

PM 23

62719-253

8/4/98

PM 1/23

AUG 4 1998

Dennis H. Lase, Ph.D.  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

Dear Dr. Lase:

Subject: Borneo  
EPA Registration No. 62719-253  
Application and Letter Dated June 11, 1998,  
Request To Amend Registration by Label Revisions:  
General Use Precautions, Mixing and Application,  
Approved Crops Section and Deleting Spanish Signal  
Word and WPS Spanish Statement; and Resubmissions  
Dated July 20, 1998 and July 29, 1998

The proposed amendments to the subject pesticide product registration have been reviewed and found acceptable under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as amended, provided that:

1. Remove all editorial notes, strikeouts and underlining associated with the revisions of the labeling.
2. You submit one (1) copy of the final printed labeling before releasing the product for shipment, under the subject labeling.

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

A stamped copy of the label is enclosed for your records.

Sincerely yours,

Joanne I. Miller  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505C)

CONCURRENCES

SYMBOL	Enclosure						
SURNAME	Wilson:Diskette:ABC31:08-04-98						
DATE							

# Hornet\*

EPA Reg. No. 62719-253

## Registration Notes:

**Current label** text based on EPA accepted copy dated April 22, 1997.

### Proposed Changes by Amendment:

#### General Use Precautions:

1. Added the following statement to General Use Precautions section: "Use directions in Dow AgroSciences supplemental labeling may supersede directions or limitations in this labeling." This statement would allow directions/uses on EPA-accepted supplemental labeling, that might otherwise be in conflict with the main label, without amending the main product label.
2. Added prohibition against mixing, loading or cleaning equipment within 50 feet of any well unless conducted on an impervious pad, and specifications for such a loading pad.
3. Clarified tank mixing precautions and limitations.
4. Further clarified use limitations with other ALS inhibiting herbicides.
5. Further clarified use precautions in combination with or sequential to organophosphate soil insecticides.
6. Clarified calculation of maximum use rates when used in combination with other products containing flumetsulam and/or clopyralid.
7. Revised drift precautions to avoid injury of non-target plants.
8. Revised sprayer cleanup directions.
9. Revised Rotational Crops Restrictions.

#### Mixing and Application:

10. Edited for clarity.

#### Approved Crops Section

11. Clarified definition of triazine tolerant and ALS tolerant biotypes relative to herbicidal activity of Hornet.
12. Revised tank mixing recommendations and added tank mix products including Frontier, Touchdown and Roundup Ultra herbicides.
13. Added table providing rate equivalents for water soluble packaging and 6 lb jug.
14. Clarified application timing and use of surfactants for postemergence applications.
15. Added weeds to list of biennial and perennial weeds controlled by postemergence application of Hornet.

#### Other:

16. Deleted Spanish signal word and WPS Spanish statement from second page of label booklet.

**Note:** This draft version contains final changes requested by EPA reviewer, Eugene Wilson on July 27, 1998.

[Editor's Note: Added text underlined; deleted text denoted by strike-through.]

\*Trademark of Dow AgroSciences LLC

(Base Label):

(Logo) Dow AgroSciences LLC

# Hornet\*

**A selective herbicide for the control of broadleaf weeds in field corn.**

**Active Ingredients:**

flumetsulam: <i>N</i> -(2,6-difluorophenyl)-5-methyl-1,2,4-triazolo-[1,5a]-pyrimidine-2-sulfonamide .....	23.1%
clopyralid: 3,6-dichloro-2-pyridinecarboxylic acid .....	62.5%
Inert Ingredients .....	14.4%
Total Ingredients .....	100.0%

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated**

**AUG 4 1998**

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

62719-253

Contains 0.856 pounds of active ingredient per pound of product.

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

**Keep Out of Reach of Children**

# DANGER PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

**Causes Irreversible Eye Damage • Do Not Get In Eyes Or On Clothing • Harmful If Swallowed, Inhaled, Or Absorbed Through The Skin • May Cause Skin Sensitization Reactions In Certain Individuals**

**Avoid breathing vapors or spray mist and contact with skin, eyes, or clothing.**

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.
- 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 eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

**If swallowed:** Do not induce vomiting. Call a physician or Poison Control Center. If available, administer activated charcoal (6-8 heaping teaspoonfuls) with a large quantity of water. Do not give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.

**If inhaled:** Remove individual to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, give artificial respiration, preferably cardiopulmonary resuscitation assistance, and get medical attention immediately.

**If on skin:** Immediately wash with plenty of soap and water. Get medical attention if irritation develops.

### 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 washwaters.

The active ingredients in this product are known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this product where soils are permeable, particularly where the water table is shallow, may result in leaching to ground water.

Caution should be exercised when handling this product at mixing and loading sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to label booklet for additional precautionary information including Personal Protective Equipment (PPE), User Safety Recommendations and Directions for Use including Storage and Disposal.**

**Notice:** Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at [www.dowagro.com](http://www.dowagro.com).

**Agricultural Chemical:** Do not ship or store with food, feeds, drugs or clothing.

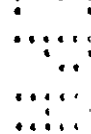
EPA Reg. No. 62719-253

EPA Est. 00000-XX-00

\*Trademark of Dow AgroSciences LLC  
Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

## Broadleaf Blend Herbicide

Net Weight 6 lb (or) contains 5, 9.6 oz Water Soluble Packets



(Datapack cover):

(Logo) Dow AgroSciences LLC

# Hornet\*

**A selective herbicide for the control of broadleaf weeds in field corn.**

**Active Ingredients:**

flumetsulam: <i>N</i> -(2,6-difluorophenyl)-5-methyl-1,2,4-triazolo-[1,5a]-pyrimidine-2-sulfonamide .....	23.1%
clopyralid: 3,6-dichloro-2-pyridinecarboxylic acid .....	62.5%
Inert Ingredients .....	14.4%
Total Ingredients .....	100.0%

Contains 0.856 pounds of active ingredient per pound of product.

U.S. Patents 4,818,273 and 4,954,163

**Keep Out of Reach of Children**

## **DANGER            PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

**Agricultural Use Requirements**  
 Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Refer to inside of label booklet for additional precautionary information including Personal Protective Equipment (PPE), User Safety Recommendations and Directions for Use including Storage and Disposal.

**Notice:** Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at [www.dowagro.com](http://www.dowagro.com).

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

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EPA Est. 00000-XX-00

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## **Broadleaf Blend Herbicide**

**Net Weight 6 lb (or) contains 5, 9.6 oz Water Soluble Packets**

(Page 1 through end):

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

# DANGER — PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

**Causes Irreversible Eye Damage • Do Not Get In Eyes Or On Clothing • Harmful If Swallowed, Inhaled, Or Absorbed Through The Skin • May Cause Skin Sensitization Reactions In Certain Individuals**

**Avoid breathing vapors or spray mist and contact with skin, eyes, or clothing.**

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.
- 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 eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

**If swallowed:** Do not induce vomiting. Call a physician or Poison Control Center. If available, administer activated charcoal (6-8 heaping teaspoonfuls) with a large quantity of water. Do not give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.

**If inhaled:** Remove individual to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, give artificial respiration, preferably cardiopulmonary resuscitation assistance, and get medical attention immediately.

**If on skin:** Immediately wash with plenty of soap and water. Get medical attention if irritation develops.

### 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 washwaters.

The active ingredients in this product are known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this product where soils are permeable, particularly where the water table is shallow, may result in leaching to ground water.

Caution should be exercised when handling this product at mixing and loading sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will

reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

### Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

**Handling Precautions if Product is Packaged in Water Soluble Packets:** Do not remove water soluble packet from overpack except for immediate use. Do not allow water soluble packet to come into contact with water prior to use. Do not handle water soluble packet with wet hands or wet gloves. Carefully reseal package containing unopened water soluble packets and protect package from moisture.

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 48 hours.

**Exception:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

### Storage And Disposal

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

**Storage:** Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. Do not store above 122°F for extended periods of time. If container is damaged or spill occurs, use product immediately or contain with absorbent materials and dispose as waste.

**Water Soluble Packaging:** Packets may become brittle when stored below 32°F. Handle carefully when frozen to avoid breakage or allow package to warm above 32°F before handling.

**Disposal:** Wastes resulting from the use of this product may be disposed of on site according to label use directions or at an approved waste disposal facility.

**Container Disposal (water soluble packaging):** When all packets are used, dispose of empty package in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Container Disposal (plastic jug):** Triple rinse (or equivalent). 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.

**General:** Consult federal, state, or local disposal authorities for approved alternative procedures.

## General Information

Hornet\* broadleaf blend herbicide is a selective herbicide for broadleaf weed control in field corn. Hornet may be applied as a preplant surface, preplant incorporated, preemergence, or postemergence treatment. Soil surface treatments may be applied with water, liquid fertilizer, or impregnated on dry fertilizer. Postemergence treatments should be applied with water. Absorption of Hornet occurs from both shoot and root uptake. Susceptible weeds exposed to Hornet stop growing and either die or remain non-competitive with the crop. Hornet provides residual control of weeds that may emerge after application. Adequate soil moisture is necessary for optimal activation because uptake and translocation of Hornet involves uptake by emerging shoots and/or roots.

Use directions in Dow AgroSciences supplemental labeling may supersede directions or limitations in this labeling.

## **General Use Precautions**

This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.

Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or washwater, and rainwater that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specific minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

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

Do not use flood irrigation to apply or incorporate this product.

Product must be used in a manner which will prevent back-siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

## **Application Precautions**

- Uneven application or uneven incorporation of Hornet can result in erratic weed control or crop injury. Over application may result in crop injury or rotational crop damage from soil residue.

## **Adverse Weather Conditions**

- **Soil Application Only:** Extended cold, wet conditions (soil temperatures below 50°F and excessive rainfall with wet soil conditions), following preemergence soil application of Hornet to field corn, which persist during germination and/or early crop development may result in crop injury. Injury symptoms, which include yellowing of leaves and/or crop stunting, are usually temporary and affected corn plants usually recover without affecting yield.



- When applications are made under adverse (dry or cold) conditions or when large weeds or less susceptible species are treated, only weed suppression may be observed. Weed suppression is a visual reduction in weed competition (reduced population, size, and/or vigor) as compared to an untreated area. Degree of control can be increased by applying Hornet under favorable growing conditions (i.e., adequate moisture and temperature), and by using a higher rate in the specified rate range.
- Dry weather following preplant surface or preemergence applications of Hornet may reduce effectiveness. If sufficient activating rainfall or overhead irrigation does not occur within 7 to 10 days of application, rotary hoe, harrow, or shallowly cultivate to incorporate the herbicide lightly into the soil. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather is ~~expected-predicted~~ after application.
- ~~Do not apply~~ Avoid application when air temperature is near freezing or when freezing conditions are expected for several days following application.
- Postemergence application of Hornet to corn that is stressed or damaged by conditions such as cold weather, hot weather (>90°F), hail, drought, water saturated soil, disease, or insects may cause ~~further~~ crop injury.

#### **Tank Mixing Restrictions and Precautions**

Do not tank mix Hornet with Bladex, Basagran, or Laddock herbicide as severe crop injury may occur. Other than the aforementioned exception, Hornet may be tank mixed or followed by other overlay or postemergence treatments registered for use on corn to broaden the spectrum of weeds controlled. ~~Follow all applicable use directions, precautions, restrictions, and limitations on the labels for each product used in tank mixtures. Tank mixtures are permitted only in those states where the tank mix partner is registered. This product may be applied in tank mix combination with labeled rates of other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.~~

#### **Tank Mixing Precautions:**

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed recommended application rates. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.
- For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See instructions for Sprayer Clean-Out.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of Hornet 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 balls-up, forms flakes, sludges, lumps, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

#### **Soil Restrictions and Precautions for Soil Surface Applications**

- Do not use on peat or muck soils.
- Do not apply to areas where the soil pH is greater than 7.8 as this may result in increased crop injury.
- Do not apply to a soil containing greater than 5% organic matter if the soil pH is below 5.9 as ~~reduced~~ weed control will result.
- Use of Hornet in soil-applied treatments on soils with less than 1.5% organic matter (O.M.) may result in crop injury. Apply as a soil-treatment to fields which have less than 1.5% O.M. only if the risk of crop injury is acceptable.
- If any herbicide with ALS (acetolactate synthase) inhibition mode of action such as Pursuit, Preview, Canopy, Classic, Scepter, Squadron, etc., was applied the previous year, apply Hornet to corn only if the rotational restrictions applicable to corn for the preceding product has been met.

- Corn growing in calcareous soils or soils with historically high salt content (soil test results for salinity indicating electrical conductivity greater than 1.0 mmho/cm) may exhibit chlorosis and/or stunting resulting from reduced availability of iron, zinc or other micro nutrients essential for normal crop vigor and growth. The presence of soil-active herbicides, such as Hornet may cause additional stress under these conditions resulting in increased leaf chlorosis and/or crop stunting. This added stress may retard crop recovery, especially under conditions of limited rainfall. In fields which contain calcareous or high salt content soils, growers should plant "IR" or "IMR" designated varieties, commonly referred to as "imidazolinone resistant" corn hybrids. On these type soils, the likelihood of crop injury can also be reduced by using the lower end of the recommended rate range for the soil type and/or by applying Hornet 10-14 days prior to planting.

#### **Soil Insecticide Precautions For Soil-Surface Applications of Hornet:**

- Soil applied organophosphate insecticides should be applied in a T-band or a band to avoid potential crop injury when Hornet is used for ~~preemergence~~ soil applied broadleaf weed control in corn. If Counter (terbufos) or Thimet (phorate) insecticide has been applied to corn, Hornet should not be used.
- Soil insecticides from other classes of chemistry may be applied in-furrow, T-banded, or banded.

#### **Soil Insecticide Precautions For Postemergence Applications of Hornet:**

- Do not apply Hornet postemergence if corn was previously treated with Counter or Thimet insecticide as severe crop injury may result.
- Postemergence applications of Hornet to corn previously treated with T-band, ~~or band,~~ or in-furrow applications of other organophosphate insecticides such as Lorsban\* insecticide, Aztec, Fortress, or Dyfonate may cause temporary crop injury. ~~To reduce the risk of crop injury when these insecticides are applied in furrow, do not apply Hornet as a postemergence treatment until the corn has 4 fully exposed leaf collars.~~

#### **Foliar Insecticide Precautions for Postemergence Applications of Hornet**

- Do not tank mix Hornet with foliar postemergence organophosphate insecticides as severe crop injury may result. To avoid crop injury, apply the foliar organophosphate ~~insecticide treatments~~ treatment at least 10 days before or 10 days after the application of Hornet.
- Hornet may be tank mixed with non-organophosphate foliar insecticides provided they are labeled for use with postemergence corn herbicides.

#### **Use With Other Products**

- ~~If any ALS (acetolactate synthetic) inhibiting herbicides such as Pursuit, Preview, Canopy, Classic, Scepter, Squadron, etc., were applied the previous year, apply Hornet to corn only if the rotational restrictions to corn for these products have been met.~~

[Editor's note: the preceding bullet point moved to soil use section, above.]

- Corn previously treated with Hornet that is stressed or damaged by conditions such as cold weather, hail, drought, water saturated soil, ~~disease,~~ or insects should not be treated with Accent, Beacon, Permit, Exceed, Basis, or other herbicides with ALS-inhibiting products inhibition mode of action as this may cause further crop injury.
- Do not foliar apply Hornet to corn that exhibits herbicide injury from previous applications made to the current or preceding crop.

#### **Use With Genetically Modified Corn Varieties**

- If an "IR" or "IMR" designated hybrid (commonly referred to as "imidazolinone resistant") is planted, any organophosphate insecticide, including Counter or Thimet, can be applied according to label directions without increasing the likelihood of injury to corn from Hornet. The adverse interaction between Counter or Thimet insecticide and Hornet does not occur in corn hybrids identified as "IR" or "IMR". This adverse interaction does occur in imidazolinone tolerant "IT", "PT" hybrids which are considered as "standard" hybrids regarding this effect. "IR" or "IMR" hybrids may also be planted to reduce injury to corn from preemergence treatments of Hornet on soils with less than 1.5% organic matter or pH greater than 7.8.

**Maximum Application Rate**

- ~~• Do not exceed 1 application per year.~~
- Do not exceed a total application rate of 4.8 oz per acre of Hornet (0.07 lb flumetsulam) in a single crop year.
- Multiple applications of Hornet within a growing season can be made as a soil application followed by a postemergence application, or as multiple postemergence applications. Do not exceed the cumulative rate of 0.07 pound per acre active ingredient of flumetsulam per single crop year if a postemergence application of Hornet is made following a preemergence soil application of Broadstrike®+Dual® herbicide or Broadstrike SF+Dual a flumetsulam-containing herbicide or with a postemergence herbicide containing flumetsulam (See table below to calculate cumulative flumetsulam amount per season.). One ounce of Hornet contains 0.0145 lb of flumetsulam. One pint of Broadstrike+Dual contains 0.025 lb of flumetsulam. One pint of Broadstrike SF+Dual contains 0.031 lb of flumetsulam.
- Do not exceed a cumulative rate of 0.25 pound per acre active ingredient of clopyralid per single crop year. (See table below to calculate cumulative clopyralid amount per season.) One ounce of Hornet contains 0.039 lb of clopyralid. One ounce of Scorpion® III herbicide contains 0.016 lb of clopyralid. One fluid ounce of Stinger® herbicide contains 0.023 lb of clopyralid.

Examples: 3.2 ounces of Hornet contains 0.047 lb flumetsulam and 0.125 lb clopyralid.  
2.9 ounces of Accent Gold contains 0.035 lb flumetsulam and 0.094 lb clopyralid.

Herbicide	Amount of Product	Flumetsulam (lb a.i./ounce, or lb a.i./pint of product)	Clopyralid (lb a.i./ounce, or lb a.i./pint of product)
Hornet	1 ounce	0.0145	0.039
Python WDG*	1 ounce	0.05	—
Scorpion® III	1 ounce	0.0058	0.0156
Accent Gold	1 ounce	0.012	0.032
Broadstrike®+Dual®	1 pint	0.025	—
Broadstrike SF+Dual	1 pint	0.031	—
Stinger®	1 fluid ounce	—	0.023

Maximum active ingredient allowed per season: Flumetsulam = 0.07 lb/acre  
Clopyralid = 0.25 lb/acre

**Other Precautions and Restrictions**

- **Corn Planting Depth:** For soil applications of Hornet, corn planting depth should be at least 1 1/2 inches.
- Do not apply Hornet to sweet corn or popcorn.
- **Hybrid Seed Production:** Corn inbred lines grown for hybrid seed production may be injured by Hornet. Inbred lines should be thoroughly tested for crop tolerance before treating large acreage. While growers are not prohibited from using Hornet on seed corn, Dow AgroSciences will not accept responsibility for any crop injury arising from the use of Hornet on field corn grown for seed. [Editor's note: Bold print added for emphasis in preceding sentence.]
- **Preharvest Interval:** An interval of at least 85 days is required between application of Hornet and field corn harvest.
- Do not aerially apply Hornet unless permitted by EPA approved supplemental labeling.
- ~~• **Chemigation:** Do not apply this product through any type of irrigation system.~~ [Editor's note: Previous bullet point moved to beginning of General Use Precautions section.]
- **Avoid all direct or indirect contact with nontarget plants.** Do not apply near desirable vegetation. Allow adequate distance between target area and desirable plants under conditions of application to minimize potential exposure.
- **Crop residues from treated areas:** Crop residues from treated areas cannot be used for composting or mulching on ground where susceptible crops may be grown the following season. To promote

herbicide decomposition, plant material should be evenly incorporated or burned. Adequate moisture is also required to promote breakdown of plant residues which contain clopyralid.

- **Do not move treated soil:** Avoid situations where soil particles may blow into areas where susceptible crops are grown. The hazard of movement of this product on dust is reduced if treated fields are irrigated or if rain occurs shortly after application.
- **Do not apply under conditions which favor runoff or wind erosion of soil containing Hornet to nontarget areas. To prevent off-site movement due to runoff or wind erosion:**
  - Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
  - Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered ground.
  - Do not apply to soils when saturated with water.
  - Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.
- **Do not apply when weather conditions favor drift to nontarget sites. ~~To minimize spray drift to nontarget areas:~~ Spray drift of Hornet to emerged soybeans or soil to which soybeans will be planted during the same growing season may cause soybean injury.**
- **Read and follow these Advisories to minimize drift to nontarget areas.**
  - Minimize drift by using sufficient spray volume to ensure adequate coverage with large-droplet size sprays.
  - Use low pressure application equipment capable of producing a large-droplet spray. Do not use nozzles that produce a fine-droplet spray. Droplet size has been shown to be the single most important factor affecting drift from ground applications.
  - While increasing droplet size does reduce the potential for spray drift, larger droplets do not eliminate drift if environmental or application conditions are inappropriate for application.
  - Use larger capacity nozzles to increase flow rate rather than increasing spray pressure.
  - Keep ground-driven spray boom as low as possible above the target surface. Keep height of ground-driven spray booms as low as possible above the target to minimize exposure to evaporation and wind while still providing good coverage. Applications made late in the growing season with excessive boom heights drastically increase the potential for spray drift.
  - Do not apply when wind is gusting or wind speed exceeds 15 mph as uneven spray coverage and drift may result. Avoid application to border rows adjacent to susceptible crops such as soybeans, field peas, or sunflowers under windy conditions unless one of the following drift management steps is taken:
    - (1) application is made only when the wind direction is such that the susceptible crop is up-wind from the treatment area (wind blowing from the susceptible crop toward the treated crop); or
    - (2) the applicator leaves an adequate buffer zone between the treated crop and the susceptible crop and coarse or low drift nozzle configurations are used.A drift control or deposition agent may be used with this product to aid in reducing spray drift due to wind when making applications adjacent to susceptible crops, but may not be effective after prolonged pumping of the spray mix.
  - Spray when conditions are calm or wind speed is low. Do not spray when wind is gusting or steady wind speed is greater than 10 mph.
  - On calm days with little or no wind, check for temperature inversions before making herbicide applications. Temperature inversions occur under calm conditions with little or no wind and air temperature increases with increasing height above the ground. Inversion conditions may be indicated by a layer of fog or mist near the ground and, under clear conditions, may be detected by use of a smoke column. A temperature inversion is indicated when smoke does not rise in a column, but layers at some level above the ground. Do not apply herbicides if temperature inversion conditions exist in the treatment area.
- **Sprayer Cleanup:** To avoid injury to or exposure of nontarget crops, thoroughly clean and drain spray equipment used to apply Hornet after use. Cleaning should occur as soon as possible after application of Hornet. Spray equipment should be cleaned after use with Hornet by the following procedure:

1. Drain any remaining Hornet from the spray tank and dispose of according to label disposal instructions.
2. Hose down the interior surfaces of the tank. Flush tank, hoses, boom, and nozzles with clean water for 10 minutes. Fill the tank with water and recirculate for 15 minutes. Spray part of the mixture through the hoses, boom, and nozzles and drain the tank. All rinse water must be disposed of in compliance with local, state, and federal guidelines.
3. Fill the tank with water and recirculate for 15 minutes. For optimum cleaning, a tank cleaner such as liquid ammonia (1 gallon per 100 gallons of water) or other commercial tank cleaner is recommended in the second rinse if the spray equipment will be used on crops other than field corn. Spray part of the mixture through the hoses, boom, and nozzles and drain the tank. All rinse water must be disposed of in compliance with local, state, and federal guidelines.
34. Remove the nozzles and screens and clean separately.
45. If the spray equipment will be used on crops other than field corn, repeat steps 1 and 2 again and thoroughly wash the spray mixture from the outside of spray tank and the boom.

~~Placement of mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.~~

[Editor's note: Preceding statement replaced by the statement at beginning of "General Use Precautions" section prohibiting mixing, loading and cleaning of equipment <50 ft from a well unless conducted on a roofed, reinforced impervious pad.]

**Rotational Crop Restrictions:**

When tank mixing with companion herbicides, follow the most restrictive crop rotation guidelines on the label of each product used.

The following rotational crops may be planted after the indicated interval following application of rates up to 4.8 ounces per acre of Hornet:

Rotational Crop†	Interval (Months)†
barley, oats, rye, wheat	4
rice	6
seeding of cover crops (1)	9
alfalfa <sup>(2)</sup> , dry beans <sup>(2)</sup> , soybean <sup>(2)</sup> , popcorn, sweet corn (3)	10.5
grain sorghum	12
cotton, peas (4), peanuts, potatoes, sunflower, sweet corn, tobacco	18
sugar beets, canola and all other crops(5)	26

Note: Within table, numbers in parentheses (-) refer to the following Specific Rotational Crop Requirements.

**Specific Rotational Crop Requirements:**

1. The following cover crops may be planted for establishment of Federal Conservation Reserve Programs and Agricultural Reserve Programs no sooner than 9 months following application of Hornet at rates up to 3.2 oz/acre: legumes including alfalfa, clovers, crownvetch, birdsfoot trefoil, and lespedeza; and grasses, including big bluestem, little bluestem, switchgrass, Russian wildrye, green needle, smooth brome grass, Garrison creeping foxtail, canary grass, orchardgrass, intermediate wheatgrass, tall wheatgrass, crested wheatgrass, western wheatgrass and india grass.

Some stand reduction or temporary stunting of legume seedlings is possible. However, Dow AgroSciences will not accept responsibility for any crop injury or stand failure in crops established under Federal Conservation Reserve Programs and Agricultural Reserve Programs following use in corn and the subsequent 9 month rotational crop restriction. Additionally, Dow AgroSciences will not accept responsibility for any crop injury or stand

**failure of native grasses as a result of inadequate seedbed preparation, erratic germination, lack of seedling vigor, or plant stress from unfavorable environmental conditions.**

22. **When annual rainfall and/or irrigation is less than 15 inches on soils with less than 2% organic matter, alfalfa, dry beans and soybeans should not be planted until 18 months after treatment.**
3. **Certain sweet corn varieties may be planted 10 1/2 months following soil or postemergence application of up to 3.2 oz/acre of Hornet. This interval applies only to the following varieties of sweet corn grown for processing: Beretta, Bingo, Bonus, Challenger, Comucopia, Crisp'N Sweet 710, DMC 20-04, DMC 20-10, DMC 20-35, Eliminator, Empire (GH 2759), Excalibur, Excellency, GH 2628, GH 2683, GH 2684, GH 2690, GG 5, GG 22, GG 23, GG 40, GG 43, GG 46, GG 55, GG 60, GG 520, HM 701, Lumina, Reveille, Reward, Rival, Shaker, Sprint, Tribune, Viking, and Zenith. The rotational interval is 18 months for sweet corn varieties not listed.**
4. **Peas should not be planted less than 18 months following application of Hornet unless the risk of injury is acceptable. Growers considering planting peas sooner than 18 months after application of Hornet are directed to contact the processor company for information and recommendations regarding the tolerance of pea varieties to Hornet and/or Stinger\* herbicide and previous rotational crop experience with these products. All risks and consequences associated with planting peas less than 18 months after application of Hornet shall be assumed by the grower.**

**<sup>†</sup>Note:**

5. **Rotation to sugar beets, canola, and all other crops requires a 26-month rotation interval and a successful field bioassay.**

**Field Bioassay Instructions: Using typical tillage, seeding practices, and timings for the particular crop, plant several strips of the desired crop variety across the field previously treated with Hornet. Plant the strips perpendicular to the direction Hornet was applied. The strips should also be located so that different field conditions are encountered, including differences in soil texture, pH, and drainage. If the crop does not show visible symptoms of injury or stand reduction, the field can be seeded with the test crop in the growing season following the bioassay. If visible injury, stand reduction, or yield reduction occurs, the test crop should not be seeded, and the bioassay must be repeated the next growing season. In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample field conditions such as soil texture, soil pH, drainage, and any other variable that could affect the seed bed of the new crop. Field bioassay at any time between harvest of the treated crop and the planting of the rotational crop. Observe the test crop for herbicidal activity, such as poor stand (effect on seed germination) chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the test rotational crop; plant only a labeled crop or crop listed in the table above for which the rotational interval has clearly been met.**

## Mixing and Application

### Mixing Directions

#### Spray Application Volume

Apply Hornet in sufficient spray volume to provide uniform coverage using only properly calibrated ground equipment. Apply in a total spray volume of 10 to 40 gallons per acre using low pressure (20-40 lb/sq in). Maintain sufficient agitation during mixing and spraying to ensure a uniform spray mixture. To ensure thorough coverage when applying making soil applications to minimum or no-till field corn, apply in use a total spray volume of 20 or more gallons per acre.

**Rate Calculation**

**Application Rates for Soil Applied Treatments Including Preplant Surface Applied, Preplant Incorporated, Postplant Preemergence, and Spike Stage Treatments**

Soil Texture	Hornet (oz /acre)	Acres Per 6 lb Plastic Jug†	Packet Factor †† (acres/packet) For Water Soluble Packaging Acres per Packet††
Coarse	3.2 - 4.0	30 - 24	3.0 - 2.4
Medium or Fine	4.0 - 4.8	24 - 20	2.4 - 2.0

†If the number of acres to be treated results in the use of a partial container, use the measuring device provided with the container to measure out 1 acre increments according to the scale indicated on the measuring device.

††Each water soluble packet contains 9.6 oz of Hornet. To calculate the number of water soluble packets for your spray mix:

1. Determine the number of acres you wish to spray in the desired application.
2. Divide the number of acres by the acres per packet-factor that falls within the rate range you have chosen (~~Packet Factor = acres per packet at a specified application rate~~). See the above rate table for broadcast application rates and corresponding packet factors acres per packet.
3. The result is the number of packets you are required to add to the spray mix.

**If the resulting number of packets is not a whole packet:**

1. Do not open the water soluble packets.
2. Round up or down to the nearest whole number of packets and check to make sure that the resulting number of acres/per packet falls within the desired rate range for the application.

**Sample calculations:**

1. Planned application = 3.2 oz per acre (The acres per packet-factor for 3.2 oz/acre is 3.0).
2. Assuming 17 acres is to be treated, 17 acres divided by the ~~packet factor of 3.0~~ acres per packet = 5.7 packets (Round up to 6 packets).
3. 17 acres divided by 6 packets = ~~a packet factor of 2.83~~ acres per packet which is within the desired ~~packet factor range of 3.0 to 2.4~~ acres per packet for the application.

~~**Band Application:** Calculate the amount of herbicide needed for band treatment by the formula:~~

**Band Application**

Calculate the amount of herbicide needed for band treatment by the formula:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Amount needed per acre of field}$$

**Spray Preparation:**

**Mixing Directions**

Hornet is a water dispersible granule formulation. Thorough mixing is required.

1. Fill the tank with 1/2 of the total amount of water or liquid fertilizer required for the load.
2. Start agitation system.
3. Add the required amount of Hornet directly into the spray tank while agitating. If product is packaged in water soluble packets, open the overpack and add the required number of water soluble packets directly to the spray tank while agitating. (See special pre-mixing instructions below for use of water soluble packaging in liquid fertilizer solutions.) ~~Open overpack and~~

~~add the soluble packet (product in transparent film) directly into the spray tank while agitating. Do not open water soluble packets. Water soluble packets will float on the surface until the water soluble film dissolves and releases the product. Handling packets with hands should be minimized.~~

4. Continue agitation and complete filling the tank while product disperses in the spray tank solution.
5. Before spraying make sure Hornet is thoroughly mixed in the solution. If product is in water soluble packets, make sure packets have completely disintegrated and product is thoroughly mixed with water. Depending on the water temperature and the degree of agitation, the packet and Hornet should be completely dispersed within 5 minutes from the time they were added to the water.

To insure a uniform spray mixture continuous agitation is required during mixing and spraying. Apply within 24 hours after mixing. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying.

**Pre-mixing (Slurry) for Water Soluble Packets Only; Note:** These pre-mixing instructions must be followed when Hornet will be used applied in liquid fertilizer or impregnated onto dry granular bulk fertilizer. Do not use liquid fertilizer as a carrier when Hornet is used as a postemergence foliar application to corn. The film used in water soluble packaging for Hornet is not soluble in liquid fertilizer solutions. Water soluble packets containing Hornet should be pre-mixed with water and added to the spray tank through a 20-35 mesh screen. For best results, a minimum of 1 pint of water should be used to slurry each 9.6-ounce packet of Hornet. The packets can be stirred immediately on addition to water or allowed to dissolve. Stir until the packets are completely dissolved and granules are dispersed.

#### **Hornet in Tank Mix**

Hornet may be applied in tank mix combination with labeled rates of other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing with Hornet is not prohibited by the label of the tank mix product. See "Tank Mixing" in "General Use Precautions" section.

Vigorous, continuous agitation during mixing, filling, and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

~~Note: When tank mixing Hornet with other products, a compatibility test (jar test) using relative proportions of tank mix ingredients should be conducted prior to mixing ingredients in the spray tank.~~

**Mixing Order for Tank Mixes:** Fill the spray tank to 1/4 to 1/3 of the total spray volume required with water or liquid fertilizer solution. Start agitation. Add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for dry flowable products.

**Add different formulation types in the following order:** Hornet (slurried if mixing water soluble packets with liquid fertilizer) and other dry flowables; wettable powders; aqueous suspensions, and flowables. Maintain agitation and fill spray tank to 3/4 of total spray volume. Then add emulsifiable concentrates and any solutions.

**Note:** Spray adjuvants (The non-ionic surfactant surfactants, crop oil concentrates, and urea ammonium nitrate, and ammonium sulfate) adjuvants required for postemergence foliar applications should be added to the spray tank last.

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling, and throughout application. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

Line screens in the spray tank should be no finer than 50 mesh (100 mesh is finer than 50 mesh).



**Spray Application**

Apply Hornet in sufficient spray volume to provide uniform coverage using only properly calibrated ground equipment. Apply in a total spray volume of 10 to 40 gallons per acre using low pressure (20-40 lb/sq in). Maintain sufficient agitation during mixing and spraying to ensure a uniform spray mixture. To ensure thorough coverage when applying to minimum or no till field corn, apply in a total spray volume of 20 or more gallons per acre.

~~**Band Application:** Calculate the amount of herbicide needed for band treatment by the formula:~~

~~Band width in inches~~

~~————— X Broadcast rate = Amount needed~~

~~Row width in inches~~

~~per acre~~

~~per acre of field~~

~~[Editor's note: The preceding two sections moved to beginning of "Mixing and Application" section.]~~

**Liquid Fertilizer Mixing Instructions Application in Liquid Fertilizer**

Hornet may be added directly to liquid fertilizer. **Note:** If product is packaged in water soluble packets, a slurry must be prepared prior to adding to liquid fertilizer (see premixing instructions on this label). This is necessary because the water soluble film is not directly soluble in liquid fertilizer. Continuous agitation is required. When necessary, a compatibility agent can be used to ensure that Hornet mixes properly. The use of appropriate compatibility agents is especially important when tank mixing Hornet and other dry flowables, wettable powders, flowables, liquids, aqueous suspensions, or solutions with emulsifiable concentrates in liquid fertilizers. If the emulsifiable concentrate formulation rises to the surface of the fertilizer as an oil ("oils out"), the oil may combine with the wettable powder, flowable, or suspension to form oily curds (viscous phase) which are difficult to disperse. A jar test, utilizing relative proportions of the tank mix ingredients is recommended prior to mixing with liquid fertilizers.

**Note:** Do not use liquid fertilizer as the carrier for postemergence foliar applications.

**Application with Dry Bulk Fertilizer**

Dry bulk fertilizer may be impregnated or coated with Hornet. Application of dry bulk fertilizer impregnated with Hornet provides weed control equal to the same rates of Hornet applied in liquid carriers. Follow label recommendations for Hornet regarding rates per acre, crops, special instructions, cautions, and special precautions. Apply 200 to 700 pounds of the fertilizer/herbicide mixture per acre. For best results, apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Non-uniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil may improve weed control.

**Precaution:** To avoid crop injury, do not use the fertilizer/herbicide mixture on bedded soil.

Compliance with all federal and state regulations relating to blending pesticide mixtures with dry bulk fertilizer, registration, labeling, and application are the responsibility of the individual and/or company offering the fertilizer and chemical mixture for sale.

**Limitations:** Apply a minimum of 200 pounds per acre of dry fertilizer impregnated with Hornet at the recommended rate. Most dry fertilizers can be used for impregnation with Hornet. When coated ammonium nitrate and/or limestone are used alone, do not impregnate with Hornet. These materials will not absorb the herbicide. Fertilizer blends containing coated ammonium nitrate and/or limestone as part of the fertilizer mixture can be impregnated.

**Impregnation:** A water slurry of the Hornet must be made and sprayed onto the fertilizer at a minimum volume of 6 pints per ton of fertilizer. To make the water slurry, add the required rate of Hornet (see formula below) to enough water to give a total volume of at least 6 pints of solution per ton of fertilizer. Make sure the Hornet is thoroughly dispersed in the water before spraying onto the fertilizer. Spray nozzles should be placed to provide uniform spray coverage onto the fertilizer. Care should be taken to

aim the spray directly onto the fertilizer and avoid spraying the walls of the blender. Use any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender.

Calculate amounts of Hornet by the following formula:

$$\frac{2,000}{\text{Pounds of fertilizer per acre}} \times \text{Pounds/acre of Hornet} = \text{Pounds of product per ton of fertilizer}$$

**Note: Thoroughly clean dry fertilizer blending equipment prior to use with other herbicides.** It is important to clean the blender, herbicide spray tank, and spraying apparatus thoroughly. Rinse the sides of the blender and the herbicide tank with water. Then, impregnate the rinsate onto a load of dry fertilizer intended for an approved crop. Use a maximum rate of 1 gallon of rinsate per ton of fertilizer. Follow with 1 to 2 loads of unimpregnated fertilizer in the blender before switching herbicides. The fertilizer application equipment must be empty, clean, and dry before applying any material to crops other than corn.

**Approved Uses**

**FIELD CORN**

**Soil Applied Treatments**

**Broadcast Application Rates (Preplant Surface Applied, Preplant Incorporated, Postplant Preemergence, and Spike Stage Treatments)**

Soil Texture	Hornet oz/acre
Coarse	3.2 - 4.0
Medium or Fine	4.0 - 4.8

**Note:** Use the high end of the rate range on soils with greater than 3% organic matter and/or when applications are made 14 to 30 days before planting.

**Broadleaf Weeds Controlled By Hornet When Soil Applied:**

Hornet will control "triazine tolerant" biotypes of these weeds, commonly know as "triazine resistant". Hornet will not control "ALS tolerant or resistant" biotypes of weeds listed below.

- |  |                                 |
|--|---------------------------------|
| amaranth, Palmer                       | pigweed, smooth††               |
| anoda, spurred                         | poinsettia, wild                |
| beggarweed, Florida                    | puncturevine                    |
| buckwheat, wild                        | purslane                        |
| carpetweed                             | ragweed, common                 |
| chickweed                              | ragweed, giant† <sup>1</sup>    |
| cocklebur, common                      | Russian thistle                 |
| clover, red                            | shepherd's purse                |
| henbit                                 | sicklepod                       |
| horseweed (marestail)                  | sida, prickly                   |
| jimsonweed                             | smartweed                       |
| kochia <sup>1</sup>                    | spurge, nodding                 |
| ladysthumb                             | spurge, spotted                 |
| lambsquarters, common††                | spurge, prostrate               |
| mallow, Venice                         | sunflower, common               |
| morningglory species†                  | thistle, Canada††† <sup>4</sup> |
| mustard, wild                          | velvetleaf††                    |
| nightshade, black species <sup>3</sup> | waterhemp, tall†† <sup>2</sup>  |
| pigweed, redroot††                     |                                 |

†<sup>1</sup>Weeds partially controlled.

††<sup>2</sup> ~~Includes triazine "resistant" varieties (triazine tolerant biotypes) of this weed species. For control of waterhemp, apply Hornet in tank mix combination with the appropriate labeled rate of a surface applied acetanilide product such as Dual II, Surpass, Harness, or Frontier herbicide.~~

<sup>3</sup> ~~Control of moderate to heavy infestations of nightshade will be improved with a tank mixture of the appropriate labeled rate of a surface applied acetanilide product such as Dual II, Surpass, Harness, or Frontier herbicide.~~

††<sup>4</sup> ~~Burndown control of Canada thistle in minimum and no-till corn only.~~

Hornet may be soil applied as a preplant surface, preplant incorporated, or preemergence treatment. Apply alone or in tank mix combination with a grass herbicide control product such as Dual II, Surpass, or Harness, or Frontier herbicide.

**Note Tank Mixing Limitations:** ~~Hornet may be tank mixed with other herbicides registered for use on field corn, unless tank mixing is specifically prohibited by the label of the tank mix product. When Hornet is tank mixed with a companion herbicide, follow relevant use directions, including precautions, restrictions, and limitations listed on the manufacturer's label. Hornet may be applied in tank mix combination with other products provided (1) the timing and method of application is the same as recommended for Hornet; and (2) tank mixing with Hornet is not prohibited by the label of the tank mix product. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.~~

### Specific Use Directions

1. **Preplant Surface Applied:** For minimum-tillage or no tillage systems, Hornet alone and with certain tank mixtures may be applied up to 30 days before planting. If weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide such as Gramoxone Extra, Touchdown, or Roundup Ultra (glyphosate). ~~Observe directions for use, precautions, and restrictions on the label of the contact herbicide. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.~~ To the extent possible do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

**Canada Thistle Control In Minimum and No-Till Corn:** Hornet may be applied as a burndown treatment for control of emerged Canada thistle in no-till corn. The application will result in reduced late season competition. Apply prior to crop emergence, but postemergence to the Canada thistle. Delay the application until most of the thistle has emerged and averages 4 to 8 inches in height. Tank mix Hornet with Roundup Ultra (glyphosate) or Touchdown herbicide and non-ionic surfactant for burndown control of existing grass and annual broadleaf weeds. ~~When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.~~ Do not apply in tank mixture with Gramoxone Extra as this will result in reduced control of Canada thistle. Do not cultivate for 14 to 20 days after application to allow for thorough translocation.

**Note:** Hornet will not control unemerged Canada thistle in minimum tillage or conventional tillage systems.

2. **Preplant Incorporated Application:** Apply and incorporate Hornet from 0 to 30 days before planting. Preplant incorporated treatments may be applied in water or liquid fertilizer. Uniformly incorporate the herbicide treatment into the top 2 to 3 inches of the final seedbed.

3. **Preemergence Application:** Apply at the time of planting or after planting, but prior to crop or weed emergence. Adequate soil moisture is required for optimum herbicidal activity. For surface applications, rainfall, or overhead sprinkler irrigation is necessary to move Hornet into the weed germination zone. The amount of rainfall or irrigation required following application depends on existing soil moisture, soil texture, and organic matter content. Sufficient water to moisten the soil to a depth of 2 inches is generally adequate. If adequate soil moisture is not received within 7 to 10 days after a surface applied treatment, a shallow cultivation is recommended to control established weeds.

and move the herbicide into the weed germination zone. When adequate soil moisture is received following dry conditions, performance may vary with weed species and the depth of the weed root system in the soil.

- 4. Spike Stage Application:** Apply during the periods of corn emergence (ground cracking stage) to before the corn is 2 inches in height (before the first leaf is unfurled). Adequate soil moisture is required for optimum herbicidal activity. Established broadleaf weeds at the time of application may be controlled. For those weeds that have not emerged at the time of application, rainfall or overhead sprinkler irrigation is necessary to move Hornet into the weed germination zone. The amount of rainfall or irrigation required following application depends on existing soil moisture, soil texture, and organic matter content. Sufficient water to moisten the soil to a depth of 2 inches is generally adequate. If adequate soil moisture is not received within 7 to 10 days after a surface applied treatment, a shallow cultivation is recommended to control established weeds and move the herbicide into the weed germination zone. When adequate soil moisture is received following dry conditions, performance may vary with weed species and rooting depth of target weeds.

**Tank Mixes for Preplant Surface Applied, Preplant Incorporated, and Postplant Preemergence Treatments**

**Note:** When tank mixing with a companion herbicide, read and follow each manufacturer's label for weeds controlled, applicable use directions, precautions, and limitations.

**1. Reduced Rates Of Hornet Plus Atrazine-Containing Pre-Mix Products**

Reduced rates of Hornet can be tank mixed with labeled rates of atrazine-containing pre-mix herbicide products such as including Bicep II, Bicep Lite II, Surpass 100, Harness Xtra, Guardsman, and Extrazine for improved control of certain broadleaf weeds not consistently controlled by atrazine pre-mix products. Hornet may be applied in tank mix combination with other products provided (1) the timing and method of application is the same as recommended for Hornet, and (2) tank mixing with Hornet is not prohibited by the label of the tank mix product. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels. Reduced rates of Hornet tank mixed with labeled rates of these atrazine pre-mix products will provide consistent preemergence control of velvetleaf, lambsquarters, pigweed species, waterhemp, and triazine "resistant" varieties (triazine tolerant biotypes) of these species.

On soils with less than 3% organic matter, tank mix Hornet at 2.4 oz/A with a label rate of the atrazine pre-mix product. On soils with greater than 3% organic matter, tank mix Hornet at 3.2 oz/A with a label rate of the atrazine pre-mix product. These tank mixtures will also provide improved preemergence control of large seeded broadleaf weeds such as cocklebur, common ragweed, giant ragweed, common sunflower, and jimsonweed.

Soil Organic Matter	Hornet (oz/acre)	Acres per 6 lb Plastic Jug	Acres per 9.6 oz Water Soluble Packet
<3%	2.4	40	4
>3%	3.2	30	3

**2. Hornet plus Gramoxone Extra, or Roundup Ultra (glyphosate) or Touchdown for minimum-tillage or no-tillage systems**

In minimum-tillage or no-tillage situations where corn is planted directly into a cover crop, stale seedbed, or previous crop residues, the contact herbicides Gramoxone Extra, Touchdown or Roundup Ultra (glyphosate) may be tank mixed with Hornet. Apply in 20 to 60 gallons of water or fluid fertilizer per acre with ground equipment. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels.

**Application Timing:** Apply before, during (behind the planter), or after planting, but before the crop emerges.

**Gramoxone Extra:** See the label for Gramoxone Extra for weeds controlled, recommended rates for specific weeds, and application instructions. Do not apply combinations containing Gramoxone Extra in suspension type fertilizers as the activity of the active ingredient paraquat will be reduced.

**Roundup Ultra:** See the Roundup Ultra (or other labeled glyphosate) herbicide label for weeds controlled, recommended rates for specific weeds, and application instructions.

**3. Hornet plus 2,4-D for minimum-tillage or no-tillage systems**

Where heavy crop residues exist, add 1.0 to 2.0 pints per acre of an appropriately labeled 3.8 pounds a.e. per gallon 2,4-D amine or ester to the spray tank and apply in a minimum of 20 gallons of carrier per acre.

As carriers, nitrogen solutions and complete liquid fertilizers applied before corn emergence enhance burndown of existing weeds and, therefore, are recommended instead of water. ~~Add X-77~~ a non-ionic surfactant at 1.0 to 2.0 quarts per 100 gallons diluted spray or another appropriate surfactant at its recommended rate. Apply before weeds exceed 3 inches high. This tank mixture will not control emerged grasses.

**Hornet Soil-Applied Followed By Postemergence Treatments:**

Broadleaf weeds not controlled by Hornet may be controlled with postemergence herbicide products such as Scorpion\* III herbicide, Hornet, Banvel, Clarity, 2,4-D, Marksman, Buctril, or Beacon herbicide -plus 2,4-D. Read and follow each manufacturer's label for weeds controlled, applicable use directions, precautions, and limitations before use.

**Postemergence Treatments**

Apply Hornet as a postemergence spray at a rate of 1.6 - 4.0 ounces per acre. Use higher rates for control of heavy weed infestations, larger weeds, or when a longer period of residual control is desired.

**Postemergence Application Rates:**

<u>Acres Per</u>	<u>Application Rate (oz/acre)</u>			
	<u>Number of Acres per 0.6 oz Water Soluble Packet or 6 lb Jug at Indicated Application Rate†</u>			
<u>Package Type</u>	<u>1.6 oz/acre</u>	<u>2.4 oz/acre</u>	<u>3.2 oz/acre</u>	<u>4 oz/acre</u>
<u>Acres per water soluble packet</u>	6	4	3	2.4
<u>Acres per 6 lb jug</u>	60	40	30	24

†Refer to Mixing Directions section to determine the number of water soluble packets and total spray volume required for treated acreage.

**Application Timing:** Apply to actively growing weeds as a broadcast, or band treatment from corn emergence (spike stage) up to 24 20 inches tall or through the V6 stage whichever occurs first. For optimal control, apply when broadleaf weeds are less than 8 inches tall. Weeds more than 8 inches tall may be suppressed and recover after 2 to 3 weeks. Do not apply if rainfall is expected within 6 hours after application.

**Factors Affecting Weed Control:** Apply to actively growing weeds. Extreme growing conditions such as drought, or near freezing temperatures before, at, or following application may result in reduced weed control. Degree of control will depend on coverage of treated weeds and weed susceptibility as well as growing conditions at the time of treatment.

**Use of Surfactants:** All postemergence applications of Hornet must include a non-ionic surfactant at 0.25% volume/volume (1 qt/100 gal) or crop oil concentrate at 1% volume/volume. Use a good quality surfactant with at least 80% active ingredient (of which at least 50% is actual non-ionic surfactant). Under extremely dry growing conditions, the use of an agriculturally approved sprayable liquid fertilizer or

ammonium sulfate, in combination together with the non-ionic surfactant or crop oil concentrate may enhance control. Use 28%, 30%, or 32% urea ammonium nitrate at 2.5% volume/volume (2.5 gal/100 gal) or 2 to 4 pounds of sprayable grade ammonium sulfate per acre. **Note: Do not use liquid fertilizer solutions or suspensions as the total carrier because excessive crop injury may occur.** Use only EPA approved surfactants for use on food crops.

**Cultivation:** For best results, do not cultivate within 10 days before or after application.

~~Tank Mixing:—Hornet may be applied alone or in tank mix combination with other herbicides registered for postemergence application in field corn unless tank mixing is prohibited by the label of the tank mix product.~~ Hornet may be applied in tank mix combination with other products provided (1) the timing and method of application is the same as recommended for Hornet; and (2) tank mixing with Hornet is not prohibited by the label of the tank mix product. When tank mixing, do not exceed recommended application rates and use only in accordance with the most restrictive precautions and limitations on the respective product labels. For control of grass weeds, Hornet may be tank mixed with postemergence grass herbicides such as Accent or Basis Gold. For an expanded spectrum of broadleaf weed control, Hornet may be tank mixed with products such as atrazine, Banvel, Buctril, Clarity, Sencor, or 2,4-D. Hornet may also be tank mixed with Roundup Ultra (or other labeled glyphosate formulations) to Roundup Ready field corn. ~~When Hornet is tank mixed with a companion herbicide, follow applicable use directions, including precautions, restrictions and limitations listed on the product's label. Do not mix with Basagran, Laddock, Bladex, or Extrazine or severe crop injury may result.~~

**Weeds Controlled And Application Rates for Postemergence Application**  
(Use higher rates for control of larger weeds and for control of heavy weed infestations.)

Hornet will control triazine tolerant biotypes of these weeds, commonly know as "triazine resistant".  
Hornet will not control "ALS tolerant or resistant" biotypes of weeds listed below.

**Note:—Numbers in parentheses (-) refer to Specific Use Directions.**

Annual Weed Control			
Application to "Spike" Corn (1)	Postemergence Application After "Spike" Stage of Growth		
	1.6 oz/acre (weeds 1 - 3 in. tall)	2.4 oz/acre (weeds 1 - 6 in. tall)	3.2 oz/acre (weeds 1 - 8 in. tall)
3.2 to 4.0 oz/acre			
anoda, spurred beggarweed, Florida chickweed, wild carpetweed chickweed cocklebur, common henbit horseweed (marestail) jimsonweed kochia ladysthumb lambquarters, common mallow, venice mustard, wild nightshade, sp. Pigweed, redroot pigweed, smooth poinsettia, wild puncturevine purslane ragweed, common shepherd's purse sicklepod sida, prickly	anoda, spurred beggarweed, Florida chickweed cocklebur, common henbit horseweed (marestail) mallow, venice mustard, wild poinsettia, wild puncturevine purslane shepherd's purse sida, prickly spurge, nodding spurge, spotted spurge, prostrate sunflower, common velvetleaf	anoda, spurred beggarweed, Florida chickweed cocklebur, common henbit horseweed (marestail) jimsonweed ladysthumb mallow, venice mustard, wild poinsettia, wild puncturevine purslane ragweed, common ragweed, giant shepherd's purse sida, prickly smartweed, Pennsylvania spurge, nodding spurge, spotted spurge, prostrate sunflower, common velvetleaf	anoda, spurred beggarweed, Florida chickweed cocklebur, common henbit horseweed (marestail) jimsonweed ladysthumb mallow, venice mustard, wild poinsettia, wild puncturevine purslane ragweed, common ragweed, giant shepherd's purse sida, prickly smartweed, Pennsylvania spurge, nodding spurge, spotted spurge, prostrate sunflower, common velvetleaf

smartweed, Pennsylvania spurge, nodding spurge, spotted spurge, prostrate sunflower, common thistle, Russian velvetleaf waterhemp			
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Partial Control	Partial Control	Partial Control (weeds < 2 in. tall)	Partial Control (weeds < 4 in. tall)
morningglory, ivyleaf morningglory, entireleaf morningglory, tall ragweed, giant	common ragweed giant ragweed jimsonweed ladysthumb smartweed, Pennsylvania	buckwheat, wild kochia lambsquarters, common morningglory, ivyleaf morningglory, entireleaf morningglory, tall nightshade, sp. pigweed, redroot pigweed, smooth Russian thistle sicklepod waterhemp	buckwheat, wild kochia lambsquarters, common morningglory, ivyleaf morningglory, entireleaf morningglory, tall nightshade, sp. pigweed, redroot pigweed, smooth Russian thistle sicklepod waterhemp

Biennial and Perennial Weed Control			
Apply 2.4 to 4.0 oz/acre to weeds 3 - 9 inches tall (2,3)			
artichoke, Jerusalem alfalfa burdock	clover, red clover, sweet	dandelion dock, curly	sorrel, red thistle, Canada (4)

**Note:** Numbers in parentheses (-) within table refer to the following Specific Use Directions.

**Specific Use Directions:**

- Spike corn:** Apply 4 oz/acre for greater residual control on soils with greater than 3% organic matter. Apply 4 oz/acre to increase the degree of partial control for morningglory species and giant ragweed.
- Biennial and Perennial weeds:** A rate of 3.2 - 4.0 oz/acre will generally provide season-long control. A rate of 2.4 oz/acre will provide control of top growth only. Some regrowth may occur by the end of the season.
- Biennial and Perennial weeds:** Do not tank mix with contact herbicides (such as atrazine, metribuzin, or bromoxynil) as reduced weed control will result.
- Canada thistle:** For Canada thistle control the following season, expressed as stand reduction, apply 4.0 oz/acre of Hornet in tank mix combination with 4.0 oz/acre of Stinger herbicide<sup>†</sup>.

<sup>†</sup>**Note:** Maximum Use Rate for clopyralid is 0.25 lb active ingredient per acre. One ounce of Hornet contains 0.039 lb of clopyralid. One fluid ounce of Stinger contains 0.023 lb of clopyralid.

**Warranty Disclaimer**

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

**Inherent Risks of Use**

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes),

presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

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**Limitation of Remedies**

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The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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