

352-617

5-12-2003

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U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (H7505C)  
401 "M" St., S.W.  
Washington, D.C. 20460

EPA Reg.  
Number:

352-617

Date of Issuance:

MAY 12 2003

## NOTICE OF PESTICIDE:

Registration  
 Reregistration

(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

DuPont HER 11  
Herbicide

Name and Address of Registrant (include ZIP Code):

E.I. DuPont de Nemours & Company, Inc.  
DuPont Crop Protection  
Stine-Haskell Research Center  
P.O. Box 30  
Newark, DE 19714-0030

**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 section 3(c)(7)(A) and (B) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provided that you:

1. Submit/cite all data required for registration/reregistration of your product when the Agency requires all registrants of similar products to submit such data.

2. Make the labeling changes listed below before you release the product for shipment.

a. Add the phrase "EPA Registration No. 352-617"

b. Delete the section entitled "Integrated Pest Management" from your label until issues concerning this section are resolved.

Submit three (3) copies of your final printed labeling before you release the product for shipment.

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

A stamped copy of labeling is enclosed for your records.

Signature of Approving Official:

*Vickie K. Walters for James A. Tompkins*

Date:

5/12/03

For future submissions of this type, to expedite the process, each application for registration of a mixture should include a complete listing of previously submitted acute toxicology data (the two six packs of acute studies for formulations A and B) as well as the resulting acute toxicity profiles for both. A copy of our review is enclosed for your use.

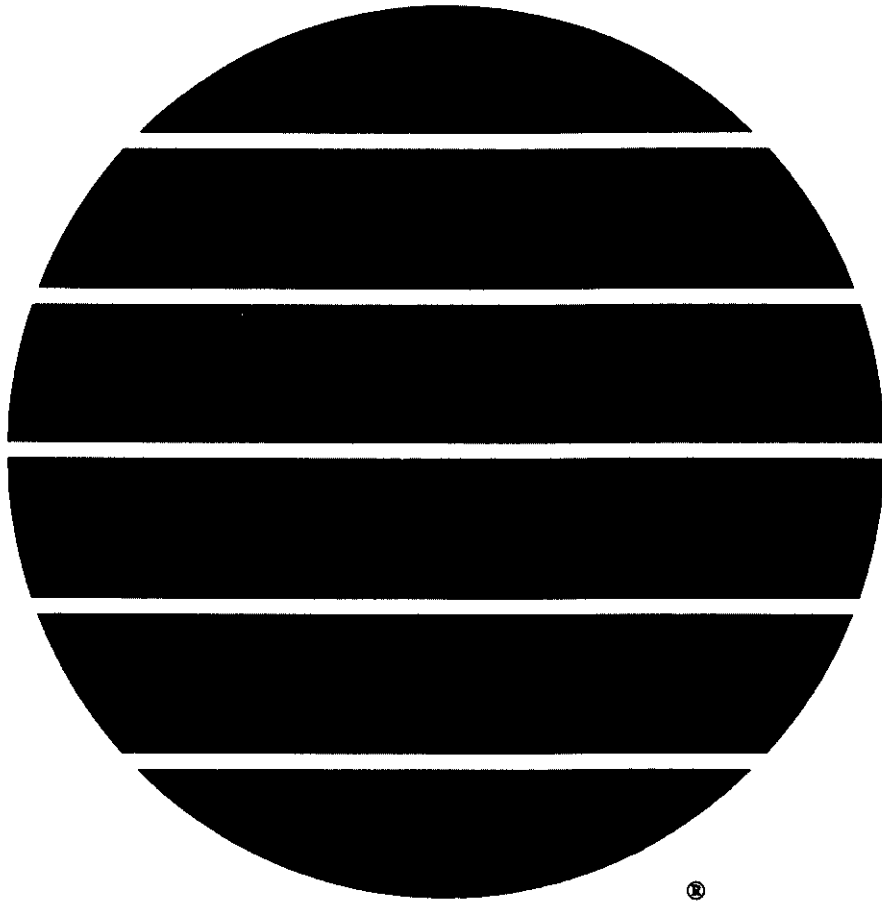


# DuPont™ HER11

herbicide

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## DRAFT LABEL



*“..... A Growing Partnership With Nature”*

### DUPONT™ HER11 HIGHLIGHTS

- *For selective postemergence broadleaf weed control in Wheat, Barley, and Fallow*
- *Apply at the rate of 0.5 to 0.66 ounce per acre on Wheat, Barley and Fallow (see Application Information).*
- *Apply after the crop is in the 2-leaf stage, but before the flag leaf is visible on Wheat and Barley.*
- *May be applied by ground or by air.*
- *Use in tank mixtures with other registered herbicides for broader spectrum weed control (see Tank Mixtures).*
- *Rotate to Wheat and Barley anytime. Rotate to Sugarbeets, Winter Rape and Canola after 60 days. Rotate to any other crop after 45 days.*
- *Consult label text for complete instructions. Always read and follow label "Directions For Use".*

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# DuPont™ HER11

## herbicide

**Dry flowable**

**For Use on Wheat, Barley and Fallow**

Active Ingredients	By Weight
Thifensulfuron-methyl Methyl 3-[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate	37.5%
Tribenuron-methyl Methyl 2-[[[N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoate	37.5%
<b>Inert Ingredients</b>	25.0%
<b>TOTAL</b>	100.0%

EPA Reg. No. 352-XXX

### KEEP OUT OF REACH OF CHILDREN

## CAUTION

### FIRST AID

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION!** Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

### PERSONAL PROTECTIVE EQUIPMENT

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 Category A (such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber) ≥14 mls.
- Shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, 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.

### 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 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.

ACCEPTED

*with comments*  
MAY 12 2003

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 352-617

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## 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 Category A (such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber) ≥14 mls.

Shoes plus socks.

DuPont™ HER11 is recommended for use on wheat, barley and fallow in most states. Check with your state extension or Dept. of Agriculture before use, to be certain HER11 is registered in your state.

DuPont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by DuPont.

## GENERAL INFORMATION

HER11 herbicide is a dry flowable granule that is used for selective postemergence weed control in wheat (including durum), barley and fallow. The best control is obtained when HER11 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

HER11 is noncorrosive, nonflammable, nonvolatile, and does not freeze. HER11 should be mixed in water and applied as a uniform broadcast spray.

## ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

HER11 is absorbed primarily through the foliage of plants, rapidly inhibiting the growth of susceptible weeds. One to 3 weeks after application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies.

HER11 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 can intercept spray and reduce weed control.

The herbicidal action of HER11 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 HER11.

## APPLICATION INFORMATION

### USE RATE

#### *Wheat (including Durum) and Barley*

Apply 0.5 to 0.66 oz HER11 per acre to wheat (including durum) or barley. The total amount of HER11 cannot exceed 0.66 oz per acre per crop season.

#### *Fallow*

Apply 0.5 to 0.66 oz HER11 per acre to fallow. The total amount of HER11 cannot exceed 0.66 oz per acre per crop season.

HER11 should 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.

#### *Pre-plant Burndown*

Apply 0.5 to 0.66 oz HER11 per acre as a burndown treatment prior to, or shortly after planting (prior to emergence). The total amount of HER11 cannot exceed 0.66 oz per acre per crop season.

(See APPLICATION TIMING Section for restriction on planting intervals.)

**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**

DuPont™ HER11 may be used as a fallow treatment, in the spring or fall when the majority of weeds have emerged and are actively growing.

**Pre-plant Burndown**

Apply HER11 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.

Applications to sugarbeets, winter rape and canola can be made at least 60 days prior to planting. Applications to any other crop can be made at least 45 days prior to planting (crops such as corn, cotton, rice, grain sorghum or soybeans).

Since HER11 has very little or no soil activity, it controls only those weeds that have germinated; therefore, apply HER11 when all or most of the weeds have germinated. Annual broadleaf weeds should be past the cotyledon stage, actively growing, and less than 4" tall or wide. Rainfall immediately after treatment can wash HER11 off of weed foliage, resulting in reduced weed control. Several hours of dry weather are needed to allow HER11 to be sufficiently absorbed by weed foliage.

**CROP ROTATION**

Wheat and barley may be replanted anytime after the application of HER11.

Sugarbeets, Winter Rape and Canola can be planted at 60 days after the application of HER11. Any other crop may be planted 45 days after the application of HER11.

**WEEDS CONTROLLED**

HER11 effectively controls the following weeds when used according to label directions:

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

**WEEDS PARTIALLY CONTROLLED\*\***

HER11 partially controls the following weeds when used according to label directions:

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

\* 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 recommended rate of HER11 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 0.66 oz 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 HER11 in combination with 2,4-D (refer to TANK MIXTURES).

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**Common cocklebur, Common ragweed, Lanceleaf sage:** In wheat and barley, apply DuPont™ HER11 at 0.5 to 0.66 ounce per acre in combination with 2, 4-D at rates from 1/4 to 3/8 lb active ingredient (ester formulations work best) when weeds are small and actively growing. When using 1/4 lb 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 growwell, Wild buckwheat:** For control in wheat and barley, use 0.66 ounce HER11 per acre plus surfactant.

**Kochia, Russian thistle, Prickly lettuce:** Naturally occurring resistant biotypes of these weeds are known to occur. For best results, use HER11 in a tank mix with 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 lb active ingredient 2, 4-D ester). HER11 should be applied in the spring when weeds are less than 2" tall or 2" across and are actively growing. Refer to the Tank Mixtures section of this label for additional details.

### **SURFACTANTS**

Unless otherwise specified, add a DuPont recommended nonionic surfactant having at least 80% active ingredient at 1 to 2 qt per 100 gal of spray solution (0.25 to 0.5% v/v - refer to TANK MIXTURES for specific adjuvant recommendations when HER11 is used in a tank mix).

Consult your agricultural dealer, applicator, or DuPont representative for a listing of recommended surfactants. Antifoaming agents may be used if needed.

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

### **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 gal 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 HER11 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 at 2 to 5 GPA. Use at least 3 GPA in Idaho, Oregon, or Utah.

See the **Spray Drift Management** section of this label.

### **CHEMIGATION**

Do not apply this product through any irrigation system.

### **PRODUCT MEASUREMENT**

HER11 is measured using the HER11 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**

HER11 may be tank mixed with other suitable registered herbicides to control weeds listed as suppressed, weeds resistant to HER11 or weeds not listed under **Weeds Controlled**. Read and follow all manufacturer's label recommendations for the companion herbicide. If those recommendations conflict with this label, do not tank mix the herbicide with HER11.

HER11 can 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)**

HER11 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 lb 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 lb 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 qt per 100 gal 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")**

HER11 may be tank mixed with 1/16 to 1/8 lb 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 qt per 100 gal 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 HER11 plus dicamba may result in reduced control of some broadleaf weeds.

#### **With 2,4-D (amine or ester) and "Banvel"/"Clarity"**

HER11 may be applied in a 3-way tank mix with formulations of dicamba and 2,4-D. Make application of HER11 + 1/16 to 1/8 lb active ingredient dicamba (such as 2-4 fluid oz "Banvel", or 2-4 fluid oz "Clarity") + 1/4-3/8 lb 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 qt per 100 gal of spray solution (0.125 to 0.25% v/v); however, adding surfactant may increase the potential for crop injury. Consult the



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specific 2,4-D label, dicamba label, or local recommendations 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")**

DuPont™ HER11 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 lb active ingredient per acre (such as "Bronate" or "Buctril" at 3/4-1 1/2 pt 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 HER11 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 HER11 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 can be added based on local recommendations (refer to 2,4-D and MCPA labels for maximum amount that can be applied to the crop).

Refer to the "Starane", "Starane" + "Salvo" or "Starane" + "Sword" label for information regarding use restrictions, labeled crops, rotational cropping recommendations, sprayer cleanup, use precautions and other information. The most restrictive provisions on any label will apply. Do not use the tank mix if any restrictions on the labels conflict with recommendations on this HER11 label.

**With "Hoelon" Herbicide**

HER11 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 HER11 at 0.4 oz per acre plus "Hoelon" 3EC at 2 2/3 pt per acre plus "Buctril" at 1 1/2 pt per acre. Apply only to winter wheat. This tank mix should 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 or "Avenge" Herbicide**

HER11 can be tank mixed with "Avenge" or "Assert". When tank mixing HER11 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 HER11 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 HER11 and grass control products may result in poor grass control. DuPont recommends that you first consult your state experiment station, university, or extension agent, Agricultural dealer, or DuPont representative as to the potential for antagonism before using the mixture. If no information is available, limit the initial use of HER11 and the grass product to a small area.

**With Insecticides or Fungicides**

HER11 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 HER11 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.

**Do not use HER11 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 HER11 in fertilizer solution. HER11 must first be slurried with water and then added to liquid nitrogen solutions (e.g., 28-0-0, 32-0-0). Ensure that the agitator is running while the HER11 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 qt - 1 qt per 100 gal of spray solution ( 0.06 -0.25% v/v) based on local recommendations.

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 DuPont representative for a specific recommendation before adding an adjuvant to these tank mixtures.

If 2,4-D or MCPA is included with HER11 and fertilizer mixture, ester formulations tend to be more compatible (see manufacturer's label). Additional surfactant is not needed when using HER11 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**

HER11 may be used as a fallow treatment, and should be tank mixed with other herbicides that are registered for use in fallow. Read and follow all manufacturer's label recommendations for the companion herbicide. If those recommendations conflict with this label, do not tank mix the herbicide with HER11.

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## TANK MIXTURES IN PRE-PLANT BURNDOWN

DuPont™ HER11 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 recommendations for the companion herbicide. If those recommendations conflict with this label, follow the most restrictive labeling (such as planting interval after application), or do not tank mix the herbicide with HER11.

## MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of HER11
3. Continue agitation until the HER11 is fully dispersed, at least 5 minutes.
4. Once the HER11 is fully dispersed, maintain agitation and continue filling tank with water. HER11 should be thoroughly mixed with water before adding any other material.
5. As the tank is filling, add tank mix partners (if desired) then add the required volume of nonionic surfactant. Always add surfactant last. Do not use with spray additives that alter the pH of the spray solution below pH 5.0 or above pH 9.0, as rapid product degradation can occur. Spray solutions of pH 6.0-8.0 allow for optimum stability of HER11.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply HER11 spray mixture within 24 hours of mixing to avoid product degradation.
8. If HER11 and a tank mix partner are to be applied in multiple loads, pre-slurry the HER11 in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the HER11.

## GRAZING

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

## SPRAY EQUIPMENT

For specific application equipment, refer to the manufacturer's recommendations 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 is required to keep HER11 in suspension.

## SPRAYER CLEANUP

The spray equipment must be cleaned before HER11 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 HER11" in this label.

## AT THE END OF THE DAY

It is recommended that during periods when multiple loads of HER11 herbicide 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 can accumulate in the application equipment.

## AFTER SPRAYING HER11 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 HER11 as follows:

1. Drain tank; thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gal of household ammonia\* (contains 3% active) for every 100 gal of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only Ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. Do not exceed the maximum labeled use rate. If other 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.

\* Equivalent amounts of an alternate-strength ammonia solution or a DuPont-approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your Ag dealer, applicator, or DuPont representative for a listing of approved cleaners.

## Notes:

1. **CAUTION:** Do not use chlorine bleach with ammonia as dangerous gases will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning aerial spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When HER11 is tank mixed with other pesticides, all cleanout procedures should be examined and the most rigorous procedure should be followed.

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4. In addition to this cleanout procedure, all precleanout guidelines on subsequently applied products should be followed as per the individual labels.
5. Where routine spraying practices include shared equipment frequently being switched between applications of DuPont™ HER11 and applications of other pesticides to HER11-sensitive crops during the same spray season, it is recommended that a sprayer be dedicated to HER11 to further reduce the chance of crop injury.

### **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.

#### **AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.**

### **IMPORTANCE OF DROPLET SIZE**

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 should not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.
- **Application Height** - Application more than 10 ft 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 should 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 can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

### **TEMPERATURE AND HUMIDITY**

When making applications in 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 can be indicated by ground fog. However, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can 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 can 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 can 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.

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## RESISTANCE

Biotypes of certain weeds listed on this label are resistant to DuPont™ HER11 and other herbicides with the same mode of action,\* even at exaggerated application rates. Biotypes are naturally occurring individuals of a species identical in appearance but with slightly different genetic compositions. The mode of action of a herbicide is the chemical interaction that interrupts a biological process necessary for plant growth and development.

If weed control is unsatisfactory, it may be necessary to respray problem areas using a product with a different mode of action. If resistant weed biotypes such as kochia and Russian thistle are suspected or known to be present, consider using another herbicide treatment or adjust the use rate of the HER11 tank-mix partner to help control these biotypes.

To better manage weed resistance when using HER11, use a combination of tillage and tank-mix partners, or sequential herbicide applications that have a different mode of action than HER11, to control escaped weeds. Do not let weed escapes go to seed.

Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative herbicide recommendations available in your area.

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.

\* Naturally occurring weed biotypes that are resistant to DuPont™ ALLY® herbicide, DuPont™ EXPRESS® herbicide, DuPont™ FINESSE® herbicide or DuPont™ GLEAN® FC herbicide will also be resistant to HER11.

## INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an IPM program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including 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.

## PRECAUTIONS

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.

HER11 is only registered for use on wheat, barley, and fallow. Do not use on any other crop.

The total rate of HER11 for wheat (including durum) and barley cannot exceed 0.66 ounce of product per acre applied to any one crop during one growing season.

Varieties of wheat (including durum) and barley may differ in their response to various herbicides. DuPont 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 to a small area.

Under certain conditions, such as heavy rainfall, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after HER11 application, temporary discoloration and/or crop injury may occur. To reduce the potential of crop injury, tank mix HER11 with 2,4-D (ester formulations perform best—see Tank Mixtures) and apply after the crop is in the tillering stage of growth.

HER11 should not be applied to wheat and barley that is stressed by severe weather conditions, drought, 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.

Do not harvest sooner than 45 days after the last application of HER11.

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### STORAGE AND DISPOSAL

**Storage:** Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

**Product Disposal:** Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal: For Plastic Containers:** 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. **For Fiber Sacks:** Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities. **For Fiber Drums With Liners:** Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner. **For Bags Containing Water Soluble Packets:** Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above. **For Metal Containers (non aerosol):** Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **For Paper and Plastic Bags:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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