

62719-576

07/10/2007

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U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Reg. Number:

62719-576

Date of Issuance:

JUL 10 2007

NOTICE OF PESTICIDE:

Registration
 Reregistration
(under FIFRA, as amended)

Term of Issuance: conditional

Name of Pesticide Product:

GF-1118

Name and Address of Registrant (include ZIP Code):

Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

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

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

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

1. Add the phrase "EPA Registration No. 62719-576 to the label before you release the product for shipment.

COMMENTS CONTINUED ON PAGE 2 OF THIS NOTICE OF REGISTRATION.

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 under the enclosed stamped copy of the label constitutes acceptance of these conditions.

Enclosure

Signature of Approving Official:

Date:

JUL 10 2007

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

2. Submit the following data required for the registration of this pesticide product within 1 year from the date of this Notice of Registration:

EPA Guideline Data Number	Guideline Descriptor
830.6317	Storage Stability Study
830.6320	Corrosion Characteristics Study

3. Submit a repeated Aerobic Soil Metabolism Study (EPA Guidelines No. 162-1).
 4. Add an EPA establishment number to the label.
 5. Submit one (1) copy of the final printed labeling before you release this product for shipment.
 6. Submit and/or cite all data required for the registration of this product when the Agency requires all registrants of similar products to submit data; and submit acceptable responses required for reregistration of this product under FIFRA, section 4.
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(Base label):

GF-1118

Herbicide

- For control of susceptible weeds and certain woody plants, including invasive and noxious weeds, on rangeland, permanent grass pastures (including grasses grown for hay), Conservation Reserve Program (CRP) acres, non-cropland areas including industrial sites, rights-of-way (such as roadsides, electric utility and communication transmission lines, pipelines, and railroads), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.
- For control of annual and perennial broadleaf weeds in wheat (including spring wheat, winter wheat, and durum).

GROUP	4	HERBICIDE
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Active Ingredient:

Potassium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-	88.8%
Other Ingredients	11.2%
Total	100.0%

Acid Equivalent: aminopyralid (2-pyridine carboxylic acid, 4-amino-3,6-dichloro-) - 75%

Contains 0.888 pound potassium salt of aminopyralid active ingredient (0.75 pound acid equivalent) per pound of product

Keep Out of Reach of Children CAUTION

Precautionary Statements

Hazard to Humans and Domestic Animals

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- 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:

ACCEPTED
JUL 10 2007

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

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- 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.

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. 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 1-800-992-5994 for emergency medical treatment information.

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 washwater or rinsate.

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.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

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.

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

EPA Reg. No. 62719-XXX

EPA Est. _____

Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

Net Weight _____

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(Cover):

(Logo) Dow AgroSciences

GF-1118

Herbicide

- For control of susceptible weeds and certain woody plants, including invasive and noxious weeds, on rangeland, permanent grass pastures (including grasses grown for hay), Conservation Reserve Program (CRP) acres, non-cropland areas including industrial sites, rights-of-way (such as roadsides, electric utility and communication transmission lines, pipelines, and railroads), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites.
- For control of annual and perennial broadleaf weeds in wheat (including spring wheat, winter wheat, and durum).

GROUP	4	HERBICIDE
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Active Ingredient:

Potassium salt of 2-pyridine carboxylic acid, 4-amino-3,6-dichloro-	88.8%
Other Ingredients	11.2%
Total	100.0%

Acid Equivalent: aminopyralid (2-pyridine carboxylic acid, 4-amino-3,6-dichloro-) - 75%

Contains 0.888 pound potassium salt of aminopyralid active ingredient (0.75 pound acid equivalent) per pound of product

Keep Out of Reach of Children

CAUTION

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 using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

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.

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

EPA Reg. No. 62719-XXX

EPA Est. _____

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Precautionary Statements

Hazards to Humans and Domestic Animals**CAUTION**

Causes Moderate Eye Irritation

Avoid contact with eyes or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- 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.

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. 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 1-800-992-5994 for emergency medical treatment information.

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 washwater or rinsate.

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.

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.

Not For Sale, Distribution, or Use in New York State.

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

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restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

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

- Coveralls
- Chemical-resistant gloves made of any waterproof material as polyethylene or polyvinyl chloride
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS does not pertain to non-agricultural use on sites, such as, rangeland, permanent grass pastures, or non-cropland. See the Agricultural Use Requirements section above for information where the WPS applies.

Entry Restrictions for Non-WPS Uses: For applications on rangeland and permanent grass pastures (not harvested for hay) and non-cropland areas, do not enter or allow worker entry into treated areas until sprays have dried.

Storage and Disposal

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

Pesticide Storage: Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

GF-1118 may be applied by aerial or ground equipment to controls susceptible broadleaf weeds and certain woody plants, including invasive and noxious weeds on rangeland, permanent grass pastures (including grass grown for hay), CRP acres, non-cropland areas including industrial sites, rights-of-way (such as roadsides, electric utility and communication transmission lines, pipelines, and railroads), non-irrigation ditch banks, natural areas (such as wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads and trails), and grazed areas in and around these sites without injury to most grasses.

It is permissible to treat non-irrigation ditch banks, seasonally dry wetlands (such as flood plains, deltas, marshes, swamps, or bogs) and transitional areas between upland and lowland sites. GF-1118 can be used to the waters edge. Do not apply directly to water and take precautions to minimize spray drift onto water.

Resistance Management Guidelines

- Development of plant populations tolerant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, Conservation Reserve Program (CRP), or non-cropland sites because these sites receive infrequent pesticide applications.
- In croplands, use an effective integrated pest management (IPM) program, integrating tillage or other mechanical methods, crop rotation or other cultural control methods into weed control programs whenever practical.

- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its labeled rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of tolerant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Use Precautions and Restrictions

Maximum Application Rate: On all labeled use sites do not broadcast apply more than 2.33 oz per acre of GF-1118 per year. The total amount of GF-1118 applied broadcast, as a re-treatment, and/or spot treatment cannot exceed 2.33 oz per acre per year. Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (4.66 oz of GF-1118) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (2.33 oz per acre) of GF-1118 per annual growing season as a result of broadcast, spot or repeat applications.

- **Avoiding Injury to Non-Target Plants:** Do not aerially apply GF-1118 within 50 feet of a border downwind (in the direction of wind movement), or allow spray drift to come in contact with, any broadleaf crop or other desirable broadleaf plants, including, but not limited to, alfalfa, cotton, dry beans, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops are growing or will be planted. Avoid application under conditions that may allow spray drift because very small quantities of spray may seriously injure susceptible crops. Read and follow the "Precautions for Avoiding Spray Drift and Spray Drift Advisory" at the end of this label to help minimize the potential for spray drift.
- **GF-1118 is highly active against many broadleaf plant species.** Do not use this product on areas where loss of broadleaf plants, including legumes, cannot be tolerated.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not contaminate water intended for irrigation or domestic purposes.** Do not treat inside banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- Trees adjacent to or in a treated can occasionally be affected by root uptake of GF-1118. Do not apply GF-1118 within the root zone of desirable trees unless such injury can be tolerated. Use special caution to not apply this product within the root zone of roses, and leguminous trees such as locusts, redbud, mimosa, and caragana.
- **Seeding grasses:**
 - **Preemergence:** GF-1118 may be applied in the spring or early summer, depending on the target weed species, and grass planted in the fall when conditions are favorable for grass establishment.
 - **Postemergence:** During the season of establishment, GF-1118 should be applied only after perennial grasses are well established (have developed a good secondary root system and show good vigor. Most perennial grasses are tolerant to GF-1118 at this stage of development. GF-1118 may suppress certain established grasses, such as smooth brome grass (*Bromus inermis*), especially when plants are stressed by adverse environmental conditions. Plants should recover from this transient suppression with the onset of environmental conditions favorable to grass growth and upon release from weed competition.
- **Seeding Legumes:** Do not plant forage legumes until a soil bioassay has been conducted to determine if aminopyralid concentration remaining in the soil will adversely affect the legume establishment.
- **Grazing and Haying Restrictions:** There are no restrictions on grazing or grass hay harvest following application of GF-1118 at labeled rates. Cutting hay too soon after spraying weeds will reduce weed control. Wait 14 days after herbicide application to cut grass hay to allow herbicide to work. Do not transfer grazing animals from areas treated with GF-1118 to areas where sensitive

broadleaf crops occur without first allowing 3 days of grazing on an untreated pasture; otherwise, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.

- **Aminopyralid in Plant Residues or Manure:**

- ◆ Do not use aminopyralid-treated plant residues, including hay or straw from treated areas, or manure from animals that have grazed forage or eaten hay harvested from treated areas within the previous 3 days, in compost or mulch that will be applied to areas where commercially grown mushrooms or susceptible broadleaf plants may be grown.
 - ◆ Do not spread manure from animals that have grazed or consumed forage or eaten hay from treated areas within the previous 3 days onto land used for growing susceptible broadleaf crops.
 - ◆ Manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas within the previous 3 days may only be used on pasture grasses, grass grown for seed, and wheat.
 - ◆ Do not plant a broadleaf crop in fields treated in the previous year with manure from animals that have grazed forage or eaten hay harvested from aminopyralid-treated areas until an adequately sensitive field bioassay is conducted to determine that the aminopyralid concentration in the soil is at level that is not injurious to the crop to be planted. (See Field Bioassay Instructions below.)
 - ◆ To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of aminopyralid in plant residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.
- **Crop Rotation:** Do not rotate to any crop from rangeland, permanent pasture or CRP acres within one year following treatment. Do not plant a broadleaf crop until an adequately sensitive field bioassay shows that the level of aminopyralid present in the soil will not adversely affect that broadleaf crop.

Field Bioassay Instructions: 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 variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended rotational crop. Observe the test crop for symptoms of 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 intended rotational crop; plant only to wheat, forage grasses, native grasses or grasses grown for hay.

Sprayer Clean-Out Instructions

It is recommended to use separate spray equipment on highly sensitive crops such as tobacco, soybeans, peanuts and tomatoes.

Do not use spray equipment used to apply GF-1118 for other applications to land planted to, or to be planted to, broadleaf plants unless it has been determined that all residues of this herbicide has been removed by thorough cleaning of equipment.

Equipment used to apply GF-1118 should be thoroughly cleaned before reusing to apply any other chemicals as follows:

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
 2. Rinse a second time, adding 1 quart of household ammonia or tank cleaning agent for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
 3. Flush the solution out of the spray tank through the boom.
 4. Rinse the system twice with clean water, recirculating and draining each time.
 5. Spray nozzles and screens should be removed and cleaned separately.
- Do not apply this product with mist blower systems that deliver very fine spray droplets. Use of mist blower equipment can reduce control achieved with the herbicide and increase spray drift potential.

Application Methods

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Apply the specified rate of GF-1118 as a coarse low-pressure spray. Do not apply this product with mist blower systems that deliver very fine spray droplets. Spray volume should be sufficient to uniformly cover foliage. Increase spray volume to ensure thorough and uniform coverage when target vegetation is tall and/or dense. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as specified by the surfactant label.

Ground Broadcast Application: Higher spray volumes (greater than 10 gallons per acre) generally provide better coverage and better control, particularly in dense and/or tall foliage.

Aerial Broadcast Application: Do not apply less than 2 gallons per acre total spray volume. Five gallons per acre or greater will generally provide better coverage and better control, particularly in dense and/or tall foliage.

High-Volume Foliar Application: High volume foliar treatments may be applied at rates equivalent to broadcast up to a maximum of 2.33 oz per acre per annual growing season. Use sufficient spray volume to thoroughly and uniformly wet foliage and stems.

Spot Application: Spot treatments may be applied at an equivalent broadcast rate of up to 0.22 lb acid equivalent (4.66 oz of GF-1118) per acre per annual growing season; however, not more than 50% of an acre may be treated at that rate. Do not apply more than a total of 0.11 lb acid equivalent (2.33 oz per acre of GF-1118 per annual growing season as a result of broadcast, spot or repeat applications.) Spray volume should be sufficient to thoroughly and uniformly wet weed foliage, but not to the point of runoff. Repeat treatments may be made, but the total amount of GF-1118 applied must not exceed 2.33 oz per acre per year. To prevent misapplication, spot treatments should be applied with a calibrated sprayer.

Table 1: Application rates in the table below are based on treating an area of 1000 sq ft. An area of 1000 sq ft is about 10.5 by 10.5 yards in size. Mix the amount of GF-1118 (oz or grams) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water, depending upon the spray volume required to treat 1000 sq ft.

Table 1: Amount of GF-1118 per 1000 sq ft to Equal Broadcast Rate

Amount of GF-1118 per 1000 sq ft to Equal Broadcast Rate		
Broadcast Rate (oz/acre)	Amount of GF-1118 per 1000 sq ft	
	(oz)	(grams)
1	0.023	0.65
1.67	0.038	1.08
2.34	0.054	1.53

1 ounce (oz) = 28.34 grams

Note: To achieve an accurate amount of GF-1118, use a balance to measure the amount of product in grams.

To calculate the amount of GF-1118 for areas larger than 1000 sq ft: Multiply the table value (oz or grams) by the area to be treated in "thousands" of square feet. For example, if the area to be treated is 3500 sq ft, multiply the table value by 3.5 (3500 sq ft divided by 1000 sq ft = 3.5).

Mixing Instructions

Mixing with Water: To prepare the spray, add about half the required amount of water in the spray tank. Then, with agitation, add the specified amount of GF-1118 and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift control and deposition aids.

Addition of Surfactants or Adjuvants on All Labeled Use Sites: The addition of a high quality non-ionic surfactant (of at least 80% active ingredient) at 0.25 to 0.5 % volume per volume (1 to 2 quarts per 100 gallons of spray) is recommended to enhance herbicide activity under adverse environmental conditions (such as, high temperature, low relative humidity, drought conditions, dusty plant surfaces) or when weeds are heavily pubescent or more mature.

Tank Mixing with Other Herbicides: GF-1118 at rates of up to 2.33 oz per acre may be mixed with labeled rates of other herbicides registered for application on all labeled use sites. GF-1118 may be applied in tank mix combination with labeled rates of other herbicides provided: (1) the tank mix product is labeled for the timing and method of application for the use site to be treated and (2) mixing is not prohibited by the label of the registered tank mixed products, and (3) that the tank mix combination is physically compatible (see tank mix compatibility testing below). When tank mixing, use only in accordance with the restrictions, precautions and limitations on the respective product labels.

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates. If products containing the same active ingredient are mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a jar test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: Perform a jar test prior to mixing in a spray tank to ensure compatibility of GF-1118 and other pesticides or carriers. Use a clear glass jar with lid and mix ingredients in the same order and proportions as will be used in the spray tank. The mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily remix if agitated. An incompatible mixture is indicated by separation into distinct layers that do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film in the jar. Use of an appropriate compatibility aid may resolve mix incompatibility. If the mixture is incompatible do not use that tank mix partner in tank mixtures.

Mixing with Sprayable Liquid Fertilizer Solutions: GF-1118 is usually compatible with liquid fertilizer solutions. It is anticipated that GF-1118 will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank.

Note: The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. Use of a compatibility aid may be required if GF-1118 is mixed with a 2,4-D-containing product and liquid fertilizer. **Mixing GF-1118 and 2,4-D in N-P or N-P-K liquid fertilizer solutions is more difficult than mixing with straight nitrogen fertilizer and should not be attempted without first conducting a successful compatibility jar test.** Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Note: Foliar-applied liquid fertilizers themselves can cause yellowing of the foliage of forage grasses and other vegetation.

Use Rates and Timing

GF-1118 may be applied post emergence as a broadcast spray or as a spot application to control weeds including, but not limited to, those listed on this label. When a rate range is given use the higher rate to control weeds at advanced growth stages, or under less than favorable growing conditions, or for longer residual control. Best results are obtained when spray volume is sufficient to provide uniform coverage of treated weeds. For optimum uptake and translocation of GF-1118, avoid mowing, haying, shredding, burning or soil disturbance in treated areas for at least 14 days following application.

GF-1118 also provides preemergence control of emerging seedlings of susceptible weeds, and re-growth of certain perennial weeds following application. Preventing establishment of weeds will depend upon application rate, season of application, and environmental conditions after application.

GF-1118 can provide long-term control of susceptible weeds. The length of control is dependent upon the application rate, condition and growth stage of target weeds, environmental conditions at and following application, and the density and vigor of competing desirable vegetation. Long-term weed control is most effective where grass vegetation is allowed to recover from overgrazing, drought, etc., and compete with weeds.

GF-1118 can be an important component of integrated vegetation management programs designed to renovate or restore desired plant communities. To maximize and extend the benefits of weed control provided by GF-1118, it is important that other vegetation management practices, including proper grazing management, biological control agents, replanting, fertilization, prescribed fire, etc., be used in appropriate sequences and combinations to further alleviate the adverse effects of weeds on desirable plant species and to promote development of desired plant communities. Agricultural and natural resources specialists with federal and state government agencies can provide guidance on best management practices and development of integrated vegetation management programs.

Weeds Controlled

The following weeds will be controlled with the rates of GF-1118 indicated below (table 2). For best results, most weeds should be treated when they are actively growing and under conditions favorable for growth. Use a higher rate in the rate range when growing conditions are less than favorable or when weed foliage is tall and dense, or when residual control is desired. GF-1118 also provides preemergence control of germinating seeds or seedlings of susceptible weeds following application.

Table 2: Weeds Controlled

Note: Numbers in parentheses (-) refer to specific use directions for a particular weeds species.

Common Name	Scientific Name	Rate Range (oz/acre)	Life Cycle	Plant Family
amaranth, spiny	<i>Amaranthus spinosus</i>	1.34 to 2.67	annual	Amaranthaceae
bedstraw	<i>Galium spp.</i>	1.34 to 2.67	perennial	Rubiaceae
beggarticks	<i>Bidens spp.</i>	1.34 to 2.67	annual	Asteracea
broomweed, annual	<i>Amphiachyris dracunculoides</i>	1.34 to 2.67	annual	Asteraceae
burdock, common*, **	<i>Arctium minus</i>	1.34 to 2.67	biennial	Asteraceae
buttercup, hairy*	<i>Ranunculus sardous</i>	1.34 to 2.67	annual	Ranunculaceae
buttercup, tall*, **	<i>Ranunculus acris</i>	1.34 to 2.67	perennial	Ranunculaceae
camelthorn	<i>Alhagi pseudalhagi</i>	1.67 to 2.34	perennial	Fabaceae

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chamomile, scentless	<i>Matricaria inodora</i>	1.34 to 2.67	annual	Asteraceae
chicory*	<i>Cichorium intybus</i>	1.34 to 2.0	perennial	Asteraceae
chickweed	<i>Stellaria media</i>	2.34	annual	Caryophyllaceae
cinquefoil, sulfur (1)*, **	<i>Potentilla recta</i>	1.34 to 2.67	perennial	Rosaceae
cocklebur	<i>Xanthium strumarium</i>	1.0 to 1.67	annual	Asteraceae
clover	<i>Trifolium spp.</i>	1.67 to 2.34	perennial	Fabaceae
croton, tropic	<i>Croton glandulosus</i>	1.0 to 1.67	annual	Euphorbiaceae
crownvetch	<i>Securigera varia</i>	1.67 to 2.34	perennial	Fabaceae
cudweed, purple	<i>Gamochaeta purpurea</i>	1.34 to 2.67	annual	Asteraceae
daisy, oxeye (1)*, **	<i>Leucanthemum vulgare</i>	1.34 to 2.67	perennial	Asteraceae
dock, curly*	<i>Rumex crispus</i>	1.34 to 2.67	perennial	Polygonaceae
evening primrose, cutleaf	<i>Oenothera laciniata</i>	1.34 to 2.67	annual	Onagraceae
fiddleneck, common	<i>Amsinckia intermedia</i>	2.34	annual	Boraginaceae
fireweed	<i>Epilobium angustifolium</i>	1.67 to 2.34	perennial	Onagraceae
fleabane, flax-leaf	<i>Conyza bonariensis</i>	1.34 to 2.67	annual	Asteraceae
hawkweed, orange (2)*, **	<i>Hieracium aurantiacum</i>	1.34 to 2.67	perennial	Asteraceae
hawkweed, yellow (2)*, **	<i>Hieracium caespitosum</i>	1.34 to 2.67	perennial	Asteraceae
henbit*	<i>Lamium amplexicaule</i>	1.67 to 2.34	annual/ biennial	Lamiaceae
horsenettle, Carolina**	<i>Solanum carolinense</i>	1.34 to 2.67	perennial	Solanaceae
horseweed (marestail)	<i>Conyza canadensis</i>	1.34 to 2.67	annual	Asteraceae
ironweed, tall	<i>Vernonia gigantea</i>	1.67 to 2.34	perennial	Asteraceae
ironweed, western	<i>Vernonia baldwinii</i>	2.34	perennial	Asteraceae
knapweed, diffuse (3)*, **	<i>Centaurea diffusa</i>	1.67 to 2.34	biennial/ perennial	Asteraceae
knapweed, Russian (4)*, **	<i>Acroptilon repens</i>	1.67 to 2.34	perennial	Asteraceae
knapweed, spotted (3)*, **	<i>Centaurea stoebe</i>	1.67 to 2.34	biennial/ perennial	Asteraceae
knapweeds	<i>Centaurea spp.</i>	1.67 to 2.34	biennial/ perennial	Asteraceae
kudzu*, **	<i>Pueraria montana</i>	2.34	perennial	Fabaceae
lady's thumb*	<i>Polygonum persicaria</i>	1.0 to 1.67	annual	Polygonaceae
lambsquarters	<i>Chenopodium album</i>	1.67 to	annual	Chenopodiaceae

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		2.34		
locust, black	<i>Robinia pseudoacacia</i>	2.34	woody perennial	Fabaceae
locust, honey	<i>Gleditsia triacanthos</i>	2.34	woody perennial	Fabaceae
mayweed, scentless*	<i>Tripleurospermum perforata</i>	1.34 to 2.67	annual	Asteraceae
mayweed, stinking*, **	<i>Anthemis cotula</i>	2.34	annual	Asteraceae
medic, black*	<i>Medicago lupulina</i>	1.34 to 2.67	perennial	Fabaceae
mimosa	<i>Albizia julibrissin</i>	2.34	woody perennial	Fabaceae
mullein (5)	<i>Verbascum spp.</i>	2.34	biennial	Scrophulariaceae
oxtongue, bristly	<i>Picris echioides</i>	1.67 to 2.34	biennial	Asteraceae
ragweed, common**	<i>Ambrosia artemisiifolia</i>	1.0 to 1.67	annual	Asteraceae
ragweed, western	<i>Ambrosia psilostachya</i>	1.34 to 2.67	perennial	Asteraceae
ragwort, tansy*, **	<i>Senecio jacobaea</i>	1.67 to 2.34	perennial	Asteraceae
redbud	<i>Cercis Canadensis</i>	2.34	woody perennial	Fabaceae
rush skeletonweed	<i>Chondrilla juncea</i>	1.67 to 2.34	perennial	Asteraceae
smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	1.0 to 1.67	annual	Polygonaceae
sneezeweed, bitter	<i>Helenium amarum</i>	1.34 to 2.67	annual	Asteraceae
soda apple, tropical (6)*, **	<i>Solanum viarum</i>	1.67 to 2.34	perennial	Solanaceae
sowthistle, perennial*, **	<i>Sonchus arvensis</i>	1.0 to 1.67	perennial	Asteraceae
spanishneedles	<i>Bidens bipinnata</i>	1.34 to 2.67	annual	Asteraceae
St. Johnswort, common	<i>Hypericum perforatum</i>	1.67 to 2.34	perennial	Clusiaceae
star-thistle, Malta (7)*, **	<i>Centaurea melitensis</i>	1.0 to 1.67	annual	Asteraceae
starthistle, purple (7)*, **	<i>Centaurea calcitrapa</i>	1.0 to 1.67	biennial	Asteraceae
star thistle, yellow (7)*, **	<i>Centaurea solstitialis</i>	1.0 to 1.67	annual	Asteraceae
sunflower, common	<i>Helianthus annuus</i>	1.34 to 2.67	annual	Asteraceae
teasel	<i>Dipsacus spp.</i>	1.34 to 2.67	biennial	Dipsacaceae
thistle, artichoke	<i>Cynara cardunculus</i>	1.67 to 2.34	perennial	Asteracea
thistle, bull (8)*, **	<i>Cirsium vulgare</i>	1.0 to 1.67	biennial	Asteraceae
thistle, Canada (9)*, **	<i>Cirsium arvense</i>	1.67 to 2.34	perennial	Asteraceae

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thistle, woolly distaff	<i>Carthamus lanatus</i>	1.34 to 2.67	annual	Asteraceae
thistle, Italian	<i>Carduus pycnocephalus</i>	2.34	annual	Asteraceae
thistle, musk (8)*, **	<i>Carduus nutans</i>	1.0 to 1.67	biennial	Asteraceae
thistle, plumeless (8)*, **	<i>Carduus acanthoides</i>	1.0 to 1.67	biennial	Asteraceae
thistle, Scotch*, **	<i>Onopordum acanthium</i>	1.67 to 2.34	biennial	Asteracea
vetch	<i>Vicia spp.</i>	1.0 to 2.34	perennial	Fabaceae
wisteria	<i>Wisteria brachybotris</i>	2.34	woody perennial	Fabaceae
wormwood, absinth(10)*, **	<i>Artemisia absinthium</i>	2.0 to 2.34	perennial	Asteraceae
yarrow, common	<i>Achillea millefolium</i>	2.34	perennial	Asteraceae

*Invasive plants are introduced species that are indicated to be invasive in the USDA-NRCS, PLANTS Database (<http://plants.usda.gov/index.html>).

**Plants designated as noxious weeds in at least one state (PLANTS Database, USDA-NRCS, <http://plants.usda.gov/index.html>).

Note: Use a higher rate in the rate range when growing conditions are less than favorable or when weed foliage is tall and dense, or when residual control is desired.

- (1) **Sulfur cinquefoil or oxeye daisy:** Apply GF-1118 at 1.0 to 1.34 oz per acre to plants in the prebud stage of development.
- (2) **Orange or yellow hawkweeds:** Apply GF-1118 at 1.34 to 2.33 oz per acre to plants in the bolting stage of development.
- (3) **Diffuse and spotted knapweeds:** Apply GF-1118 at 1.67 to 2.33 oz per acre when plants are actively growing with the optimum time of application occurring from rosette to the bolting stages of development or in the fall. Plants will be controlled by mid-summer and fall applications even though plants may not show any changes in form or stature the year of application.
- (4) **Russian knapweed:** Apply GF-1118 at 1.67 to 2.33 oz per acre to plants in the spring and summer to plants from early bud to flowering stage and to dormant plants in the fall.
- (5) **Mullein:** Apply to the rosette stage
- (6) **Tropical soda apple:** Apply GF-1118 at 1.67 to 2.33 oz per acre at any growth stage, but application by flowering will reduce seed production potential.
- (7) **Malta, purple, and Yellow starthistle:** Apply GF-1118 at 1.0 to 1.67 oz per acre to plants at the rosette through bolting growth stages.
- (8) **Bull, musk, and plumeless thistles:** Apply GF-1118 at 1.0 to 1.67 oz per acre in the spring and early summer to rosette or bolting plants or in the fall to seedlings and rosettes. Apply at 1.34 to 1.67 oz when plants are at the late bolt through early flowering growth stages. 2,4-D at 1 lb ae/acre should be tank-mixed with GF-1118 starting at the late bud stages
- (9) **Canada thistle:** Apply GF-1118 at 1.67 to 2.33 oz per acre either in the spring to plants in the prebud to early bud growth stage – the goal is to insure all plants have emerged. Applications are also effective in the fall before a killing frost.
- (10) **Absinth wormwood:** Apply 2.0 to 2.33 oz per acre before wormwood is 12 inches tall. When applying by air on CRP, coverage is important and a minimum of 3 GPA is specified. Remove old duff and litter by fire or mowing for best results

Wheat, Including Durum
(Not Underseeded with a Legume)

GF-1118 controls annual and perennial broadleaf weeds in wheat (including durum) not underseeded with a legume.

Application Timing and Weeds Controlled

Timing to Crop: Apply as a broadcast treatment to actively growing wheat from the 3 leaf crop growth stage up to early jointing stage (Zadoks scale 30). **Do not use if cereal crop is underseeded with a legume.**

Timing to Weeds: Apply when weeds are actively growing and at specified growth stages. For best results on perennial weeds such as Canada thistle, apply when the majority of the basal leaves have emerged from the soil up to bud stage. Only weeds emerged at the time of application will be controlled. Unfavorable growing conditions such as drought or temperatures near freezing prior to, at, or following time of application may reduce weed control and increase the risk of crop injury at all stages of growth.

Spot Application: To prevent over-application, spot treatments should be applied at rates and spray volumes equivalent to broadcast application. For spot application, apply the specified rate in a spray volume of 0.5 gal or more per 1000 sq ft.

Table 3: Weeds Controlled or Suppressed

Note: Numbers in parentheses (-) refer to footnotes below.

Weeds Controlled	Weeds Suppressed [†]	Application Rate
buckwheat, wild (2) chamomile dock, curly grape species horseweed (marestail) lentils, volunteer lettuce, prickly mayweed (dogfennel) peas, volunteer sowthistle, annual sunflower (1) wormwood, biennial	bindweed, field knotweed ladysthumb (1) lambsquarters mustard species pennycress, field pigweed species smartweed, green (1) sowthistle, perennial (3) thistle, Canada (3) thistle, Russian	broadcast: 0.19 oz/acre spot treatment: 0.12 grams/1000 sq ft

[†] **Suppression** is considered to be a reduction in weed competition (reduced weed population or vigor) in treated compared to untreated areas. Tank mixing with a labeled herbicide may be required to achieve consistent control of these weeds.

1. For best results, apply up to the 2 to 4 leaf stage of growth.
2. For best control, apply in the 1 to 3 leaf stage of growth, before vining.
3. For best results, apply from rosette to bud (pre-flower) stage of growth.

Perennial Weeds: GF-1118 will control top growth and inhibit regrowth of perennial weeds during the season of application (season-long control). GF-1118 may cause a reduction in perennial weed shoot growth in the season following application, but effects may be inconsistent due to variability in size and vigor of perennial root systems and growing conditions.

Restrictions:

- Do not apply more than 0.19 oz per acre of GF-1118 per growing season.
- **Preharvest Interval:** Do not apply within 50 days of harvesting of grain and straw. There is no restriction following application of GF-1118 on harvest of wheat for hay.

Tank Mixtures (Wheat, Including Durum)

To broaden the spectrum of weed control or to improved control of certain weeds, GF-1118 may be tank mixed with labeled rates of other herbicides registered for postemergence application in wheat (table 4). See Tank Mixing Precautions under Mixing Instructions. When tank mixing, do not exceed specified

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application rates and use only in accordance with the restrictions, precautions and limitations on the respective product labels.

Table 4: Tank Mixtures for Wheat, Including Durum

The following products may be tank mixed with GF-1118 for improved control of listed weeds:

Tank Mix Product	Broadcast Rate	Additional Weeds Controlled
Starane [®] herbicide	1/2 pint/acre	kochia, bedstraw (cleavers), chickweed, volunteer flax
2,4-D ester or amine (3.8 lb/gal a.e.)	1/2 to 3/4 pint/acre	lambsquarters, mustard, pigweed, Canada thistle, Russian thistle
MCPA ester or amine (3.8 lb/gal a.e.)	1/2 to 3/4 pint/acre	lambsquarters, mustard
Harmony [™] GT herbicide	3/10 oz/acre	lambsquarters, mustard, pigweed, Russian thistle
Express [™] XP herbicide	1/8 to 1/3 oz/acre	mustard, Canada thistle, Russian thistle
Ally [™] XP herbicide	1/10 oz/acre	lambsquarters, mustard, pigweed, Russian thistle

Use Precautions and Restrictions (Wheat, Including Durum)

- **Avoiding Injury to Non-Target Plants:** Do not apply GF-1118 directly to, or allow spray drift to come in contact with, any broadleaf crop or other desirable broadleaf plants, including, but not limited to, cotton, flowers, grapes, lettuce, potatoes, radishes, soybeans, sugar beets, sunflowers, tobacco, tomatoes or other broadleaf or vegetable crop, fruit trees, ornamental plants, or soil where sensitive crops will be planted the same season. Avoid application under conditions that may allow spray drift since very small quantities of spray, which may not be visible, may seriously injure susceptible crops during either active growth periods or dormancy. Follow Precautions for Avoiding Spray Drift and Spray Drift Advisory under General Mixing and Application Instructions to minimize the potential for spray drift.
- Do not contaminate irrigation ditches or water used for domestic purposes.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- **Do not transfer livestock** from treated grazing areas (or feeding of treated hay) to sensitive broadleaf crop areas without first allowing 3 days of grazing on an untreated pasture (or feeding of treated hay). If livestock are transferred within less than 3 days of grazing untreated pasture or eating untreated hay, urine and manure may contain enough aminopyralid to cause injury to sensitive broadleaf plants.

Crop Rotation Intervals

Residues of this product in treated plants, including the treated crop or weeds, which have not completely decayed may affect succeeding susceptible crops.

Table 5: Crop Rotation Intervals

Note: Numbers in parenthesis (-) refer to footnotes following tables.

Rotation Crops	Rotation Interval (1) (Months)
wheat (including durum)	0
barley, canola (rapeseed), flax, grasses, field corn, grain sorghum, oats, mustard, popcorn, sweet corn	3
safflower	9
crops not listed	18 (2)

1. The above listed crop rotational intervals are based on average annual precipitation, regardless of irrigation practices. Observance of specified crop rotation intervals should result in adequate safety to rotational crops. However, GF-1118 is dissipated in the soil by microbial activity and the rate of microbial activity is dependent upon several interrelated factors including soil moisture, temperature and organic matter. Therefore, accurate prediction of rotational crop safety is not possible. In areas of low organic matter (<2.0%) and less than 15 inches average annual precipitation, potential for crop injury may be reduced by burning or removal of crop residues, supplemental fall irrigation and deep moldboard plowing prior to planting the sensitive crop.
2. Perform a field bioassay prior to planting any broadleaf crops that are not listed. Do not rotate to unlisted crops prior to 18 months following application without a field bioassay.

Field Bioassay Instructions: 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 variability in field conditions such as soil texture, soil organic matter, soil pH, or drainage. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the intended 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 table 6 above for which the rotational interval has clearly been met.

Precautions for Avoiding Spray Drift

Avoid application under conditions that may allow spray drift because very small quantities of spray, which may not be visible, may injure susceptible crops. This product should be applied only when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, non-target crops and other plants) is minimal (e.g., when wind is blowing away from the sensitive areas. A drift control aid may be added to the spray solution to further reduce the potential for drift. If a drift control aid is used, follow the use directions and precautions on the manufacturer's label. Do not use a thickening agent with Microfoil, Thru-Valve booms, or other spray delivery systems that cannot accommodate thickened spray solutions.

Ground Equipment: With ground equipment spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's specified minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); and by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to thermal inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift.

Aerial Application: Avoid spray drift at the application site. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. Users are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications:

1. The distance of the outer most operating nozzles on the boom must not exceed 75% of wingspan or 85% of rotor diameter.
2. Nozzles should be pointed backward parallel with the air stream or not pointed downwards more than 45 degrees.

State regulations must be followed.

The applicator should be familiar with and take into account the information covered in the following **Aerial Drift Reduction Advisory**. This information is advisory in nature and does not supersede mandatory label requirements.

Aerial Drift Reduction Advisory

Information on Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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).

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's specified pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that will provide uniform coverage.
- **Nozzle Orientation** - Orient nozzles so that the spray is released parallel to the airstream to produce larger droplets than other orientations. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **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. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than 85% of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain such as valleys and ravines 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 low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures 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

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of the 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.

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