weed root zone prior to ryegrass emergence. Remove grazing cattle during wet (muddy) field conditions to avoid disturbing the herbicide barrier. Under abnormally wet conditions, especially on coarse textured soils, fall applications may not adequately control ryegrass and/or spring germinating broadleaf weeds.

For best results, a sequential treatment of "Glean" followed by Du Pont "Ally" Herbicide is recommended. Apply "Glean" as stated above then follow with 1/10 oz/A of "Ally" after completion of wheat grazing, but prior to boot stage of the wheat. For fields not grazed, apply the sequential application of "Ally" as soon as ryegrass starts to grow after winter dormancy. "Ally" may be applied with a surfactant or with a liquid nitrogen fertilizer topdressing application. Do not add a surfactant to liquid nitrogen fertilizer plus "Ally" combinations. In mixing "Ally" with liquid fertilizer, slurry "Ally" in water then thoroughly mix the slurry into the fertilizer. Run a tank mix compatibility test before mixing "Ally" in fertilizer solution. DO NOT use with fertilizers having a pH of 3.0 or less as rapid product degradation can occur. The addition of 2,4-D is not recommended for annual ryegrass suppression.

Foxtail/Pigeongrass(Green, yellow and giant): In MN, MI, ND and SD, fall applications at 1/3 oz/A in winter wheat or prior to planting spring wheat will suppress these foxtail species. Applications made in the spring (only on land that has been in fallow the previous year), also give suppression. For best results in the spring, apply preemergence to foxtail at 1/3 oz/A. Postemergence applications at 1/3 oz/A should be made with surfactant before the foxtail is more than 1" tall or beyond the 1-2 leaf stage. 1/2 to 1" of rainfall is needed (after either a pre or postemergence treatment) to move "Glean" into the weed root zone before the foxtail is beyond the 2-3 leaf stage. Without adequate rainfall incorporation before the foxtail is beyond the 2-3 leaf stage, foxtail suppression may not be adequate.

Fall application may only provide short-term suppression.

Excessive rainfall after treatment may result in unsatisfactory weed control performance.

Wild Buckwheat: In MN, MI, ND and SD, fall applications at 1/3 oz/A will control wild buckwheat. Applications made in the spring give suppression. For best results in the spring, apply "Glean" with surfactant just after seedlings have emerged and are actively growing. Late spring applications may not receive enough rainfall after treatment, resulting in poor residual weed suppression.

In KS, OK and TX, best results are from fall or early spring applications made preemergence to wild buckwheat. Postemergence applications should be made with surfactant just after seedlings have emerged and are actively growing.

"GLEAN"

In all other states, fall applications should provide best results. If treatment is delayed until spring, apply "Glean" with surfactant just after seedlings have emerged and are actively growing.

Lambsquarters: For best results, use not less than 1/3 oz/A applied in the fall. For spring postemergence application, apply when lambsquarters are less than 2" tall or 2" across and are actively growing. Use not less than the 1/3 oz/A rate of "Glean" plus 2 qt surfactant/100 gal of spray solution.

Russian Thistle and Kochia:

"Glean" is not recommended for the control of these two weeds in ID, OR and WA.

Postemergence Suppression: Apply "Glean" plus either 2,4-D (ester or amine) or MCPA (ester or amine) after majority of weeds have emerged. For best results, weeds must be actively growing at time of application (adequate soil moisture and daily temperatures above 60°F). Add surfactant at 1/2 but not more than 1 qt/100 gal of spray solution. Thorough coverage is important. See "Tank Mixtures for Resistant Weed Management" and "Tank Mixtures" sections of label.

Sunflower--For best results in NM, OK (Panhandle) and TX, apply "Glean" after majority of sunflowers have emerged and are small (not more than 2" tall) and actively growing. Add surfactant at 2 qt/100 gal of water. If "Glean" is applied preemergence, make application in early spring to allow for timely and adequate rainfall to move "Glean" into the weed root zone before weeds germinate or develop an established root system.

In all other areas, fall applications provide best results. If treatment is delayed until spring, best results are from a postemergence application made after most of the sunflowers have emerged and are not more than 2" tall. The addition of 2 qt of surfactant/100 gal of water will improve postemergence activity. Sunflowers that emerge after a spring treatment may not be controlled.

NOTE: In high rainfall areas, fall applications may not provide adequate residual control of sunflowers. Deep germinating sunflowers that emerge after a spring treatment may not be controlled.

Flixweed, Tansymustard:

STATES OF ID, OR, UT, WA

- POSTEMERGENCE TREATMENTS

For best results, tank mix "Glean" at 1/3 oz/A with another herbicide effective on flixweed and tansymustard such as 2,4-D (ester or amine). See "Tank Mixtures for Resistant Weed Management" and "Tank Mixtures" sections of label.

"GLEAN"**ALL OTHER AREAS**

Rates of 1/6 to 1/3 oz/A applied when weeds are small and actively growing will provide control. If weeds are inactive due to adverse weather conditions (cold, dry weather before and/or after treatment), delay application until moisture and temperature conditions are favorable for active weed growth, or use a tank mix treatment with 2,4-D or MCPA.

Wild Garlic/Wild Onion: "Glean" will provide aerial bulblet control only.

Wild Radish: Postemergence application will provide best results.

Prostrate Knotweed: For best results apply in the fall.

TANK MIXTURES FOR RESISTANT WEED MANAGEMENT

Central Kansas, Central Nebraska, Central Oklahoma and North Central Texas:

- o "Glean" may be used annually as a tank mix treatment after weeds have emerged. Use 1/6 to 1/3 oz/A of "Glean" plus 1/4 to 1/2 lb active ingredient MCPA or 2,4-D (ester formulations of 2,4-D or MCPA have provided best results). Surfactant may be added at 1/2, but not more than 1 qt/100 gal. of spray; however, the addition of surfactant may increase the chance of crop injury. Apply "Glean" plus MCPA from 3-5 leaf stage but prior to boot stage. Apply "Glean" plus 2,4-D after tillering (refer to appropriate 2,4-D manufacturer's label) but prior to boot stage.
- o Make only one application per crop.
- o Do not apply "Glean" during fallow.
- o Do not make an early season treatment where a tank mix cannot be used.
- o If resistant weeds are known to be present, consider using another herbicide treatment or adjust the use rate of the "Glean" tank mix partner so that it alone will control the resistant species.
- o Read and follow all use instructions, warnings and precautions for the companion herbicide.

"GLEAN"

Colorado, Western Kansas and Western Nebraska (west of highway 183), Eastern New Mexico, Oklahoma Panhandle, Texas Panhandle and Southeastern Wyoming:

"Glean" is not recommended for use in this area. Use "Ally" or Du Pont "Harmony" Herbicide in tank mix with other broadleaf herbicides. See "Ally" and "Harmony" labels for details.

Southern Idaho, Montana, North Dakota, South Dakota and Northern Wyoming:

- o Apply "Glean" not more than once every 48 months.
- o Make only one application per crop period.
- o Do not use "Glean" during fallow.
- o Discontinue the use of "Glean" for at least 48 months on any fields where "Glean" has been previously applied 3 times or more.
- o For all applications made after weeds have emerged, use "Glean" in a tank mix with another broadleaf herbicide such as 2,4-D, MCPA etc.
- o If resistant weeds are known to be present, consider using another herbicide treatment or adjust the use rate of the "Glean" tank mix partner so that it alone will control the resistant species.
- o Read and follow all use instructions, warnings and precautions for the companion herbicide.

Northern Idaho, Oregon and Washington:

- o Do not use more than 1/3 oz/A in an 18 month period.
- o Do not make an early season treatment where a tank mix cannot be made.
- o Do not use "Glean" for the control of kochia or Russian thistle.
- o Do not apply "Glean" during fallow.
- o Apply as a postemergence tank mix or split¹ treatment in the fall and/or spring anytime after the majority of weeds have emerged and after crop is in the 2 leaf stage. Use 1/6 to 1/3 oz/A of "Glean" plus one of the products* listed below:

"GLEAN"

2,4-D (amine or ester)	4 to 8 oz active ingredient/acre
MCPA (amine or ester)	4 to 8 oz active ingredient/acre
"Buctril" 4EC	1/4 pt to 1 pt/acre
"Bronate"	1/2 pt to 2 pt/acre
"Karmex" DF or diuron DF	1/2 lb to 1-1/2 lb/acre
"Lexone" DF	1/8 to 2/3 lb/acre
"Banvel" **	1/16 to 1/4 pt/acre
"Curtail"	1 to 2 pt/acre

*Read and follow all instructions, warnings and precautions on the companion product label.

**Tank mixes with "Banvel" may result in reduced control of some broadleaf weeds.

1 Split treatments (fall postemergence plus spring postemergence) can be made providing the maximum use rate per 18 month period (1/3 oz/A) is not exceeded and all applications are made in a tank mix with another broadleaf herbicide.

Note: "Harmony" Herbicide in tank mixes can be use as a sequential treatment after a fall application of "Glean".

If resistant weeds are known to be present, consider using another herbicide treatment or adjust the use rate of the "Glean" tank mix partner so that it alone will control the resistant species.

TANK MIXTURES WITH MCPA, 2,4-D, "KARMEX" AND "LEXONE" DF HERBICIDES

MCPA (amine or ester) or 2,4-D (amine or ester) plus "Glean": Tank mixtures of "Glean" plus either MCPA or 2,4-D are recommended when weeds are large and/or stressed due to adverse environmental conditions (cold temperature, low soil moisture, dry, dusty field conditions) or when dense crop canopy makes it difficult to obtain thorough spray coverage.

Use "Glean" at 1/6 to 1/3 oz/A plus 1/4 to 1/2 lb active ingredient MCPA or 2,4-D (ester formulations of 2,4-D and MCPA have provided best results). Surfactant may be added at 1/2, but not more than 1 qt/100 gal of spray; however, the addition of surfactant may increase the chance of crop injury.

"GLEAN"

"Glean" should be mixed in water with the agitator running prior to adding 2,4-D or MCPA. Read and follow all label instructions on timing, precautions and warnings for these herbicides prior to using these tank mixtures.

"Karmex" plus "Glean": Where prickly lettuce, corn gromwell, wild buckwheat, annual ryegrass and annual bluegrass are the main weed problems, apply "Karmex" at 1 to 1 1/2 lb/A with "Glean" at 1/6 to 1/3 oz/A to improve weed control. Apply preemergence or postemergence to actively growing weeds less than 2" tall or 2" across. 1/2 to 1" of rainfall is needed within 1 to 2 weeks after application. Follow all restrictions on the "Karmex" label.

Do not use "Karmex" plus "Glean" in CA.

"Lexone" DF plus "Glean": In the states of ID, OR, UT and WA, where downy brome, gromwell, speedwell and jagged chickweed are the main problems in winter wheat and barley, an application of "Lexone" DF at 1/3 to 1/2 lb/A with "Glean" at 1/6 to 1/3 oz/A is recommended. Apply after winter wheat or barley is well tillered and has a 2" secondary root system established throughout the field. 1/2 to 1" of rainfall is needed within 1 to 2 weeks of application. Do not use "Lexone" DF plus "Glean" on spring wheat. Follow all restrictions on the "Lexone" DF label.

In the states of KS, OK and TX, "Lexone" DF at 1/3 to 1/2 lb/A is recommended for downy brome and cheatgrass control and may be mixed with "Glean" at 1/6 to 1/3 oz/A to broaden the spectrum of weeds controlled. Apply after winter wheat is well tillered and has a 2" secondary root system throughout the field. 1/2 to 1" of rainfall is needed within 1 to 2 weeks of application.

Do not use "Lexone" DF plus "Glean" on barley in the states of KS, OK and TX.

Do not use "Lexone" DF plus "Glean" in CA.

SPRAY PREPARATION, ADDITIVES, PRODUCT MEASUREMENT, SURFACTANT AND LIQUID FERTILIZER

Spray Preparation: Mix the proper amount of "Glean" into the necessary volume of water in the spray tank with the agitator running. Agitation is required for uniform mixing and application. If spray preparation is left standing, thoroughly reagitate before using.

Additives: Do not use with spray tank additives that lower the pH of the spray solution below pH 3.0, as rapid product degradation can occur.

Product Measurement: The "Glean" volumetric measuring cylinder is to be used as a guide as the degree of accuracy is plus or minus 10%. For more precise measurement, use scales calibrated in ounces.

"GLEAN"

Surfactant: Use a surfactant of at least 80% active ingredient in postemergence applications to weeds to improve wetting and/or foliar activity of "Glean". Add surfactant at 1 to 2 qt/100 gal of spray as the last ingredient. The higher rate of surfactant is particularly useful with spray volumes of 5 GPA or less and when using low rates of "Glean". Antifoaming agents may be needed.

Do not use liquid fertilizer as a substitute for surfactant.

Liquid fertilizer: To apply "Glean" with liquid fertilizer, slurry the "Glean" in water; then thoroughly mix the slurry into the liquid fertilizer. The addition of surfactant to tank mixtures of "Glean" plus liquid fertilizer increases the risk of crop injury.

Run a tank mix compatibility test before mixing "Glean" in fertilizer.

Do not use with liquid fertilizers having a pH of 3.0 or less as rapid product degradation can occur.

Do not use liquid fertilizer as a substitute for surfactant.

TANK MIXTURES WITH OTHER HERBICIDES, INSECTICIDES AND FUNGICIDES

When using a tank mixture for the first time, run a standard compatibility test and use on a small portion of the field to be sure there is adequate crop safety and satisfactory performance before adopting large scale use. "Glean" must be in suspension before adding companion pesticides. Follow all instructions, warnings and precautions on the companion product label.

Other Herbicides: Use a suitable registered companion herbicide if weeds greater than 2" tall or 2" across are present or if weeds and grasses other than those listed on this label are present. "Glean" must be in suspension in the spray tank before adding the companion herbicide. Follow the surfactant recommendation on the companion herbicide label.

Insecticides: "Glean" may be tank mixed with insecticides registered for use on cereal grains. However, under certain conditions, (drought or cold stress, while crop is in 2-4 leaf stage) tank mixtures or sequential treatments of "Glean" and organophosphate insecticides (such as methyl or ethyl parathion, "Di-Syston", etc.) may produce temporary crop yellowing or, in severe cases, crop injury. Limit first use to a small area. If no symptoms of crop injury occur 14 days after treatment, balance of acreage can be treated.

DO NOT USE "GLEAN" AND MALATHION AS CROP INJURY MAY RESULT.

"GLEAN"

Do not apply "Glean" within 60 days of crop emergence where an organophosphate insecticide (such as "Di-Syston") has been applied as an in-furrow treatment as crop injury may occur.

Fungicides: "Glean" may be tank mixed with Du Pont "Benlate" Fungicide or Du Pont "Manzate" 200 Fungicide/Du Pont "Manzate" 200 DF Fungicide or other fungicides whenever the proper timing for herbicide and fungicide treatments coincide.

EQUIPMENT--SPRAY VOLUMES

Apply using properly calibrated air or ground equipment. Select a spray volume and delivery system that will insure thorough coverage and a uniform spray pattern. For ground application, flat fan nozzles are recommended (minimum 3 GPA). When using flood jet or "Raindrop"[5] nozzles, use higher spray volume (minimum 20 GPA) to ensure thorough coverage. However, "Glean" may be applied at not less than 10 GPA when using small orifice flooding nozzles such as flood jet TK 5 to TK 7.5 or equivalent, providing these nozzles are on a 30-inch spacing or not less than 13 GPA when these flooding nozzles are on a 40-inch spacing.

Do not apply this product through any type of irrigation system.

Use 50-mesh screens or larger.

Unless otherwise stated, use at least 1 gallon spray volume (GPA) per acre by air. Use higher spray volumes to obtain better coverage when either the crop canopy or stubble is dense.

Continuous agitation is required to keep "Glean" in suspension. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop may result.

CAUTION - AVOID SPRAY DRIFT

Follow these practices to minimize drift.

Do not allow spray from either ground or aerial equipment to drift onto adjacent crops or land, as even small amounts will injure other plants. When spraying near adjacent, sensitive crops or plants, do everything possible to reduce spray drift. This includes:

- o Stop spraying if wind speed becomes excessive. DO NOT SPRAY IF WIND SPEED IS 10 MPH OR GREATER. Spray drift can occur at wind speeds less than 10 MPH. If sensitive crops or plants are downwind, extreme caution must be used even in relatively low wind conditions! DO NOT SPRAY IF WINDS ARE GUSTY.

"GLEAN"

- o High temperatures, drought, and low relative humidity increase the possibility of harmful spray drift. EXTREME CAUTION MUST BE USED WHEN THESE CONDITIONS ARE PRESENT AND SENSITIVE CROPS OR PLANTS ARE NEARBY, REGARDLESS OF WIND SPEED.
- o Do not apply when an inversion exists. An inversion is characterized by little or no air movement and an increase in air temperature with an increase in altitude. In humid regions, a fog or mist may form. An inversion may be detected by producing a smoke column and checking for a layering effect. Smoke-producing devices on aircraft are recommended. If not sure whether inversion conditions are present, consult with local weather services before making an application.
- o Drift from aerial or ground equipment may be further reduced by:
 1. Using coarse sprays to minimize drift. DO NOT APPLY WITH HOLLOW-CONE INSECTICIDE NOZZLES ON GROUND EQUIPMENT. Do not use nozzles that produce fine droplets, such as Sprayfoil[6] or airblast-type nozzles. Nozzles should be oriented at an angle between straight down and straight back for ground applications. For aerial applications orient nozzles straight back into the windstream. If using flood-type nozzles on aircraft, orient them so spray is produced in direction of the airstream.
 2. Increasing volume of spray mix per acre (for example, minimum 5 GPA by air, 10 GPA by ground) by using higher flow rate nozzles.
 3. Reducing pressure (PSI). DO NOT EXCEED 40 PSI. (Vehicle speed must also be reduced to maintain spray mix volume per acre.) Consult manufacturer's catalogs for details on correct calibration.
 4. Apply as close to target plants as possible while still maintaining a good spray pattern.

NOTE: Do not allow spray to drift onto adjacent crops, or onto agricultural land scheduled to be planted to crops other than wheat, as injury to the crop may occur. Extreme care must be taken to prevent drift to desirable plants or nontarget agricultural land.

CEREAL RECROPPING INTERVALS

RECROPPING TO WHEAT, OATS, BARLEY, RYE AND TRITICALE IN AR, CO, KS, LA, NE, NM, OK, TX AND SOUTHEASTERN WY: Recropping plans are determined by soil pH, rate of "Glean" applied and a minimum recropping interval. The minimum recropping interval is from time of last application to the anticipated date of planting.

"GLEAN"

Soil pH*	Use Rate (oz/acre)	Minimum Recropping Interval (Months)		
		Wheat/Rye/Triticale	Oats	Barley
7.9 or lower	1/6 to 1/3	0	10	10
7.9 or lower	1/2	4	10	16
above 7.9	Do Not Use	-----Not Applicable-----		

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

RECROPPING TO WHEAT, OATS, BARLEY, RYE AND TRITICALE IN MN, MT, ND, SD AND NORTHERN WY: Recropping plans are determined by soil pH, rate of "Glean" applied and a minimum recropping interval. The minimum recropping interval is from time of last application to the anticipated date of planting.

Soil pH*	Use Rate (oz/acre)	Minimum Recropping Interval (Months)		
		Wheat/Rye/Triticale	Oats	Barley
6.5 or lower	1/6 to 1/3	0	10	10
6.5 or lower	1/2	4	10	10
6.6 to 7.9	1/6 to 1/3	0	10	16
above 7.9	Do Not Use	-----Not Applicable-----		

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

RECROPPING TO WHEAT, OATS, BARLEY, RYE AND TRITICALE IN SOUTHERN ID AND UT: Recropping plans are determined by soil pH, rate of "Glean" applied and a minimum recropping interval. The minimum recropping interval is from time of last application to the anticipated date of planting.

Soil pH*	Use Rate (oz/acre)	Minimum Recropping Interval (Months)		
		Wheat/Rye/Triticale	Oats	Barley
6.5 or lower	1/6 to 1/3	0	10	10
6.5 or lower	1/2	4	10	10
6.6 to 7.9	1/6 to 1/3	0	10	24
above 7.9	Do Not Use	-----Not Applicable-----		

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

"GLEAM"

RECROPPING TO WHEAT, OATS, BARLEY, RYE AND TRITICALE IN CA, NORTHERN ID, OR AND WA: Recropping plans are determined by soil pH, rate of "Glean" applied and a minimum recropping interval. The minimum recropping interval is from time of last application to the anticipated date of planting.

Soil pH*	Use Rate (oz/acre)	Minimum Recropping Interval (Months)		
		Wheat/Rye/Triticale	Oats	Barley
6.5 or lower	1/6 to 1/3	0	10	10
6.5 or lower	1/2	4	10	10
6.6 to 7.5	1/6 to 1/3	0	10	16
6.6 to 7.5	1/2	4	16	24
7.6 to 7.9	1/6 to 1/3	4	16	24
above 7.9	Do Not Use	-----Not Applicable-----		

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

ROTATION INTERVAL FOR PLANTING GRASSES ON CONSERVATION RESERVE PROGRAM ACRES

Wherever "Glean" has been previously used in wheat, barley, oats or fallow, the following grasses may be planted after the intervals specified in the tables below. The planting of grass and legume mixtures is not recommended as injury to the legume may occur.

- Bentgrasses
- Blue Grama
- Bluestems -- Big, Little, Plains, Sand, WW Spar
- Buffalograss
- Galleta
- Green needlegrass
- Green sprangletop
- Indiangrass
- Indian ricegrass
- Lovegrasses -- Sand, Weeping
- Orchardgrass (excluding Piaute)
- Prairie sandreed
- Sand dropseed
- Sheep fescue
- Sideoats Grama
- Switchgrass
- Wheatgrasses -- Crested, Intermediate, Pubescent, Slender, Streambank, Tall, Thickspike, Western
- Wild-rye grasses -- Beardless, Russian

"GLEAN"

ROTATION INTERVALS IN STATES OF:

Southern ID, MN, MT, ND, SD, UT, and Northern WY:

Soil pH*	Use Rate (oz/acre)	Minimum Interval for Planting Grasses
6.5 or lower	1/6 to 1/2	2 months (all grasses)
6.6 to 7.5	1/6 to 1/3	4 months (all grasses)
7.6 to 7.9	1/6 to 1/3	4 months (Wheatgrasses only)

AR, CO, KS, LA, NE, NM, OK, TX and Southeastern WY:

Soil pH*	Use Rate (oz/acre)	Minimum Interval for Planting Grasses
7.9 or lower	1/6 to 1/2	2 months (all grasses)
7.9 or lower	1/2	4 months (all grasses)

CA, Northern ID, OR and WA:

Soil pH*	Use Rate (oz/acre)	Minimum Interval for Planting Grasses
7.9 or lower	1/6 to 1/2	2 months (all grasses)
7.5 or lower	1/2	4 months (all grasses)

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

CROP ROTATION RECOMMENDATIONS (NONCEREAL CROPS)

Note: The crop rotation intervals specified in this section of the label must be followed unless a field or LRBSM bioassay indicates a shorter planting interval.

ARKANSAS/LOUISIANA

Unless a Crop Rotation Interval is specified, a field bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

"GLEAN"

Cotton, Grain Sorghum, Soybeans:

In Southwest Arkansas and Northwest Louisiana on nonirrigated land, the interval for these crops is:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Cotton, Grain Sorghum, Soybeans	7.9 or lower	1/6 to 1/2	25	14

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken a 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

COLORADO

Unless a Crop Rotation Interval is specified, a field bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

Field Corn, Proso and Setaria (Hay) Millets, Grain Sorghum:

In the counties of Adams, Arapahoe, Logan, Morgan, Phillips, Sedgwick, Washington and Yuma on nonirrigated land, the intervals for field corn and millets are:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Field Corn, Millets	7.5 or lower	1/6 to 1/3	30	24
	7.5 or lower	1/2	45	36
	7.6 to 7.9	1/6 to 1/3	45	36
	7.6 to 7.9	1/2	60	48

In Eastern Colorado on nonirrigated land, the intervals for grain sorghum are:

Grain Sorghum	7.5 or lower	1/6 to 1/2	45	36
	7.6 to 7.9	1/6 to 1/2	60	48

"GLEAN"

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

KANSAS

Unless a Crop Rotation Interval is specified, a field bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

Grain Sorghum and Soybeans:

In Central Kansas (generally east of highway 183 and west of the Flint Hills) on nonirrigated land, the intervals for grain sorghum and soybeans are:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Grain Sorghum	7.9 or lower	1/6 to 1/2	25	14
Soybeans	7.5 or lower	1/6 to 1/3	25	14
	7.5 or lower	1/2	46	26
	7.6 to 7.9	1/6 to 1/3	46	26
	7.6 to 7.9	1/2	64	36

In West Central and Western Kansas (generally west of highway 183 to the western edge of these counties--Grant, Kearny, Logan, Rawlins, Stevens, Thomas, Wichita) on nonirrigated land, the intervals are:

Grain Sorghum	7.5 or lower	1/6 to 1/3	21	14
	7.5 or lower	1/2	42	26
	7.6 to 7.9	1/6 to 1/3	42	26
	7.6 to 7.9	1/2	54	36

Far Western Kansas: In the last tier of counties along the Kansas/Colorado border (Cheyenne, Greeley, Hamilton, Morton, Sherman, Stanton, Wallace) on nonirrigated land, the intervals are:

Grain Sorghum	7.9 or lower	1/6 to 1/3	54	36
	7.9 or lower	1/2	72	48

"GLEAN"

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

MINNESOTA

A field or LRBSM bioassay must be completed before rotating to crops other than the cereal grains or Conservation Reserve Program grasses listed on this label.

MONTANA

Unless a Crop Rotation Interval is specified, a field or LRBSM bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

Safflower:

In Montana on nonirrigated land, the interval is:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Safflower	\ 7.9 or lower	1/6 to 1/3	39	34
	/ 6.5 or lower	1/2	--	***

Note: Safflower may be planted sooner than 34 months upon the successful completion of a field bioassay or when recommended by the LRBSM bioassay.

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

***Field or LRBSM Bioassay

"GLEAN"

NEBRASKA

Unless a Crop Rotation Interval is specified, a field bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

Grain Sorghum and Soybeans:

In the South Central Nebraska counties of Franklin, Nuckolls, Thayer and Webster on nonirrigated land, the intervals for grain sorghum and soybeans are:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Grain Sorghum	7.9 or lower	1/6 to 1/2	25	14
Soybeans	\ 7.5 or lower	1/6 to 1/3	25	14
	\ 7.5 or lower	1/2	46	26
	/ 7.6 to 7.9	1/6 to 1/3	46	26
	/ 7.6 to 7.9	1/2	64	36

Field Corn, Proso and Setaria (Hay) Millets, Grain Sorghum, Soybeans:

In Western Nebraska (generally west of highway 183 to the Wyoming border) on nonirrigated land, the intervals are:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Field Corn,	\ 7.5 or lower	1/6 to 1/3	40	24
Millets,	\ 7.5 or lower	1/2	60	36
Grain Sorghum,	/ 7.6 to 7.9	1/6 to 1/3	60	36
Soybeans	/ 7.6 to 7.9	1/2	80	48

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

NEW MEXICO

Unless a Crop Rotation Interval is specified, a field bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

"GLEAN"

Grain Sorghum:

In the counties of Curry and Quay, the interval for grain sorghum on nonirrigated land is:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Grain Sorghum	7.9 or lower	1/6 to 1/3	30	25

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

NORTH DAKOTA

Unless a Crop Rotation Interval is specified, a field or LRBSM bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

Safflower:

In North Dakota on nonirrigated land, the interval is:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Safflower \	7.9 or lower	1/6 to 1/3	45	34
	/ 6.5 or lower	1/2	--	***

Note: Safflower may be planted sooner than 34 months upon the successful completion of a field bioassay or when recommended by the LRBSM bioassay.

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

"GLEAN"

***Field or LRBSM Bioassay

OKLAHOMA

Unless a Crop Rotation Interval is specified, a field bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

Cotton, Mungbeans, Grain Sorghum, Soybeans:

In Central and Eastern Oklahoma (generally east of highway 183) on nonirrigated land, the intervals for these crops are:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Grain Sorghum, Cotton, Mungbeans, Soybeans	7.9 or lower	1/6 to 1/2	25	14

In Western Oklahoma (generally west of highway 183 and east of the Panhandle) on nonirrigated land, the interval for cotton and grain sorghum is:

Cotton	7.9 or lower	1/6 to 1/3	25	14
Grain Sorghum	7.9 or lower	1/2	46	26

In the Oklahoma Panhandle, on nonirrigated land, the interval for grain sorghum is:

Grain Sorghum	7.9 or lower	1/6 to 1/3	30	25
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*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

OREGON

Unless a Crop Rotation Interval is specified, a field or LRBSM bioassay must be completed before rotating to crops other than those listed on this or other "Glean" labels.

"GLEAN"

See Oregon 24(c) label for rotation intervals for annual and perennial ryegrasses, crimson and red clovers, snap beans and corn.

PACIFIC NORTHWEST (NORTHERN ID, NORTHEASTERN OR, EASTERN WA)

Unless a Crop Rotation Interval is specified, a field or LRBSM bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section.

NOTE: Successful rotation to peas and lentils can be expected in fields of even terrain having well drained soils with a uniform pH of 6.5 or less. Localized areas of crop injury may occur in fields that have highly variable terrain with areas of poor drainage and/or areas of high soil pH (eroded knolls, exposed calcareous subsoil where pH is above 6.5).

Peas and Lentils:

Northern Idaho, Northeastern Oregon, Eastern Washington Counties:

ID: Benewah, Bonner, Boundary, Clearwater, Idaho, Koontenai, Letah,
Lewis, Nez Perce
OR: Baker, Umatilla, Union, Wallowa
WA: Asotin, Columbia, Garfield, Pend Oreille, Spokane, Stevens,
Walla Walla, Whitman

In the above counties on nonirrigated land, the intervals are:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Pea (Alaska, Columbian)	6.5 or lower	1/6 to 1/3	35	24
	6.5 or lower	1/2	--	***
	6.6 to 7.5	1/6 to 1/2	--	***
	7.6 to 7.9	1/6 to 1/3	--	***
Lentils (Chilean)	6.5 or lower	1/6 to 1/3	50	36
	6.5 or lower	1/2	--	***
	6.6 to 7.5	1/5 to 1/2	--	***
	7.6 to 7.9	1/6 to 1/3	--	***

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

"GLEAN"

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

***Field or LRBSM Bioassay

SOUTH DAKOTA

A field or LRBSM bioassay must be completed before rotating to crops other than the cereal grains or Conservation Reserve Program grasses listed on this label.

TEXAS

Unless a Crop Rotation Interval is specified, a field bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

Cotton, Mungbeans, Grain Sorghum, Soybeans:

Eastern Texas Counties:

Archer, Bell, Bosque, Bowie, Camp, Cass, Clay, Colin, Cooke, Coryell, Dallas, Delta, Denton, Ellis, Falls, Fannin, Franklin, Grayson, Hill, Hood, Hopkins, Hunt, Jack, Johnson, Kaufman, Lamar, Limestone, McLennan, Milam, Montague, Morris, Navarro, Palo Pinto, Parker, Rains, Red River, Robertson, Rockwall, Somervell, Tarrant, Titus, Upshur, Van Zandt, Wichita, Williamson, Wise, Wood, Young

In the above counties of Eastern Texas on nonirrigated land, the interval for these crops is:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Grain Sorghum, Cotton, Mungbeans, Soybeans	7.9 or lower	1/6 to 1/2	25	14

Central Texas Counties:

Baylor, Callahan, Eastland, Foard, Hardeman, Haskell, Knox, Shackelford, Stephens, Throckmorton, Wilbarger

In the above counties of Central Texas on nonirrigated land, the interval for cotton and grain sorghum is:

Cotton,	7.9 or lower	1/6 to 1/3	25	14
Grain Sorghum	7.9 or lower	1/2	46	26

"GLEAN"

In the Texas Panhandle, on nonirrigated land, the interval for commercial grain sorghum is:

Grain Sorghum	7.9 or lower	1/6 to 1/3	30	25
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NOTE: Do not plant sorghum grown for hybrid seed production.

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

SOUTHEASTERN WYOMING

Unless a Crop Rotation Interval is specified, a field bioassay must be completed before rotating to any crop other than those listed below. See "Bioassay" section. **DO NOT USE ON SOILS WITH A pH GREATER THAN 7.9.**

Proso and Setaria (Hay) Millets:

In the counties of Goshen, Laramie and Platte on nonirrigated land, the intervals are:

Crop	Soil pH*	Use Rate (oz/acre)	Cumulative Precipitation** (in.)	Rotation Interval (months)
Millets	7.5 or lower	1/6 to 1/3	30	24
	7.5 or lower	1/2	45	36
	7.6 to 7.9	1/6 to 1/3	45	36
	7.6 to 7.9	1/2	60	48

*Soil pH is to be determined by laboratory analysis using the 1:1; soil:water suspension method on representative soil samples taken at 0-4" depth. Consult local extension publications for recommended soil sampling procedures.

**Cumulative Precipitation equals the total amount received from the date of "Glean" application to the date of planting. Should accumulated precipitation not be sufficient to meet the indicated amounts, do not rotate to the indicated crops until the following growing season.

"GLEAN"**SPRAYER CLEANUP**

To avoid subsequent injury to crops other than wheat, oats or barley, immediately after spraying, thoroughly remove all traces of "Glean" from mixing and spray equipment as follows:

- 1) Drain tank, then flush tank, boom and hoses with clean water for a minimum of 10 minutes.
- 2) Fill the tank with clean water, then add 1/2 gallon chlorine bleach (containing 5 1/4% sodium hypochlorite) per 100 gallons of water. Flush through boom and hoses, allow to sit for 15 minutes with agitation, then drain.
- 3) Repeat Step 2.
- 4) Nozzles and screens should be removed and cleaned separately. To remove traces of chlorine bleach, rinse the tank thoroughly with clean water and flush through hoses and boom.

NOTE: To reduce the amount of water required in the above procedure, see separate Du Pont bulletin, "Reduced Volume Cleanout Procedure for Large Sprayers".

CAUTION: Do not use chlorine bleach with ammonia. All traces of liquid fertilizer containing ammonia, ammonium nitrate or ammonium sulphate must be rinsed with water from the mixing and application equipment before adding chlorine bleach solution. Failure to do so will release a gas with a musty chlorine odor which can cause eye, nose, throat and lung irritation. Do not clean equipment in an enclosed area.

PRECAUTIONS

Varieties of wheat, oats and barley differ in their tolerance to herbicides. When using "Glean" for the first time on a particular variety, limit initial use to one 18 oz jug. If no symptoms of crop injury occur 14 days after treatment, balance of acreage can be treated.

Do not apply "Glean" to wheat, oats or barley that are stressed by severe weather conditions, drought, low fertility, water saturated soil, disease or insect damage, as crop injury may result. Severe winter stress, drought, disease, or insect damage following application may also result in crop injury.

In the states of CA, Northern ID, OR and WA, the maximum use rate is 1/3 oz/A per crop or fallow period on soils having a pH of 7.9 or lower. Do not apply more than 1/3 oz/A in an 18 month period. Do not use on soils having a pH greater than 7.9.

"GLEAN"

In the states of Southern ID, MN, MT, ND, SD, UT and Northern WY, the maximum use rate is 1/3 oz/A in a 48 month period on soils having a pH of 7.9 or lower. Do not use on soils having a pH greater than 7.9.

In the states of Central KS, Central NE and Central OK, the maximum use rate is 1/3 oz/A per crop period on soils having a pH of 7.9 or lower. Do not use on soils with a pH greater than 7.9.

In the states of AR, LA, Central and North Central TX and Southern OK, the maximum use rate is 1/2 oz/A per crop period on soils having a pH of 7.9 or lower. Do not use on soils with a pH greater than 7.9.

Do not apply to wheat, barley or oats undersown with legumes and grasses, as injury to the forages will result.

Do not apply to frozen ground where surface runoff may occur.

Do not apply to snow covered ground.

Do not apply to irrigated land where tailwater will be used to irrigate other cropland.

Do not use on fields that have variable soil conditions where large areas are gravelly or sandy, have eroded knolls, calcium deposits or widely variable pH readings or organic matter content. Use of "Glean" on fields with these conditions may result in crop injury or adversely affect crop rotation intervals.

The combined effects of preemergence "Glean" plus preemergence wild oat herbicides may cause crop injury to spring wheat when crop stress (soil crusting, planting too deep, prolonged cold wet weather, or drought) causes poor seedling vigor.

Tank mixtures or sequential treatments of "Glean" and organophosphate insecticides (such as methyl or ethyl parathion, "Di-Syston", etc.) may cause temporary discoloration or crop injury.

Wherever land has been or will be treated with "Assert"[7] herbicide and "Glean", plant only wheat or barley until a bioassay (see "Bioassay" section of label) demonstrates that other crops can be successfully grown. On land that is frequently rotated to crops other than wheat or barley, do not use "Glean" wherever "Assert" has been or will be used. The additive effect of soil residues from these treatments has not been determined and crop rotation guidelines and minimum rotation intervals are not known; injury to rotational crops may occur.

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Under certain conditions such as hot, dry weather, heavy rainfall, prolonged cool weather (daily high temperature less than 50°F) or wide fluctuations in day/night temperatures just prior to or soon after treatment, temporary discoloration and/or crop injury may occur. Risk of injury is greatest when crop is in the 1-5 leaf stage.

To prevent cold weather related crop injury, avoid making preemergence applications or early postemergence applications (2-4 leaf stage) to wheat or barley during late fall, winter or early spring when cold weather conditions are unpredictable and can be severe. The combined effects of herbicide stress plus cold weather stress can result in greater crop injury than either stress factor alone.

Preemergence weed control or suppression may be unsatisfactory on soils containing 5% or more organic matter.

Fall applications on coarse textured soils (especially those having a pH of greater than 7.0) may not provide adequate control or suppression of spring germinating weeds.

To reduce the potential for movement of treated soil due to wind erosion, do not apply to powdery dry or light sandy soils until they have been stabilized by rainfall, trashy mulch, reduced tillage or other cultural practices. Injury to adjacent crops may occur when treated soil is blown onto land used to produce crops other than cereal grains.

For ground applications applied postemergence to weeds when dry, dusty field conditions exist, control of weeds in wheel track areas may be reduced. The addition of 2,4-D or MCPA should improve weed control under these conditions.

Preemergence applications of 2,4-D or herbicides containing 2,4-D made within two weeks of planting spring cereals may cause crop injury when used in conjunction with preemergence or early postemergence applications of "Glean".

BIOASSAY

A bioassay (field or LRBSM) must be completed before rotating to crops not listed on this label or rotating at intervals shorter than those listed in the "Crop Rotation Recommendations (Noncereal Crops)" section.

- FIELD BIOASSAY

"Glean" herbicide is a useful tool for weed control in wheat, barley or spring oats. However, under some conditions small amounts of "Glean" can remain in the soil and injure crops other than wheat, barley, oats, rye or triticale for 2 to 4 years or more after application. Therefore, before you use "Glean", you should carefully consider your crop rotation plans during the 2 to 4 year period following treatment.

"GLEAN"

A field bioassay will be necessary if crops other than wheat, barley, spring oats, rye, triticale or those listed on the label are to be planted on land previously treated with "Glean". Crop response will indicate whether or not to rotate to the crop(s) grown in the test strips.

A field bioassay involves growing test strips of the crop or crops you plan to grow the following year in fields previously treated with "Glean". Crop response will indicate whether or not to rotate to the crop(s) grown in the test strips.

"Glean" breaks down most rapidly in soils having a pH less than 7.0, in areas having 20" or more of annual rainfall, and a long growing season with warm soil temperatures. "Glean" residues breakdown more slowly as soil pH increases above 7.0. Other contributing factors that slow the disappearance of "Glean" are low rainfall and prolonged periods of soil temperatures less than 40°F.

Of the key factors that influence the rate of disappearance, only soil pH remains relatively constant from year to year. Soil temperature, and to a larger degree soil moisture, can vary greatly from year to year and from area to area. Consequently, it is not always possible to accurately predict when areas treated with "Glean" can be rotated to crops other than those listed on label.

A bioassay of your "Glean" treated field is the only sure way of determining when crops other than those listed on label can be grown.

1. The accuracy and reliability of any field bioassay is largely dependent on the location and number of strips planted. Be sure to select areas of the field previously treated with "Glean" that are representative of the various field conditions. Be sure to consider factors such as field size, soil texture, drainage, turnaround areas, eroded knolls or alkaline spots when selecting the sites that are most representative of the soil conditions in the field.

Even in small fields, more than one test strip is required to accurately determine whether it is safe to rotate to a crop not listed on the label. On large fields, several test strips will be needed in order to obtain reliable results based on the field variables mentioned above.

2. Plant the test strips perpendicular to the direction in which the field was sprayed. Each strip should be long enough to cross the width of several spray swaths. A large test strip area is more reliable than a small one. Suggested size is 1/4 to 1/2 acre per test strip.
3. Use standard tillage and seeding equipment to plant the bioassay.

"GLEAN"

4. Prepare a seed bed and plant the crops and varieties you want the option of growing the following year. **IT IS IMPORTANT TO USE THE SAME PLANTING TIME, CONDITIONS, TECHNIQUES AND CULTURAL PRACTICES YOU NORMALLY USE TO PLANT AND GROW THE BIOASSAY CROP(S).** If possible, plant into an adjacent area not treated with "Glean" to use as a comparison.
5. Do not overspray the test strips with herbicides that may damage the bioassay crop(s).
6. If the crop(s) in the test strip(s) grow to maturity with a normal harvest, the assay is positive and you may now rotate to the new crop. However, if crop(s) in the test strips die, are stunted, or fail to yield a normal harvest, the assay is negative and you should not rotate to the new crop(s). Run the assay until positive results are obtained before rotating to the new crop(s).
7. If the bioassay indicates that "Glean" residues are still present, do not rotate to crops other than wheat, barley, oats, rye or triticale or those listed on label until bioassay results indicate that the assay crops are growing normally.

- DU PONT LRBSM BIOASSAY SERVICE

In the states of ID, MN, MT, ND, OR, SD and WA, the Du Pont LRBSM bioassay service is available through certain dealers and/or consultants. This service uses soil samples taken by Du Pont certified individuals for laboratory bioassay analysis. LRBSM results will serve as a crop rotation recommendation.

Check with your local Du Pont representative or call toll free 1-800-782-3557 for information regarding the LRBSM bioassay service.

With any chemical, follow labeling instructions and warnings carefully.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed.

PRODUCT DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

"GLEAN"

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

NOTICE OF WARRANTY

Du Pont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Du Pont. In no case shall Du Pont be liable for consequential, special or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the buyer. **DU PONT MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESSED OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.**

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