

83222-28

02/18/2010

1/14



**U.S. ENVIRONMENTAL PROTECTION  
AGENCY**  
**Office of Pesticide Programs**  
**Registration Division (7505P)**  
**Ariel Rios Building**  
**1200 Pennsylvania Ave., NW**  
**Washington, D.C. 20460**

EPA Reg. Number:

83222-28

Date of Issuance:

FEB 18 2010

**NOTICE OF PESTICIDE:**

Registration  
 Reregistration  
 (under FIFRA, as amended)

Term of Issuance: **Conditional**

Name of Pesticide Product:

**Unity Broadpectrum Herbicide**

Name and Address of Registrant (include ZIP Code):

J. Oliver Products, Inc.  
 3187 Robertson Gin Road  
 Hernando, MS 38632

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration/reregistration review of your product when the Agency requires all registrants of similar products to submit such data.
2. Make the following label changes:
  - a. Revise the EPA Registration Number to read: "EPA REG. NO. 83222-28".
  - b. Add the EPA establishment number and net contents that were left blank in the draft label.
  - c. Replace "enter phone number" in the first paragraph of the Container Disposal instructions for Bulk Containers with the appropriate J. Oliver Products phone number.
  - d. On page 6, under Tank Mixtures "With 2,4-D (Amine or Ester) and Banvel/Clarity," revise the sentence which begins "Use higher rates..." to read "Use the higher specified rates ..."

*(Continued on Next Page)*

Signature of Approving Official:

Jim Tompkins,  
 Product Manager 25  
 Herbicide Branch  
 Registration Division (7505P)

Date:

FEB 18 2010

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records. Submit one copy of the final printed label for the record.

3/14

# UNITY BROADSPECTRUM HERBICIDE

SOLUBLE GRANULE

FOR USE ON WHEAT, BARLEY AND FALLOW

**ACTIVE INGREDIENTS:**

Thifensulfuron-methyl	
Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate .....	25.0%
Tribenuron-methyl	
Methyl 2-[[[N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoate .....	25.0%
<b>OTHER INGREDIENTS:</b> .....	<u>50.0%</u>
<b>TOTAL</b> .....	<u>100.0%</u>

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300  
For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 83222-XX  
EPA EST. NO.

**ACCEPTED**  
**with COMMENTS**  
**In EPA Letter Dated:**

FEB 18 2010

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

NET CONTENTS: LBS.

Manufactured For:  
J. Oliver Products, Inc.  
3187 Robertson Gin Road  
Hernando, MS 38632

83222-28

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

Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for Category A on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as natural rubber.
- Shoes plus socks

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

**USER SAFETY RECOMMENDATIONS**

**Users Should:**

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

**FIRST AID**

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

**HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.

**ENVIRONMENTAL HAZARDS**

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 cleaning equipment or disposing of equipment washwaters.

**PESTICIDE HANDLING**

- Calibrate sprayers only with clean water away from the well site.
- Make scheduled checks of spray equipment.
- Ensure that all operation employees accurately measure pesticides.
- Mix only enough product for the job at hand.
- Avoid overfilling of spray tank.
- Do not discharge excess material on the soil at a single spot in the field, grove, or mixing/loading station.
- Dilute and agitate excess solution and apply at labeled rates or uses.
- Avoid storage of pesticides near well sites.
- When triple-rinsing the pesticide container, be sure to add the rinsate to the spray mix.

**DIRECTIONS FOR USE**

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

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

### AGRICULTURAL USE REQUIREMENTS

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

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls.
- Chemical-resistant gloves made of any waterproof material.
- Shoes plus socks.

This product is for use on wheat, barley and fallow in many states. Check with your state extension or Dept. of Agriculture before use, to be certain this product is registered in your state. To the extent consistent with applicable law, J. Oliver Products will not be responsible for losses or damages resulting from the use of this product in any manner not in accordance with instructions on this label.

### USE INFORMATION

This product is a soluble granule that is used for selective postemergence weed control in wheat (including durum), barley and fallow. The best control is obtained when this product is applied to young, actively growing weeds. The use rate will depend on weed spectrum and size of weed at time of application. The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- environmental conditions at and following treatment

This product is noncorrosive, nonflammable, nonvolatile, and does not freeze. This product must be mixed, and completely dissolved in water and applied as a uniform broadcast spray.

### ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

This product is absorbed primarily through the foliage of plants, rapidly inhibiting the growth of susceptible weeds. One to three weeks after application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies.

This product provides the best control in vigorously growing crops that shade competitive weeds. Weed control in areas of thin crop stand or seeding skips may not be as satisfactory. However, a crop canopy that is too dense at application may intercept spray and reduce weed control.

The herbicidal action of this product may be affected in crops stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, cultural practices, or variations in crop variety. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. In addition, weeds hardened-off by drought stress are less susceptible to this product.

### APPLICATION INFORMATION

#### USE RATE

Apply this product at a rate of 0.4 to 1 ounce per acre. When applying 0.4 to 0.6 ounce per acre, this product must be used in a tank-mix combination with other registered herbicides.

#### WHEAT (INCLUDING DURUM) AND BARLEY

Apply 0.4 to 1 ounce of this product per acre to wheat (including durum) or barley. The total amount of this product cannot exceed 1 ounce per acre per crop season.

#### FALLOW

Apply 0.4 to 1 ounce of this product per acre to fallow. The total amount of this product cannot exceed 1 ounce per acre per crop season. This product may be applied in combination with other suitable registered fallow herbicides such as glyphosate plus 2,4-D (ester formulations work best) or glyphosate plus dicamba.

When this product is applied at a rate of 0.4 to 0.6 ounce per acre, this product must be used in a tank mix combination with other registered fallow herbicides.

#### PRE-PLANT BURNDOWN

Apply 0.4 to 1 ounce of this product per acre as a burndown treatment prior to, or shortly after planting (prior to emergence). The total amount of this product cannot exceed 1 ounce per acre per crop season.

Apply up to 0.6 ounces per acre of this product as a pre-plant burndown to Cotton. Allow at least 14 days from time of application to time of planting cotton.

#### POST HARVEST

Apply this product at 0.4 to 1.0 ounce per acre to crop stubble after harvest. Use the 1.0 ounce per acre rate when weed infestation is heavy and predominantly consists of those weeds listed under the "WEEDS PARTIALLY CONTROLLED" section of this label or when application timing and environmental conditions are marginal. (See the "APPLICATION TIMING" section of this label for restriction on planting intervals). This product may be applied in combination with other suitable registered burndown herbicides

6/14

(See the "TANK MIXTURES" section of this label for additional information).

Sequential treatments of this product may also be made provided the total amount of this product applied during one fallow/pre plant cropland season does not exceed 1.0 ounce per acre.

### APPLICATION TIMING

#### WHEAT (INCLUDING DURUM) AND BARLEY

Make applications after the crop is in the 2-leaf stage, but before the flag leaf is visible.

#### FALLOW

This product may be used as a fallow treatment, in the spring, summer or fall when the majority of weeds have emerged and are actively growing.

#### PRE-PLANT BURNDOWN

Apply this product as a burndown treatment to wheat (including durum) and barley to control emerged weeds prior to, or shortly after planting (prior to emergence). Make applications when the majority of weeds have emerged and are actively growing. Wheat and Barley may be replanted anytime after the application of this product.

Allow at least 14 days between application of this product and planting of cotton. Allow at least 60 days between application of this product and planting of sugar beets, winter rape and canola. Allow at least 45 days between application of this product and planting of any other crop (such as corn, rice, grain sorghum or soybeans).

#### POST HARVEST

This product may be used as a burndown treatment to crop stubble when the majority of weeds have emerged and are actively growing. (See the "CROP ROTATION" section of this label for additional information).

Since this product has very little or no soil activity, it controls only those weeds that have germinated; therefore, apply this product when all or most of the weeds have germinated. Annual broadleaf weeds must be past the cotyledon stage, actively growing, and less than 4" tall or wide. Rainfall immediately after treatment may wash this product off of weed foliage, resulting in reduced weed control. Several hours of dry weather are needed to allow this product to be sufficiently absorbed by weed foliage.

### CROP ROTATION

Wheat (including durum) and barley may be replanted anytime after the application of this product.

Cotton may be planted 14 days after the application of this product.

Sugar beets, Winter Rape and Canola may be planted at 60 days after the application of this product. Any other crop may be planted 45 days after the application of this product.

### WEEDS CONTROLLED

This product effectively controls the following weeds when used according to label directions:

Annual knawel	Common sunflower	London rocket	Slimleaf lambsquarters
Annual sowthistle	Corn chamomile	Marshelder	Smallflower buttercup
Black mustard	Corn groomwell *	Mayweed chamomile	Smallseed falseflax
Blue/Purple mustard	Corn spurry	Miners lettuce	Stinking chickweed
Broadleaf dock	Cowcockle	Narrowleaf lambsquarters	Stinking mayweed/ dogfennel
Bur buttercup	Cress (mouse-ear)	Nightflowering catchfly	Sunflower
Bushy wallflower/	Curly dock	Pennsylvania smartweed	Swinecress
Treacle mustard	False chamomile	Pineappleweed	Tansymustard
Canada thistle *	Field chickweed	Prickly lettuce*	Tarweed fiddleneck
Clasping pepperweed	Field pennycress	Prostrate knotweed	Tumble/Jim Hill mustard
Coast fiddleneck	Filaree (redstem, Texas)	Prostrate pigweed	Volunteer canola
Common buckwheat	Flixweed	Redmaids	Volunteer lentils
Common chickweed	Green smartweed	Redroot pigweed	Volunteer peas
Common cocklebur *	Henbit	Russian thistle*	Wild buckwheat*
Common groundsel	Kochia *	Scentless chamomile/ mayweed	Wild chamomile
Common lambsquarters	Ladysthumb	Shepherd's-purse	Wild mustard
Common ragweed *	Lanceleaf sage *		

### WEEDS PARTIALLY CONTROLLED\*\*

This product partially controls the following weeds when used according to label directions:

- Catchweed bedstraw
- Mallow (common, little)
- Marestail
- Nightshade (cutleaf, hairy)

\* See SPECIFIC WEED PROBLEMS for more information.

- \* Partial control: A visual reduction of weed population as well as a significant loss of vigor. For better results, use the highest rate of this product per acre and include a tank mix partner such as 2,4-D, MCPA, Buctril or Banvel/Clarity (refer to TANK MIXTURES).

### SPECIFIC WEED PROBLEMS

**Canada thistle:** For control in wheat and barley, use 0.8 ounce per acre plus surfactant when all thistles are 4" to 8" with 2" to 6" of new growth. Make the application in the spring. Control will be improved by using this product in combination with 2,4-D or dicamba (refer to TANK MIXTURES).

**Common cocklebur, Common ragweed, Lanceleaf sage:** In wheat and barley, apply this product at 0.4 to 0.8 ounce per acre in combination with 2, 4-D at rates from 1/4 to 3/8 pound active ingredient (ester formulations work best) when weeds are small and actively growing. When using 1/4 pound active ingredient of 2,4-D, be sure to add surfactant at the rate of 1/4 to 1/2 quart per 100 gallons of spray solution (0.06 to 0.125% v/v--use the higher rate under stress conditions).

**Corn groomwell, Wild buckwheat:** For control in wheat and barley, use 0.8 ounce this product per acre plus surfactant.

**Kochia, Russian thistle, Prickly lettuce:** Naturally occurring resistant biotypes of these weeds are known to occur. For best results, use this product in a tank mix with Starane, Starane + Sword, Starane + Salvo, dicamba (such as Banvel/Clarity) and 2, 4-D; or Bromoxynil (such as Buctril) and 2,4-D (3/4 - 1 pt Buctril + 1/4 - 3/8 pound active ingredient 2, 4-D ester). This product may be applied in the spring when weeds are 2" to 4" tall or 2" to 4" across and are actively growing. Refer to the Tank Mixtures section of this label for additional details.

### SPRAY ADJUVANTS

Always include a spray adjuvant with applications of this product. In addition to a spray adjuvant, an ammonium nitrogen fertilizer may be used.

Consult your Ag dealer or applicator, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with this product, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40CFR 1001).

#### NONIONIC SURFACTANT (NIS)

- Apply 0.06 to 0.50% volume/volume (1/2 to 4 pints per 100 gallon of spray solution).
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12. See the Tank Mixtures section of this label for additional information.

#### PETROLEUM CROP OIL CONCENTRATE (COC) OR MODIFIED SEED OIL (MSO)

- Apply at 1% volume/volume (1 gallon per 100 gallon spray solution) or 2% volume/volume under arid conditions.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

#### SPECIAL ADJUVANT TYPES

- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by J. Oliver Products product management. Consult separate technical bulletins for detailed information before using adjuvant types not specified on this label.

#### AMMONIUM NITROGEN FERTILIZER

- Use 2 qt./acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lb./acre of a spray grade ammonium sulfate (AMS). Use 4 qt./acre UAN or 4 lb./acre AMS under arid conditions.

### GROUND APPLICATION

For optimum spray distribution and thorough coverage, use flat-fan or low-volume flood nozzles.

For flat-fan nozzles, use a spray volume of at least 5 gallon per acre (GPA).

For flood nozzles on 30" spacings, use at least 10 GPA, flood nozzles no larger than TK10 (or the equivalent), and a pressure of at least 30 psi. For 40" nozzle spacings, use at least 13 GPA; for 60" spacings use at least 20 GPA. It is essential to overlap the nozzles 100% for all spacings.

Raindrop "RA" nozzles are not recommended for this product applications, as weed control performance may be reduced. Use screens that are 50-mesh or larger.

### AERIAL APPLICATION

Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage.

- Use 2 to 5 GPA
- Use at least 3 GPA in Idaho, Oregon, or Utah.

Do not apply this product by air in the state of New York.  
See the **Spray Drift Management** section of this label.

**CHEMIGATION**

Do not apply this product through any irrigation system.

**PRODUCT MEASUREMENT**

This product is measured using the product volumetric measuring cylinder. The degree of accuracy of this cylinder varies by +/- 7.5%. For more precise measurement, use scales calibrated in ounces.

**TANK MIXTURES**

This product may be tank mixed with other suitable registered herbicides to control weeds listed as suppressed, weeds resistant to this product or weeds not listed under **Weeds Controlled**. Read and follow all manufacturer's label instructions for the companion herbicide. If those instructions conflict with this label, do not tank mix the herbicide with this product.

This product may also be mixed with registered fungicides, insecticides, or liquid fertilizer for use on wheat, barley, or fallow.

**WITH 2,4-D (AMINE OR ESTER) OR MCPA (AMINE OR ESTER)**

This product may be tank mixed with the amine or ester formulations of 2,4-D or MCPA herbicides for use on wheat and barley For best results in the Red River Valley and adjacent areas of North Dakota and Minnesota, add the ester formulations of 2,4-D or MCPA herbicides to the tank at 3/8 pound active ingredient (such as 3/4 pt of a 4 lb/gal product, or 1/2 pt of a 6 lb/gal product). No additional surfactant is needed with this mixture.

For best results in other areas, add the ester formulations of 2,4-D or MCPA herbicides to the tank at 1/4 to 3/8 pound active ingredient (such as 1/2-3/4 pt of a 4 lb/gal product, or 1/3-1/2 pt of a 6 lb/gal product). Surfactant may be added to the mixture at 1/2 to 1 quart per 100 gallon of spray solution (0.125 to 0.25% v/v); however, adding surfactant may increase the potential for crop injury, especially at the higher phenoxy rates.

Higher rates of 2,4-D or MCPA may be used, but do not exceed the highest rate allowed by those respective labels. Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using these tank mixtures.

**WITH DICAMBA (SUCH AS BANVEL / CLARITY)**

This product may be tank mixed with 1/16 to 1/8 pound active ingredient dicamba (such as 2-4 fluid oz Banvel, or 2-4 fluid oz Clarity). Use higher rates when weed infestation is heavy. Surfactant may be added to the mixture at 1/2 to 1 quart per 100 gallon of spray solution (0.125 to 0.25% v/v); however, adding surfactant may increase the potential for crop injury. Refer to the specific dicamba label for application timing and restrictions. Tank mixes of this product plus dicamba may result in reduced control of some broadleaf weeds.

**WITH 2,4-D (AMINE OR ESTER) AND BANVEL / CLARITY**

This product may be applied in a 3-way tank mix with formulations of dicamba and 2,4-D. Make application of this product + 1/16 to 1/8 pound active ingredient dicamba (such as 2-4 fluid oz Banvel, or 2-4 fluid oz Clarity) + 1/4-3/8 pound active ingredient 2,4-D ester or amine per acre. Use higher rates when weed infestation is heavy. Surfactant may be added to the mixture at 1/2 to 1 quart per 100 gallon of spray solution (0.125 to 0.25% v/v); however, adding surfactant may increase the potential for crop injury. Consult the specific 2,4-D label, dicamba label, or local directions for more information and restrictions.

Apply this 3-way combination to winter wheat after the crop is tillering and prior to jointing (first node). In Spring Wheat (including Durum) apply after the crop is tillering and before it exceeds the 5-leaf stage.

In Spring Barley, apply after the crop is tillering and before it exceeds the 4-leaf stage.

**WITH BROMOXYNIL (SUCH AS BUCTRIL, BRONATE)**

This product may be tank mixed with bromoxynil containing herbicides registered for use on wheat, barley, or fallow. For best results, add bromoxynil containing herbicides to the tank at 3/16 to 3/8 pound active ingredient per acre (such as Bronate or Buctril at 3/4 to 1 1/2 pint per acre).

Read and follow all label instructions on timing, precautions, and warnings for these herbicides before using these tank mixtures. Follow the most restrictive labeling. Tank mixes of this product plus Buctril may result in reduced control of Canada thistle.

**WITH STARANE, STARANE + SWORD, STARANE + SALVO**

For improved control of Kochia (2-4" tall), Russian thistle, mustard species, and wild buckwheat this product may be tank mixed with 1/3 to 1-1/3 pints per acre of Starane, 2/3 to 2-2/3 pints per acre of Starane + Salvo or 3/4 to 2- 3/4 pints per acre of Starane + Sword. Additional 2,4-D or MCPA may be added based on local directions (refer to 2,4-D and MCPA labels for maximum amount that may be applied to the crop). Refer to the Starane, Starane + Salvo or Starane + Sword label for information regarding use restrictions, labeled crops, rotational cropping directions, sprayer cleanup, use precautions and other information. The most restrictive provisions



9/14

on any label will apply. Do not use the tank mix if any restrictions on the labels conflict with instructions on this product label.

**WITH HOELON HERBICIDE**

This product may be used in combination with Hoelon 3EC and Buctril herbicides in accordance with the Hoelon 3EC label. For best results, use the three-way tank mix of this product at 0.4 ounce per acre plus Hoelon 3EC at 2 2/3 pint per acre plus Buctril at 1-1/2 pints per acre. Apply only to winter wheat. This tank mix may only be used under good soil conditions when wild oat is in the 1-4 leaf stage. If conditions are not ideal for the performance of Hoelon 3EC, wild oat control may be reduced. Be sure to follow all warnings and cautions on the Hoelon 3EC and Buctril labels

**WITH ASSERT HERBICIDE**

This product may be tank mixed with Assert. When tank mixing this product with Assert, always include another broadleaf weed herbicide with a different mode of action (for example: 2,4-D ester, MCPA ester, Buctril, or Bronate). Tank-mixed applications of this product plus Assert may cause temporary crop discoloration, stunting, or injury when heavy rainfall occurs shortly after application.

**WITH OTHER GRASS CONTROL PRODUCTS**

Tank mixtures of this product and grass control products may result in poor grass control. Consult your state experiment station, university, or extension agent, Agricultural dealer, or J. Oliver Products representative as to the potential for antagonism before using the mixture. If no information is available, limit the initial use of this product and the grass product to a small area. Do not tank mix with Achieve herbicide.

**WITH INSECTICIDES OR FUNGICIDES**

This product may be tank mixed or used sequentially with insecticides (or fungicides) registered for use on cereal grains. However, under certain conditions (drought stress, or if the crop is in the 2-4 leaf stage), tank mixes or sequential applications of this product with organophosphate insecticides (such as parathion) may produce temporary crop yellowing or, in severe cases, crop injury. Test these mixtures in a small area before treating large areas. However, review all insecticide and fungicide labels for restrictions.

**Do not use this product plus Malathion**, as crop injury will result.

**WITH LIQUID NITROGEN SOLUTION FERTILIZER**

Liquid nitrogen fertilizer solutions may be used as a carrier in place of water. Run a tank mix compatibility test before mixing this product in fertilizer solution. Do not add this product directly to liquid nitrogen fertilizer; the granules will not dissolve. This product must be thoroughly mixed with clean water before it is added to liquid nitrogen fertilizer. If granules remain when the mixture is poured out, add more clean water and mix until all granules have disappeared. Ensure that the agitator is running when this product premix is added. Use of this mixture may result in temporary crop yellowing and stunting.

If using low rates of liquid nitrogen fertilizer in the spray solution (less than 50% of the spray solution volume), the addition of surfactant is necessary. Add surfactant at 1/4 - 1 quart per 100 gallon of spray solution (0.06 - 0.25% v/v) based on local directions. When using high rates of liquid nitrogen fertilizer solution in the spray solution, adding surfactant increases the risk of crop injury. Consult your agricultural dealer, consultant, fieldman, or J. Oliver Products representative for a specific direction before adding an adjuvant to these tank mixtures.

If 2,4-D or MCPA is included with this product and fertilizer mixture, ester formulations tend to be more compatible (see manufacturer's label). Additional surfactant is not needed when using this product in tank mix with 2,4-D ester or MCPA ester and liquid nitrogen fertilizer solutions.

Do not use low rates of liquid nitrogen fertilizer solution as a substitute for a surfactant.

Do not use with liquid fertilizer solutions with a pH less than 3.0.

**TANK MIXTURES IN FALLOW**

This product may be used as a fallow treatment, and may be tank mixed with other herbicides that are registered for use in fallow. Read and follow all manufacturer's label instructions for the companion herbicide. If those instructions conflict with this label, do not tank mix the herbicide with this product.

**TANK MIXTURES IN PRE-PLANT BURNDOWN**

This product may be used as a pre-plant burndown treatment alone or tank mixed with other herbicides that are registered for use as a pre-plant burndown product, such as glyphosate plus 2,4-D (ester formulations work best) or glyphosate plus dicamba.

Read and follow all manufacturer's label instructions for the companion herbicide. If those instructions conflict with this label, follow the most restrictive labeling (such as planting interval after application), or do not tank mix the herbicide with this product.

**TANK MIXTURES IN POST HARVEST APPLICATIONS**

This product may be used as a post harvest treatment to crop stubble, and may be tank mixed with other herbicides that are registered for use in fallow.

**MIXING INSTRUCTIONS**

Do not use with spray additives that alter the pH of the spray solution below pH 6.0 or above pH 9.0 as rapid product degradation may occur. Spray solutions of pH 7.0-8.0 allow for optimum stability of this product.

1. Fill the tank 1/4 to 1/3 full of water.

2. While agitating, add the required amount of this product
3. Continue agitation until the this product is fully dissolved, at least 5 minutes.
4. Once the this product is fully dissolved, maintain agitation and continue filling tank with water.
5. As the tank is filling, add tank mix partners and then add the required volume of spray adjuvant. Always add spray adjuvant last. Antifoaming agents may be used. Do not use with spray additives that alter the pH of the spray solution below pH 6.0 as rapid product degradation may occur. Spray solutions of pH 7.0 and higher allow for optimum stability of this product.
6. Dispersed tank mix partners may settle if the tank mixture is not continually agitated. If settling occurs, thoroughly re-agitate before using.
7. Apply this product spray mixture within 24 hours of mixing to avoid product degradation.
8. If this product and a tank mix partner are to be applied in multiple loads, fully dissolve this product in clean water prior to adding to the tank.

### GRAZING

Do not graze livestock in treated areas. In addition, do not feed forage or hay from treated areas to livestock (straw harvested after grain harvest may be used for bedding and/or feed).

### SPRAY EQUIPMENT

For specific application equipment, refer to the manufacturer's directions for additional information on GPA, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc.

Be sure to calibrate air or ground equipment properly before application. Select a spray volume and delivery system that will ensure thorough coverage and a uniform spray pattern with minimum drift. Use higher spray volumes to obtain better coverage when crop canopy is dense. Avoid swath overlapping, and shut off spray booms while starting, turning, slowing, or stopping, to avoid injury to the crop.

Do not make applications using equipment and/or spray volumes or during weather conditions that might cause spray to drift onto nontarget sites. For additional information on spray drift refer to Spray Drift Management section of label.

Continuous agitation may be required to keep this product and tank-mix partners in solution or suspension. Refer to tank-mix partner labels for additional information.

### SPRAYER CLEANUP

The spray equipment must be cleaned before this product is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products. If no directions are provided, follow the six steps outlined in "After Spraying" in this label.

### AT THE END OF THE DAY

It is recommended that during periods when multiple loads of this product are applied, at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits which may accumulate in the application equipment.

### AFTER SPRAYING AND BEFORE SPRAYING CROPS OTHER THAN WHEAT AND BARLEY

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of this product as follows:

1. Empty the tank and drain the sump completely.
2. Spray the tank walls with clean water using a minimum volume of 10% of the tank volume. Circulate the water through the lines, including all by-pass lines, for at least two minutes. Flush the boom well and empty the sprayer. Completely drain the sump.
3. Repeat step 2.
4. Remove the nozzles and screens and clean separately in a bucket containing water. The rinsate solution may be applied to the crop(s) recommended on this label. Do not exceed the maximum labeled use rate. If cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

#### Notes:

1. Always start with a clean spray tank.
2. Steam-cleaning aerial spray tanks is recommended to facilitate the removal of any caked deposits.
3. When this product is tank mixed with other pesticides, all cleanout procedures for each product must be examined and the most rigorous procedure must be followed.
4. In addition to this cleanout procedure, all pre-cleanout guidelines on subsequently applied products must be followed as per the individual labels.

### SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

### IMPORTANCE OF DROPLET SIZE

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See **Wind, Temperature and Humidity**, and **Temperature Inversions** sections of this label.

#### CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- **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.

#### CONTROLLING DROPLET SIZE - AIRCRAFT

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Boom Length** - The boom length must not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.
- **Application Height** - Application more than 10 feet above the canopy increases the potential for spray drift.
- 

### BOOM HEIGHT

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom must remain level with the crop and have minimal bounce.

### WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given wind speed. AVOID GUSTY AND WINDLESS CONDITIONS.

**Note:** Local terrain may influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect spray drift.

### TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

### TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature 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 may be indicated by ground fog. However, if fog is not present, inversions may 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.

### SHIELDED SPRAYERS

Shielding the boom or individual nozzles may reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

### AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential may result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

**Note:** Air assisted field sprayers may affect product performance by affecting spray coverage and canopy penetration. Consult the spray equipment section of this label to determine if use of an air assist sprayer is recommended.

## RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide directions available in your area.

## INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that may include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

## RESTRICTIONS

Injury to or loss of adjacent sensitive crops, 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 their roots.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants.
- Take all necessary precautions to avoid all direct or indirect contact (such as spray drift) with non-target plants or areas.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than wheat or barley.

Wheat and barley may differ in their response to various herbicides. J. Oliver Products recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of this product to a small area.

Under certain conditions, such as heavy rainfall, prolonged cold weather (daily high temperature less than 50°F), or wide fluctuations in day/night temperatures prior to or soon after this product's application, temporary discoloration and/or crop injury may occur. To reduce the potential of crop injury, tank mix this product with 2,4-D (ester formulations perform best—see Tank Mixtures section of this label) and apply after the crop is in the tillering stage of growth. This product must not be applied to wheat and barley that is stressed by severe weather conditions, drought (including low levels of subsoil moisture), low fertility, water saturated soil, disease, or insect damage, as crop injury may result. Risk of injury is greatest when crop is in the 2 to 5 leaf stage. Severe winter stress, drought, disease, or insect damage following application also may result in crop injury.

Do not apply to wheat or barley crops underseeded with another crop.

Dry, dusty field conditions may result in reduced control in wheel track areas.

Also observe the following:

Do not graze treated fields or feed treated forage or hay. Harvested straw may be used for bedding and/or feed.

Do not harvest wheat or barley sooner than 45 days after the last application of this product.

### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store product in original container only. Store in a cool, dry place.

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

**CONTAINER DISPOSAL: Nonrefillable container.** Do not reuse or refill this container. **For Plastic Containers-** Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**For Fiber Sacks-** Completely empty bag into application equipment by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then offer for recycling if available or dispose of bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Refillable container (250 gallon & bulk):** 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 the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**Container Disposal for Bulk Containers:** When this container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact J. Oliver Products at [enter phone number]. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call CHEMTREC 1-800-424-9300.

### WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

### LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR ARISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

Ally®, Express®, Finesse® and Glean® are registered trademarks of E. I. DuPont de Nemours and Company  
Fallow™ Master™, Landmaster™, Roundup™ are trademarks of Monsanto Co.

14/14

Assert™, Banvel™, are registered trademarks of MicroFlo Company  
Clarity™ is a registered trademark of BASF  
Bronate™, Buctril™ and Hoelon™ are trademarks of Bayer CropScience  
Raindrop RA® is a registered trademark of Delavan  
Salvo™ and Sword™ are trademarks of UAP, Loveland Products Inc.  
Starane™ is a trademark of Dow AgroSciences LLC  
Achieve® is a registered trademark of Syngenta Participations AG