



# DuPont™ Steadfast™

herbicide

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DRAFT LABEL



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

### DUPONT™ STEADFAST™ HIGHLIGHTS

- STEADFAST™ provides selective postemergence grass and broadleaf weed control in field corn.
- Apply at a rate of 3/4 ounce product per acre.
- Include an adjuvant as recommended in this label. The use of nitrogen fertilizer is required in addition to the use of a crop oil concentrate or nonionic surfactant. See SPRAY ADJUVANT.
- STEADFAST™ may be applied by ground (broadcast or band) or by air.
- For ground application, apply in a minimum of 15 gal of water at 20-40 PSI using flat fan nozzles for best results. For aerial application, use nozzle types and arrangements that provide optimum spray distribution and maximum coverage at a minimum of 5 GPA.
- Recommended tank mixes are specified on this label. See TANK MIX APPLICATIONS.
- Apply to actively growing grass and broadleaf weeds at the recommended sizes. See RATE.
- Applications made to grasses or corn under stress may affect the performance or in some cases reduce crop tolerance. See ENVIRONMENTAL CONDITIONS.
- Consult label text for complete instructions. Always read and follow label directions for use.

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# DuPont™ Steadfast™

herbicide

For use in Field Corn

*This product is a water-dispersible granule containing 75% active ingredient by weight.*

ACCEPTED  
DEC 12 2001  
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 352-608

Active Ingredients	By Weight
Nicosulfuron	
2-[[[(4,6-dimethoxypyrimidin-2-yl)aminocarbonyl]aminosulfonyl]-N,N-dimethyl-3-pyridinecarboxamide	50%
Rimsulfuron	
N((4,6-dimethoxypyrimidin-2-yl) aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide	25%
<b>Inert Ingredients</b>	<b>25%</b>
<b>TOTAL</b>	<b>100%</b>

EPA Reg. No. 352-608

## KEEP OUT OF REACH OF CHILDREN

### CAUTION FIRST AID

#### IF IN EYES:

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

#### 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.

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 (cont'd)

### HAZARDS TO HUMANS

### AND DOMESTIC ANIMALS

Caution! Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing.

### 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 the 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. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### ENVIRONMENTAL HAZARDS

Do not apply directly to water, 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 rinsewater. Do not apply where/when conditions could favor runoff. Do not apply if a severe storm is expected within 24 hours.

4 8 12

## 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 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that 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™ STEADFAST™ herbicide should be used only in accordance with recommendations on this label or in supplemental DuPont publications. DuPont will not be responsible for losses or damage resulting from use of this product in any manner not specifically recommended by DuPont.

### GENERAL INFORMATION

STEADFAST™ herbicide is a water-dispersible granule used at the rate of 3/4 ounce per acre for selective postemergence grass and broadleaf weed control in field corn.

## WHEN TO APPLY - POSTEMERGENCE

### TIMING TO CROP STAGE

Apply STEADFAST™ to corn that is up to 20 inches tall. Do not apply to corn taller than 20 inches or exhibiting 7 or more leaf collars, whichever is more restrictive. Not all STEADFAST™ tank mixtures may be applied to corn that is beyond 12" tall. Consult TANK MIX APPLICATIONS for more information.

Apply STEADFAST™ to field corn hybrids with a relative maturity (RM) rating of 88 days or more, including "food grade" (yellow dent, hard endosperm), waxy and DuPont Optimum High-Oil corn. Not all field corn hybrids of less than 88 days RM, not all white corn hybrids nor Hi-Lysine hybrids have been tested for crop safety, nor does DuPont have access to all seed company data. Consequently, injury arising from the use of STEADFAST™ on these types of corn is the responsibility of the user. Consult with your seed supplier before applying STEADFAST™ to any of these corn types. Consult with your local DuPont representative or the DuPont Label Web Site ([WWW.DUPONT.COM/AG/LABELMSDS\\_SEARCH.HTML](http://WWW.DUPONT.COM/AG/LABELMSDS_SEARCH.HTML)) for any additional supplemental labeling information relative to potential corn hybrid sensitivity to STEADFAST™.

Do not apply to field corn grown for seed, to popcorn or to sweet corn.

### TIMING TO WEEDS

Apply STEADFAST™ when grasses are young and actively growing, but before they exceed the sizes listed on this label.

- Applications made to weeds at growth stages greater than those listed below may result in incomplete control. Grass competition due to incomplete control may reduce yields.
- Adequate soil moisture is required for optimum activity. Rainfall within 5 to 7 days after application will enhance STEADFAST™ residual activity. If an activating rainfall or sprinkler irrigation (>0.5 inch) is not received within 5-7 days after application, follow with a cultivation or with a sequential application of DuPont™ ACCENT® herbicide, if needed. See CULTIVATION or SEQUENTIAL ACCENT® APPLICATIONS.

**RATE**

- Apply DuPont™ STEADFAST™ at a rate of 3/4 ounce per acre for season-long control of grass and broadleaf weeds listed below.

Do not use less than 3/4 ounce per acre of STEADFAST™.

**WEEDS CONTROLLED**

Grasses	Height (Inches) at Application
Barnyardgrass	4"
Canarygrass	6"
Cereals, volunteer	2"
Crabgrass, large	1"
Cupgrass, woolly	3**
Foxtails	
bristly	4"
giant	4"
green	4"
yellow	4"
Johnsongrass, seedling or rhizome	8 - 12**
Panicum, fall	4"
Panicum, Texas	4"
Millet, wild proso	4**
Quackgrass	8**
Ryegrass, Italian	4"
Sandbar, field	2"
Shattercane	6**
Signalgrass, broadleaf	2"
Oats, wild	2"
Witchgrass	4"

\*Size in inches or diameter, whichever is more restrictive. Retreatment of later emerging weeds may be required.

Broadleaf Weeds	Height (Inches) at Application
<b>Control:</b>	
Amaranth, powell	4"
Jimsonweed	4"
Morningglory, annual	4"
Mustard, wild	4"
Pigweed, redroot	4"
Smartweed, PA	3"
Sunflower, common	4"
<b>Suppression:</b>	
Cocklebur, common	4"
Ladysthumb	3"
Lambsquarters, common	2"
Hemp dogbane	4"
Nutsedge, yellow	2"
Thistle, Canada	4"
Velvetleaf	4"
Waterhemp, common	2"
Waterhemp, tall	2"

- As weeds mature, their sensitivity to STEADFAST™ decreases. Grassy weeds growing under stress due to drought or other environmental factors may become mature (more than 3 tillers) before they reach the size listed, in which case their susceptibility to STEADFAST™ may be reduced.

**SPRAY ADJUVANTS**

Applications of STEADFAST™ must include either a crop oil concentrate or a nonionic surfactant. In addition, an ammonium nitrogen fertilizer must be used. If another herbicide is tank mixed with STEADFAST™ to increase the broadleaf weed spectrum, select adjuvants based on the adjuvant limitations of the other herbicide. Crop oil concentrate plus ammonium nitrogen fertilizer is the preferred adjuvant system for STEADFAST™. Consult local DuPont fact sheets, technical bulletins, and service policies prior to using other adjuvant systems.

**Crop Oil Concentrate (COC)**

- Apply at rate (concentration) of 1% v/v (1 gal per 100 gal spray solution).
- Under arid conditions such as those found in the High Plains, apply at rate (concentration) of 2% v/v (2 gal/100 gal spray solution).
- The crop oil concentrate must be high quality, petroleum or vegetable seed oil-based product (methylated seed oil is considered a vegetable seed-based oil). Petroleum based oils must contain at least 14% emulsifiers/surfactants.

**Nonionic Surfactant (NIS)**

- Apply at a rate (concentration) of 0.25–0.5% v/v (1–2 qt per 100 gal spray solution). Use the higher rate in drought conditions to enhance control.
- At least 50% of the surfactant product must be active nonionic surfactant.
- Avoid products that do not accurately define their ingredients. Products must contain only EPA-exempt ingredients (40 CFR 1001).

**Ammonium Nitrogen Fertilizer**

An ammonium nitrogen fertilizer is required in addition to a crop oil concentrate or nonionic surfactant.

- Use a high-quality liquid nitrogen fertilizer such as 28–0–0 at a rate of 2 qt per acre or 10–34–0 at 1 qt per acre.
- A high-quality spray-grade ammonium sulfate (21–0–0) may be applied at a rate of 2 lb per acre in place of the liquid nitrogen fertilizer.
- Under arid conditions such as those found in the High Plains, use 28-0-0 at 4 qt per acre, 10-34-0 at 2 qt per acre or spray-grade ammonium sulfate (21-0-0) at 4 lb per acre.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

**MIXING INSTRUCTIONS**

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of STEADFAST™.
3. Continue agitation until the STEADFAST™ is fully dispersed, at least 5 minutes.
4. Once the STEADFAST™ is fully dispersed, maintain agitation and continue filling tank with water. Thoroughly mix STEADFAST™ with water before adding any other material.

5. As the tank is filling, add the required spray adjuvants (crop oil concentrate, nonionic surfactant, or ammonium nitrogen fertilizer).
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly re-agitate before using.
7. Apply DuPont™ STEADFAST™ spray mixture within 24 hours of mixing to avoid product degradation.
8. Apply STEADFAST™ + "Hornet" tank mixture within 4 hours of mixing to avoid product degradation. If spray mixture will not be applied within 4 hours and either 28-0-0 or ammonium sulfate was used as the nitrogen source, either add 1 qt/acre of 10-34-0 or 11-37-0, or a commercial tank buffer that will raise the tank pH to 7.0. If 10-34-0 or 11-37-0 was used as the liquid nitrogen source, do not add additional fertilizer or buffer solution to the spray tank.
9. If STEADFAST™ and a tank mix partner are to be applied in multiple loads, pre-slurry the STEADFAST™ in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the STEADFAST™.

**WHEN TO APPLY - SEQUENTIAL APPLICATIONS FOLLOWING REDUCED RATES OF PREEMERGENCE HERBICIDES**

STEADFAST™ may be used as a sequential application in a planned postemergence weed control program in corn following a reduced rate of a preemergence herbicide.

Apply a reduced rate of a preemergence grass herbicide prior to corn emergence and then follow with a postemergence application of STEADFAST™. Apply products such as DuPont™ LEADOFF®, "Balance" PRO, "Axiom", "Dual" II Magnum, "Surpass", "Frontier" and "Harness" Xtra at as low as 1/4 to 1/2 of the full labeled use rate and follow with a sequential postemergence application of STEADFAST™. Refer to WHEN TO APPLY - POSTEMERGENCE and ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY sections for complete application information and precautions. Refer to the preemergence grass herbicide label for use restrictions, application information, rotational crop guidelines, and cautionary statements prior to applying STEADFAST™.

Do not apply STEADFAST™ to corn that exhibits herbicide injury from previous applications made to the current or preceding crop.

**TANK MIX APPLICATIONS**

Application of STEADFAST™ tank mixtures containing atrazine and/or dicamba are limited to corn that is up to 12" tall, up to and including 5 leaf collars, whichever is most restrictive. Refer to the table below for weeds controlled using preferred tank mixtures.

**For Additional Control of Broadleaf Weeds**

STEADFAST™ may be tank mixed with the herbicides below for additional control of broadleaf weeds. See the tank mix partner label for weeds controlled, precautions, use restrictions and crop rotation information.

Crop oil concentrate must be used in the tank mixtures specified below. The use of nonionic surfactant is permitted in place of crop oil concentrate for tank mixtures with preemergence grass herbicides such as "Prowl" where applications are made early postemergence to small grass weeds (see FOR ADDITIONAL CONTROL OF CRABGRASS AND LATER EMERGING GRASS WEEDS). See SPRAY ADJUVANTS for adjuvant rate recommendations.

	Rate/A
atrazine 90DF	1/4 - 1 lb
dicamba (i.e. "Clarity" - 4lb/gal dicamba)	1/8 - 1/4 pt
dicamba + atrazine (i.e. "Marksman" - 1.1 lb/gal dicamba)	1/2 - 1 pt
"Hornet"	1.6 - 2.4 oz
"Hornet" WDG	2.0 - 3.0 oz

Rates listed are for the specific products noted in the table. If other brands or formulations are used, rates of active ingredients should be adjusted to correspond to the products indicated. Formulations of products other than those listed may not have been tested with STEADFAST™. Check with the manufacturer for information on tank mix compatibility prior to using (see TANK MIX COMPATIBILITY TESTING).

The table below indicates weeds controlled using preferred tank mixtures.

Broadleaf Weeds	STEADFAST™ Alone	+ 4 oz. "Clarity"	+ 1 pt. "Marksman"	+ 1.6 oz. "Hornet"	+ 1/2 lb atrazine
Amaranth, powell	4"	4"	4"	4"	4"
Cocklebur, common	4**	3"	3"	3"	3"
Hemp, dogbane†	4**	4**	4**	4**	4**
Jimsonweed	4"	4"	4"	4"	4"
Kochia		3**	3**		
Ladysthumb	3**	3**	3**	3"	3**
Lambsquarters, common	2**	3"	3"	2**	3"
Mallow, venice				3"	
Morningglory, annual	4"	4"	4"	4"	4"
Mustard, wild	4"	4"	4"	4"	4"
Nightshade, eastern black		2"	3"	2**	2"
Nutsedge, yellow†	2**	2**	2**	2**	2**
Pigweed, redroot	4"	4"	4"	4"	4"
Ragweed, common		3"	3"	3"	3"
Ragweed, giant		3**	3**	3"	3**
Smartweed, PA	3"	4"	4"	4"	4"
Sunflower, common	4"	4"	4"	4"	6"
Thistle, Canada†	4**	4**	4**	4**	4**
Velvetleaf	4**	3"	3"	3"	2"
Waterhemp, common, tall	2**	2"	3"	2**	2"

\*Suppression  
†Above ground portions only.

All tank mixtures require the addition of crop oil concentrate and ammonium nitrogen fertilizer as noted in SPRAY ADJUVANTS.

**For Additional Control of Crabgrass and Later Emerging Grasses**

Tank mix DuPont™ STEADFAST™ with full or reduced rates of preemergence grass herbicides labeled for early postemergence application to field corn (such as DuPont™ LEADOFF®, "Prowl", "Surpass" EC, "Dual" II Magnum, and "Frontier") for increased residual activity of later-emerging flushes of grasses such as smooth and large crabgrass. Application must be made before the crabgrass emerges and before other grass weeds on the STEADFAST™ label exceed their labeled sizes.

Tank mixes of STEADFAST™ and preemergence grass herbicides must be broadcast applied postemergence to field corn before the crop exceeds the heights listed on the preemergence grass herbicide label. Refer to WHEN TO APPLY-POSTEMERGENCE and the preemergence grass herbicide label for complete postemergence application information, rates, and restrictions.

**If preemergence herbicides containing atrazine are mixed with STEADFAST™, use less than a total of 1.0 lb atrazine in the tank mixture.**

Tank mix STEADFAST™ with 2/3 to full labeled rates of preemergence grass herbicide for the soil types listed on the grass herbicide label. One of the broadleaf products listed on the STEADFAST™ label may also be tank mixed for additional broadleaf weed control.

Preemergence herbicides rely on activation from either rainfall or overhead sprinkler irrigation to move the herbicide into the grass weed germination zone and provide control. The amount of precipitation or irrigation required is dependent upon existing soil moisture, soil type and organic matter content. Normally, 1/2-3/4 inch is sufficient.

**Additional Information**

STEADFAST™ may be tank mixed with DuPont™ ASANA® XL or DuPont™ LANNATE® insecticides.

**Do not tank mix STEADFAST™ with DuPont™ BLADEX® herbicide, "Basagran" and "Laddok" or severe crop injury may occur.**

**Do not tank mix STEADFAST™ with 2,4-D-containing products as severe grass control antagonism may occur.**

**Do not tank mix STEADFAST™ with foliar-applied organophosphate insecticides such as "Lorsban", malathion, parathion, etc., as severe crop injury may occur.**

**To avoid crop injury or antagonism, apply these products at least seven days before or 3 days after the application of STEADFAST™.**

**Do not tank mix STEADFAST™ with other acetolactate synthase (ALS) inhibiting herbicides (such as "Spin", "Exceed", "Permit", and "Northstar") unless the mixture is specifically recommended on STEADFAST™ labels or fact sheets, as severe crop injury may occur.**

Other than the exceptions noted, and in addition to the tank mix partners and rates indicated in the table above, STEADFAST™ may be tank mixed or followed with sequential applications of other products registered for use in field corn. STEADFAST™ may be applied in tank mix combinations with labeled rates of other products provided:

- The tank mix product is labeled for the same timing, method of application, adjuvants, and use restrictions as STEADFAST™.
- The tank mixture is not specifically prohibited on the label of the tank mix product.
- The tank mix combination is compatible as determined by a "jar test" described in the TANK MIX COMPATIBILITY TESTING section below.

**Tank Mixing Precautions:**

- Weed control and crop response with tank mixtures not specifically recommended in this label are the responsibility of the user and manufacturer of the tank mix product.
- Read and follow all applicable use directions, precautions, and limitations specified on the respective product labels and fact sheets.
- Do not exceed labeled application rates. Do not tank mix STEADFAST™ with other products that contain the same active ingredients as STEADFAST™ (nicosulfuron and rimsulfuron) unless the label of either tank mix partner specifies the maximum rate that may be used.
- A corn plant's predisposition to develop fused tissue emerging from the whorl (rattail) after the V-11 stage may increase when a product containing dicamba (i.e. "Clarity", "Marksman") is applied to small corn under early stressful conditions. Be aware of this when applying tank mixes with dicamba to small corn (V-3 stage or smaller) under stressful conditions. See ENVIRONMENTAL CONDITIONS for a description of these stressful conditions.

**TANK MIX COMPATIBILITY TESTING**

Perform a jar test prior to tank mixing to ensure compatibility of STEADFAST™ and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture ball-up, forms flakes, sludges, gels, oily film or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

**SEQUENTIAL DUPONT™ ACCENT® APPLICATIONS**

Apply ACCENT® herbicide 14 or more days after STEADFAST™ applications to control grasses that may emerge later in the season. Refer to the ACCENT® label for grass species controlled, proper size of weeds, rates, corn sizes, and other information. When following a STEADFAST™ application, do not use more than 2/3 oz ACCENT® per acre.

A sequential application of DuPont™ ACCENT® will effect crop rotation intervals to certain sensitive crops, such as sugarbeets. For maximum crop rotation flexibility, consult the CROP ROTATION section before applying ACCENT® to fields previously treated with DuPont™ STEADFAST™.

### CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, or weeds that emerge after an application of STEADFAST™ in the absence of an activating rainfall.

- Optimum timing for cultivation is 7–14 days after STEADFAST™ application or upon seeing the establishment of new weeds.

### ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

STEADFAST™ provides best results when applied to young, actively growing weeds. Applications made during warm, moist conditions (70°F or more) and adequate soil moisture both before and after application maximizes performance.

The degree and duration of control depend on spray coverage, activating rainfall, weed spectrum, weed size, growing conditions before and after treatment, soil moisture, and adjuvant selection.

Adequate soil moisture is required for optimum activity. Rainfall within 5-7 days will enhance STEADFAST™ residual activity. A timely cultivation may be required for maximum weed control without an activating rain.

STEADFAST™ is rainfast in 4 hours.

Treating weeds that exceed maximum label height or that are under stress may result in incomplete control. Poor weed control or crop injury may result from applications made to plants under stress from:

- abnormally hot or cold weather
- environmental conditions such as drought, water-saturated soils, hail damage, or frost
- disease, insect, or nematode injury
- prior herbicide, or carryover from a previous year's herbicide application

Severe stress from conditions immediately following application may also result in crop injury or poor weed control. Stress affects all weeds, but especially weeds such as woolly cupgrass, green and yellow foxtail, and wild proso millet.

If the corn or grass weeds are under stress, delay application until stress passes and both weeds and corn resume active growth.

Apply STEADFAST™ when minimum nighttime temperatures are above 40°F and the maximum daytime temperatures are below 92°F to maximize performance and minimize the potential for crop injury.

Applications made during or immediately following periods of large day/night temperature fluctuations or where daytime temperatures do not exceed 50°F may decrease weed control and increase the potential for crop injury.

STEADFAST™ rapidly inhibits the growth of susceptible weeds, reducing weed competition within as little as 6 hours after application. Susceptible plants are controlled in 7–21 days. Ground application of STEADFAST™ to dry, dusty fields may reduce weed control in wheel track areas.

### SOIL INSECTICIDE INTERACTION INFORMATION

Before using STEADFAST™ ensure that it is compatible with any other insecticides previously applied to the corn crop.

Soil Insecticides	Application Method	Soil O.M.	STEADFAST™ Use Precautions
"Counter" 15G	All	All	Do not use.
"Counter" 20CR	In furrow at planting	All	Do not use.
	Over the row at cultivation	All	Do not use.
	T-band or Surface band	≤4%	May cause unacceptable injury.
	T-band or Surface band	>4%	May result in temporary injury.
"Thimet"	All labeled methods	All	May cause unacceptable injury.
Dyfonate	All labeled methods	All	May result in temporary injury.
"Lorsban"	All labeled methods	All	May result in temporary injury.
"Aztec"	All	All	No use precautions
"Force"	All	All	No use precautions
"Fortress"	All	All	No use precautions.

### CROP ROTATION

Rotational crops vary in their response to low concentrations of STEADFAST™ remaining in the soil. STEADFAST™ dissipates rapidly in warm, acidic, microbiologically active soils.

The amount of STEADFAST™ which may be present in the soil depends on soil pH and organic matter content, elapsed time since application, crop production practices, and environmental factors.

Injury to rotational crops may occur in high-pH, cold soils if dry weather prevails between application and rotational crop planting.

For fields treated with sequential applications of STEADFAST™ and ACCENT® herbicide, consult the crop rotation intervals listed on the ACCENT® and STEADFAST™ labels. Use the most restrictive recrop interval from either label.

The following rotational intervals must be observed when using STEADFAST™:

#### STEADFAST™ ROTATIONAL CROP GUIDELINE - 1

##### No soil pH restrictions

Crop Rotational	Interval in Months
Corn (field)	Anytime
Corn (pop, sweet, seed)*	10
Soybeans	0.5 (15 days)
Cereals, spring (barley, oats, rye, wheat)	8
Cereals, winter (barley, oats, rye, wheat)	4
Cotton	10
Dry Beans, Peas, Snap Beans	10
Alfalfa**	12
Red Clover**	12
Other Crops	See Rotational Crop Guidelines 2 and 3



- \* Except the sweet corn varieties "Merit", "Carnival", and "Sweet Success", for which the minimum time interval is 15 months.
- \*\*Except for the state of Kansas east of Highway 75, for Minnesota east and south of the Red River Valley and for the states east of the line formed by the western borders of Iowa, Missouri, Arkansas, and Louisiana, where the minimum time interval is 10 months.

**DUPONT™ STEADFAST™ ROTATIONAL CROP GUIDELINE - 2**

*With soil pH 7.5 restrictions*

Crop	Rotational Interval in Months	
	pH 7.5	pH > 7.5
Sorghum	10	18*
Sunflowers	11**	18
All other crops not listed in Rotational Guidelines 1 or 2	See Rotational Guideline 3	

- \* Except in Texas and Oklahoma east of Highway 281, where the rotational interval is 10 months, regardless of pH.
- \*\*Precipitation following application must exceed 14" prior to planting sunflowers.

**STEADFAST™ ROTATIONAL CROP GUIDELINE - 3**

*With soil pH 6.5 restrictions*

Crop	Rotational Interval in Months	
	pH 6.5	pH > 6.5
Sugarbeets*, potatoes	10	18**
All other crops not listed in Rotational Guidelines 1 or 2	10	18**

- \* Except on irrigated sites in Colorado, Wyoming, Nebraska, Texas, or in Michigan where precipitation following application must exceed 25" prior to planting beets, where the interval is 10 months on soils with pH < 7.5.
- \*\*In North Dakota and northwest Minnesota, the cumulative precipitation in the 18 months following application must exceed 28" in order to rotate to sugarbeets or potatoes.

**APPLICATION INFORMATION**

Many crops are highly sensitive to STEADFAST™. All direct or indirect contact (such as spray drift) with crops other than field corn should be avoided (see also SPRAY DRIFT MANAGEMENT).

For all application systems, use 50-mesh or larger strainer screens.

Do not apply STEADFAST™ through any type of irrigation system.

**GROUND APPLICATION**

*Broadcast Application*

- Use a minimum of 15 gal of water per acre (15 GPA) for best performance. Use a minimum of 10 gal of water per acre (GPA) for light, scattered stands of grass.
- Use flat fan nozzles at 20–40 psi.
- Increase both spray volume and pressure as weed density and size increase.
- Do not use flood, hollow cone, rain drop, whirl chamber controlled droplet applicator (CDA) nozzles or air assisted sprayers. Unacceptable crop injury, excessive spray drift, or poor weed control may result.
- For proper spray coverage, adjust the boom and nozzle height according to manufacturers' specifications.
- Ensure that equipment is set up to avoid applying an excessive rate directly over the rows and into the corn plant whorl.

- Overlaps or starting, stopping, slowing, and turning while spraying may result in crop injury.

**Band Application**

- For band applications, use proportionately less spray mixture.
- To avoid crop injury, carefully calibrate the band applicator to not exceed the labeled rate.
- Carefully follow the manufacturer's instructions for nozzle type (flat fans), orientation, distance of nozzles from the crop and weeds, spray volumes, calibration and spray pressure.

**AERIAL APPLICATION**

- In New York State aerial application is not permitted.
- Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 5 GPA.
- Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement.

**SPRAYER PREPARATION/CLEANUP**

It is important that spray equipment is clean and free of previous pesticide deposits before using STEADFAST™ and then properly cleaned out following application. Clean all application equipment before applying STEADFAST™. Follow the cleanup procedures specified on the label of the product previously sprayed. If no cleanup procedure is provided, use the procedure that follows. Immediately following applications of STEADFAST™, thoroughly clean all mixing and spray equipment to avoid subsequent crop injury.

**Note:**

- When cleaning spray equipment before applying STEADFAST™, read and follow label directions for proper rinsate disposal of the product previously sprayed.
- Steam cleaning of aerial spray tanks will help to dislodge any visible pesticide deposits.
- When spraying or mixing equipment will be used over an extended period to apply multiple loads of STEADFAST™, partially fill the tank with fresh water at the end of each day of spraying, flush the boom and hoses, and allow to sit overnight.

**Cleanup Procedure**

1. Drain the tank and thoroughly hose down the interior surfaces. Flush the tank, hoses, and boom with clean water for a minimum of 5 min.
2. Partially fill the tank with clean water and add one gal of household ammonia\* (containing 3% active) for every 100 gal of water. Finish filling the tank with water, then flush the cleaning solution through the hoses, boom, and nozzles. Add more water to completely fill the tank and allow to agitate/recirculate for at least 15 min. Again, flush the hoses, boom, and nozzles with the cleaning solution, then drain the tank.
3. Repeat Step 2.

- 4. Remove the nozzles and screens and clean separately in a bucket containing the cleaning agent and water.
- 5. Thoroughly rinse the tank with clean water for a minimum of 5 min, flushing the water through the hoses and boom.

\* Equivalent amounts of an alternate strength ammonia solution or a tank cleaner recommended in the DuPont bulletin "Sulfonylurea Herbicides, A Guide to Equipment Cleanout," may be used.

**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 labeled 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 OR 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.

**WEED RESISTANCE**

When herbicides with the same mode of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. These resistant weed biotypes may not be adequately controlled. Cultural practices such as tillage, preventing weed escapes from going to seed, and using herbicides with different modes of action within and between crop seasons can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes.

## 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 Integrated Pest Management (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.

## IMPORTANT PRECAUTIONS

Injury to or loss of desirable vegetation may result from failure to observe the following:

- Do not apply DuPont™ STEADFAST™ or drain or flush application 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.
- Do not contaminate any body of water.
- Thoroughly clean application equipment immediately after use. (See the Sprayer Cleanup section of this label for instructions.)
- Do not graze or feed forage, hay, or straw from treated areas to livestock within 30 days of STEADFAST™ application.

## 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) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **For Fiber Sacks:** Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Dispose of bags at an approved waste disposal facility, in accordance with Federal, state and local regulations. **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.

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