



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

July 25, 2018

Diego Fonseca  
Regulatory Leader  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

Subject: Label Amendment – Label revisions including updating plantback intervals  
Product Name: GF-2654  
EPA Registration Number: 62719-634  
Application Date: November 7, 2017  
Decision Number: 535734

Dear Mr. Fonseca:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

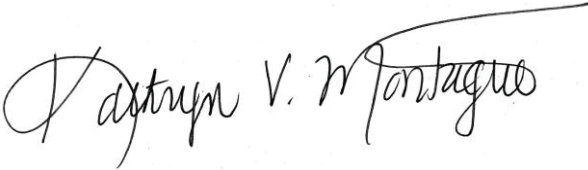
Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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

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with FIFRA section 6. If you have any questions, please contact Emily Schmid at 703-347-0189 or by email at [schmid.emily@epa.gov](mailto:schmid.emily@epa.gov).

Sincerely,

A handwritten signature in black ink that reads "Kathryn V. Montague". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Kathryn Montague, Product Manager 23  
Herbicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

(Base label):

2,4-D CHOLINE	GROUP	4	HERBICIDE
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# GF-2654

## HERBICIDE

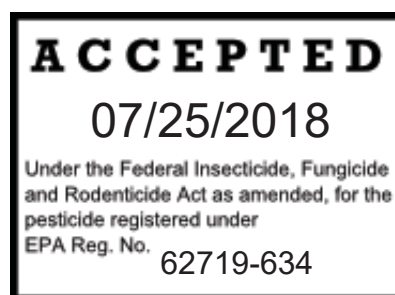
[Alternate Brand Name: Freelexx™, Embed™]

For selective control of many broadleaf weeds in certain crops, orchard floors, fallow cropland, forests, grass pastures, rangeland, Conservation Reserve Program acres, ornamental turfgrass (including turfgrass grown for sod or seed), non-cropland and aquatic areas as listed. Also for control of trees by injection.

Active Ingredient:

2,4-Dichlorophenoxyacetic acid, choline salt .....	56.3%
Other Ingredients .....	43.7%
Total .....	100.0%

2,4-dichlorophenoxyacetic acid - 38.4% - 3.8 lb/gal



**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.)

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#### Precautionary Statements

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##### Hazards to Humans and Domestic Animals

**Corrosive • Causes Irreversible Eye Damage • Harmful If Swallowed, Inhaled Or Absorbed Through The Skin**

**Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mist. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.**

##### Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are made of any waterproof material. If you want more options, follow the instructions for category A on an EPA chemical resistance category selections chart.

**All pilots must wear:**

- Long-sleeved shirt and long pants
- Shoes plus socks

**All mixers, loaders, flaggers, other applicators and handlers must wear:**

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

- Chemical resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate

See engineering controls for additional requirements.

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

### Engineering Controls

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)].

### User Safety Recommendations

Users should:

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

### First Aid

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

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

**If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

### Environmental Hazards

This product is toxic to fish and aquatic invertebrates. For terrestrial uses: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

**Aquatic Weed Control:** Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Waters having limited and less dense weed infestations may not require partial treatments.

### **Agricultural Use Requirements**

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

#### **(Storage and Disposal for rigid containers 5 gal or less)**

##### **Storage and Disposal**

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

**Pesticide Storage:** Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed to at least 40°F and mixed thoroughly before using.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **(Storage and Disposal for refillable rigid containers larger than 5 gal)**

##### **Storage and Disposal**

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

**Pesticide Storage:** Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed to at least 40°F and mixed thoroughly before using.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then

offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)**

**Storage and Disposal**

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

**Pesticide Storage:** Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed to at least 40°F and mixed thoroughly before using.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refer to label booklet for Directions for Use.**

**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.

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

EPA Reg. No. 62719-634

EPA Est. \_\_\_\_\_

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**Produced for  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268**

**NET CONTENTS \_\_\_\_\_**

(cover):

2,4-D CHOLINE	GROUP	<b>4</b>	HERBICIDE
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# GF-2654

## HERBICIDE

**For selective control of many broadleaf weeds in certain crops, orchard floors, fallow cropland, forests, grass pastures, rangeland, Conservation Reserve Program acres, ornamental turfgrass (including turfgrass grown for sod or seed), non-cropland and aquatic areas as listed. Also for control of trees by injection.**

Active Ingredient:

2,4-Dichlorophenoxyacetic acid, choline salt .....	56.3%
Other Ingredients .....	43.7%
Total .....	100.0%

2,4-dichlorophenoxyacetic acid - 38.4% - 3.8 lb/gal

**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 the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to inside of label booklet for Directions for Use.**

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

# DANGER

**Corrosive • Causes Irreversible Eye Damage • Harmful If Swallowed, Inhaled Or Absorbed Through The Skin**

**Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mist. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.**

### Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are made of any waterproof material. If you want more options, follow the instructions for category A on an EPA chemical resistance category selections chart.

#### All pilots must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

#### All mixers, loaders, flaggers, other applicators and handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves
- Protective eyewear
- Chemical resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate

See engineering controls for additional requirements.

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

### Engineering Controls

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)].

### User Safety Recommendations

Users should:

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

### First Aid



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

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

**If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

### **Environmental Hazards**

This product is toxic to fish and aquatic invertebrates. For terrestrial uses: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

**Aquatic Weed Control:** Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Waters having limited and less dense weed infestations may not require partial treatments.

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### **Directions for Use**

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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.

### **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.

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

### **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 applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

**Entry Restrictions for Non-WPS Uses:** Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

### **Storage and Disposal**

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

**Pesticide Storage:** Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed to at least 40°F and mixed thoroughly before using.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

#### **Nonrefillable containers 5 gallons or less:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **Refillable containers larger than 5 gallons:**

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### **Nonrefillable containers 5 gallons or larger:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

## Product Information

GF-2654 herbicide is intended for selective control of many broadleaf weeds in certain crops (cereal grains, corn, grain sorghum, soybeans and sugarcane), orchard floors (pome fruit, including apples and pears, stone fruit, nut orchards and pistachios), fallow cropland, forests, grass pastures, rangeland, Conservation Reserve Program acres, ornamental turfgrass (including turfgrass grown for sod or seed), non-cropland and aquatic areas as listed. Also for control of trees by injection.

Apply GF-2654 as a water or oil-water spray during warm weather when target weeds or woody plants are actively growing. Application under drought conditions will often give poor results. Use low spray pressure to minimize drift. Generally, the lower dosages specified on this label will be satisfactory for young, succulent growth of susceptible weed species. For less susceptible species and under conditions where control is more difficult, use higher specified rates. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants usually require repeated applications for satisfactory control. Consult your State Agricultural Experiment stations or Extension Service Weed Specialists for recommendations from this label that best fit local conditions.

## Use Precautions and Restrictions

Be sure that use of GF-2654 conforms to all application regulations.

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

Excessive amounts of 2,4-D in the soil may temporarily inhibit seed germination and plant growth.

## Herbicide Resistance Management

2,4-D, the active ingredient in this product, is a Group 4 herbicide (synthetic auxin) based on the mode of action classification system of the Weed Science Society of America.

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is a best practice. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistance.

The continued effectiveness of this product depends on the successful implementation of a weed resistance management program.

To aid in the prevention of developing weeds resistant to this product, users should:

- Scout fields before application to ensure herbicides and rates will be appropriate for the weed species and weed sizes present.
- Start with a clean field, using either a burndown herbicide application or tillage.

- If using post-emergence herbicides or tank mixes, control weeds early when they are relatively small.
- Apply full rates of this product for the most difficult to control weed in the field at the specified time to minimize weed escapes.
- Scout fields after application to detect weed escapes or shifts in control of weed species.
- Control weed escapes before they reproduce by seed or proliferate vegetatively.
- Report any incidence of non-performance of this product against a particular weed to your local company representative, local retailer, or county extension agent.
- Contact your local company representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective modes of action for each target weed.
- If resistance is suspected, treat weed escapes with an herbicide having a mode of action other than Group 4 and/or use nonchemical methods to remove escapes, as practical, with the goal of preventing further seed production.
- Suspected herbicide-resistant weeds may be identified by these indicators:
  - Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
  - A spreading patch of non-controlled plants of a particular weed species; and
  - Surviving plants mixed with controlled individuals of the same species.

Additionally, users should follow as many of the following herbicide resistance management practices as is practical:

- Use a broad spectrum herbicide with other mode of action as a foundation in a weed control program, if appropriate.
- Utilize sequential applications of herbicides with alternative modes of action.
- Rotate the use of this product with non-Group 4 herbicides.
- Avoid making more than two sequential applications of this product and any other Group 4 herbicides within a single growing season unless mixed with an herbicide with a different mode of action with an overlapping spectrum for the difficult-to-control weeds.
- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed control program.
- Use good agronomic principles that enhance crop development and crop competitiveness.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Manage weeds in and around fields to reduce weed seed production.

## **Spray Drift Management**

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

### **Droplet Size**

When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with other active ingredients that require a coarse or coarser spray, apply only as a coarse or coarser spray (ASABE S-572 standard) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a medium or finer spray, apply only as a medium or coarser spray (ASABE Standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

### **Wind Speed**

Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including residential areas, bodies of water, known

habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a medium droplet spray, leave one swath unsprayed at the downwind edge of the treated field.

### **Temperature Inversions**

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

### **Susceptible Plants**

Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include cotton, okra, flowers, fruit trees, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that may not be visible may injure susceptible broadleaf plants.

### **Other State and Local Requirements**

Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

### **Equipment**

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

### **Aerial Application**

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

In approved crops that are not totally tolerant to GF-2654, minimize contact with foliage, fruit, stems, trunks, trees or exposed roots

### **Groundboom Application**

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

In approved crops that are not totally tolerant to GF-2654, minimize contact with foliage, fruit, stems, trunks, trees or exposed roots

### **Mixing Directions**

#### **GF-2654 – Alone**

Mix GF-2654 only with water unless otherwise directed on this label. Add about half of the water to the mixing tank, then add GF-2654 with agitation, and finally the rest of the water with continuing agitation.

**Note:** Adding oil, wetting agent, or other surfactant to the spray mixture may increase effectiveness on weeds, but also may reduce selectivity to crops resulting in crop damage.

#### **GF-2654 - Tank Mix**

When tank mixing, read and follow the label of each tank mix product used for precautionary statements, directions for use, weeds controlled, and geographic and other restrictions. Use in accordance with the most restrictive of label limitations and precautions. Do not exceed any active ingredient's maximum use rates when tank mixing. Do not tank mix this product with any product containing a label prohibition against tank mixing with 2,4-D.



**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of this product 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, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

**Mixing with Liquid Nitrogen Fertilizer:** This product may be combined with liquid nitrogen fertilizer suitable for foliar application to accomplish broadleaf weed control and fertilization of corn, small grains or pastures in a single operation. Use GF-2654 in accordance with directions for these crops provided in this label. Use liquid fertilizer at rates recommended by the supplier or Extension Service Specialist. Test for mixing compatibility as described above before mixing in a spray tank. A compatibility aid such as Unite or Complex may be needed in some situations. Compatibility is best with liquid fertilizer solutions containing only nitrogen. Mixing with N-P-K solutions may not be satisfactory, even with the addition of a compatibility aid. Pre-mixing 1 part GF-2654 with up to 4 parts water may help in situations when mixing difficulty occurs.

Fill the tank about half full with the liquid fertilizer, then add the required amount of GF-2654 with agitation. Maintain agitation and complete filling the tank with liquid fertilizer. Apply immediately and continue agitation in spray tank during application. **Do not store the spray mixture.** Application during very cold weather (near freezing) is not advisable.

### **Sprayer Clean-Out**

To avoid injury to desirable plants, thoroughly clean equipment used to apply this product before re-use or applying other chemicals.

1. Rinse and flush application equipment thoroughly after use at least three times with water. Dispose of all rinse water by applying to treatment area or applying to non-cropland area away from water supplies.
2. During the second rinse, add 1 quart of household ammonia for every 25 gallons of water or use commercially available tank cleaner solution. 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. Remove nozzles and screens and clean separately.
6. If equipment is to be used to apply another pesticide or agricultural chemical to a 2,4-D susceptible crop, additional steps may be required to remove all traces of 2,4-D, including cleaning of disassembled parts and replacement of hoses or other fittings that may contain absorbed 2,4-D.

### **Application Directions**

Apply with calibrated air or ground equipment using sufficient spray volume to provide adequate coverage of target weeds or as otherwise directed in specific use directions. For broadcast application, use a spray volume of 3 gallons or more per acre by air and 10 gallons or more per acre for ground equipment. Where states have regulations which specify minimum spray volumes, they must be observed. In general, increase spray volume as crop canopy, height and weed density increase in order to obtain adequate spray coverage. **Do not apply less than 3 gallons total spray volume per acre.**

### **Application Rate**

The lower dosages given will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species and under conditions where control is more difficult, the higher dosages will be needed.

### **Application Timing**

Apply GF-2654 during warm weather when weeds are young and actively growing.

### Spot Treatments

To prevent misapplication, apply spot treatments with a calibrated boom or with hand sprayers using a fixed spray volume per 1000 sq ft as indicated below.

**Hand-Held Sprayers:** Hand-held sprayers may be used for spot applications of GF-2654. Take care to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based upon the application rate for an area of 1000 sq ft. Mix the amount of GF-2654 (fl oz or mL) corresponding to the desired broadcast rate in 1 to 3 gallons of spray. To calculate the amount of GF-2654 required for larger areas, multiply the table value (fl oz or mL) by the thousands of sq ft to be treated. An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size.

### Rate Conversion Table for Spot Treatment:

Label Broadcast Rate (pint/acre)							
1/2	2/3	3/4	1	2	3	4	8
Equivalent Amount of GF-2654 per 1000 sq ft							
1/5 fl oz (5.5 mL)	1/4 fl oz (7.3 mL)	1/3 fl oz (8.3 mL)	3/8 fl oz (11 mL)	3/4 fl oz (22 mL)	1 fl oz (33 mL)	1 1/2 fl oz (44 mL)	3 fl oz (88 mL)

### Band Application

GF-2654 may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated acre.

Band width in inches

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Band rate per treated acre}$$

Band width in inches

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Band volume per treated acre}$$

### Weeds Controlled

#### Annual or Biennial Weeds

beggarticks <sup>1</sup>	mousetail
bittercress, smallflowered	mustards (except blue mustard)
bitterweed	parsnip, wild
broomweed, common <sup>1</sup>	pennycress, field
burdock, common	pepperweed <sup>1</sup>
buttercup, smallflowered <sup>1</sup>	pigweeds ( <i>Amaranthus</i> spp.) <sup>1</sup>
carpetweed	poorjoe
cinquefoil, common	primrose, common
cinquefoil, rough	purslane, common
cocklebur, common	pusley, Florida
coffeeweed	radish, wild
copperleaf, Virginia	ragweed, common
croton, Texas	ragweed, giant
croton, woolly	rape, wild
flixweed	rocket, yellow
galinsoga	salsify, common <sup>1</sup>
geranium, Carolina	salsify, western <sup>1</sup>
hemp, wild	shepherdspurse
horseweed (maretail)	sicklepod
jewelweed	smartweed (annual species) <sup>1</sup>
jimsonweed	sneezeweed, bitter



knotweed <sup>1</sup>	sowthistle, annual
kochia	sowthistle, spiny
lambsquarters, common	spanishneedles
lettuce, prickly <sup>1</sup>	sunflower
lettuce, wild	sweetclover
lupines	tansymustard
mallow, little <sup>1</sup>	thistle, bull
mallow, Venice <sup>1</sup>	thistle, musk <sup>1</sup>
marshelder	thistle, Russian (tumbleweed) <sup>1</sup>
morningglory, annual	velvetleaf
morningglory, ivy	vetches
morningglory, woolly	

**Perennial Weeds**

alfalfa <sup>1</sup>	eveningprimrose, cutleaf
artichoke, Jerusalem <sup>1</sup>	garlic, wild <sup>1</sup>
aster, many-flower <sup>1</sup>	goldenrod
Austrian fieldcress <sup>1</sup>	hawkweed, orange <sup>1</sup>
bindweed (hedge, field and European) <sup>1</sup>	healal
blue lettuce	ironweed, western
blueweed, Texas	ivy, ground <sup>1</sup>
broomweed	Jerusalem artichoke
bullnettle <sup>1</sup>	loco, bigbend
carrot, wild <sup>1</sup>	nettles (including stinging) <sup>1</sup>
catnip	onion, wild <sup>1</sup>
chicory	pennywort
clover, red <sup>1</sup>	plantains
coffeeweed	ragwort, tansy <sup>1</sup>
cress, hoary <sup>1</sup>	sowthistle, perennial
dandelion <sup>1</sup>	thistle, Canada <sup>1</sup>
docks <sup>1</sup>	vervains <sup>1</sup>
dogbanes <sup>1</sup>	waterplantain
	wormwood

<sup>1</sup>May require application to small weeds, repeat applications, and/or use of higher specified rates of this product. Control at rates of 1 pint or less per acre may only be partial.

**Specific Use Directions**

**Agricultural Use Requirements for Crops:** For the following crop uses, follow Personal Protective Equipment (PPE) and re-entry instructions in the Agricultural Use Requirements section of this label.

**Cereal Grains<sup>1</sup>**

<sup>1</sup>Barley, millet, oats, rye, wheat

Application Timing	GF-2654 (pint/acre)	Use Directions
spring post-emergence barley, millet, rye, wheat,	2/3 - 1 1/3	Apply when weeds are small and actively growing. Use a lower rate in the rate range for small rapidly growing annual or biennial weeds and a higher rate
oats	1/2 - 1	

Application Timing	GF-2654 (pint/acre)	Use Directions
preharvest (dough stage) all listed cereals	1	in the rate range for perennial weeds or for annual or biennial weeds in advanced growth stages or when growing conditions are less than ideal. <b>Postemergence:</b> Apply after crop is fully tillered, (usually 4 to 8 inches tall), but not forming joints in the stems. <b>Preharvest:</b> Apply using air or ground equipment when crop is in dough stage of grain development to control or suppress weeds that might interfere with harvest.

**Precautions:**

- Up to 2.5 pints per acre may be applied postemergence to barley, millet, rye and wheat. However, there is greater risk of crop injury at rates greater than 1 1/3 pints per acre. Use such rates only when the need for weed control justifies additional risk to the crop.

**Restrictions:**

- **Preharvest interval (PHI):** Do not apply within 14 days of grain harvest
- Do not apply more than a total of 3.68 pints of GF-2654 (1.75 lb of acid equivalent) per acre per use season.
- Maximum single postemergence application rate is 2.63 pints of GF-2654 (1.25 lb of acid equivalent) per acre.
- Maximum single preharvest application rate is 1.05 pints of GF-2654 (0.5 lb of acid equivalent) per acre.
- Limit use to no more than one post-emergence application and one preharvest application per crop season.
- **Do not apply GF-2654 at the crop seedling stage of growth prior to tillering or from early boot (forming joints in the stem) through milk stage of grain development.** Consult state agricultural experiment station or extension service weed specialists for recommendations or suggestions to fit local conditions.
- Do not apply if crop is underseeded with legumes.

**Corn (Field, Sweet, Popcorn)**

Application Timing	GF-2654 (pint/acre)	Use Directions
preplant (burndown) preemergence field, sweet, popcorn	1 - 2	Use a higher rate in the rate range for less susceptible weeds or cover crops, weeds in advanced stages of development, or under less favorable growth conditions. <b>Preplant:</b> Apply 7 to 14 days before planting corn to control emerged broadleaf weed seedlings or existing cover crops. <b>Preemergence:</b> Apply any time after planting, but before corn emerges to control broadleaf weed seedlings or existing cover crops.
postemergence field, sweet, popcorn annual broadleaf weeds crop up to 8 inches tall	1/2 - 1	Apply when weeds are small and corn is less than 8 inches tall (to top of crop canopy). If corn is more than 8 inches tall, use drop nozzles and directed sprays to keep spray off of foliage.
crop 8 inches tall to tasseling (directed spray only)	1	Treat perennial weeds when they are in bud to bloom stage.

<b>Application Timing</b>	<b>GF-2654 (pint/acre)</b>	<b>Use Directions</b>
perennial broadleaf weeds		<b>Do not apply from tasseling to hard dough stage.</b>
preharvest field and popcorn only	up to 3	Apply after corn is in hard dough (or denting) stage. Do not apply preharvest to sweet corn.

**Precautions:**

- Preplant or preemergence applications to light sandy soils is not recommended.
- Corn hybrids vary in tolerance to 2,4-D. Some are easily injured. Do not apply to crops containing the ENLIST trait. Apply only to varieties known to be tolerant to 2,4-D. Consult the seed company or your Agricultural Experiment Station or Extension Service Weed Specialist for this information.
- **Note:** Corn treated with 2,4-D may exhibit stem brittleness for 8 to 10 days following application. During this period, the crop is more susceptible to stem breakage from cultivation or wind.

**Restrictions:****Field Corn and Popcorn:**

- **Preharvest Interval (PHI):** Do not apply within 7 days of grain or fodder harvest.
- Do not make more than one preplant or preemergence application, one postemergence application, and one preharvest application per use season.
- Do not apply more than a total of 6.32 pints of GF-2654 (3 lb of acid equivalent) per acre per use season.
- Maximum single preplant or preemergence application rate is 2.11 pints of GF-2654 (1 lb of acid equivalent) per acre.
- Maximum single postemergence application rate is 1.1 pints of GF-2654 (0.5 lb of acid equivalent) per acre.
- Maximum single preharvest application rate is 3.16 pints of GF-2654 (1.5 lb of acid equivalent) per acre.

**Sweet Corn:**

- **Preharvest Interval (PHI):** Do not apply within 45 days of ear harvest.
- Do not use treated crop as fodder for 7 days following application.
- Do not make a postemergence application within 21 days after a previous application.
- Do not make more than one preplant or preemergence application and one postemergence application per use season.
- Do not apply more than a total of 3.16 pints of GF-2654 (1.5 lb of acid equivalent) per acre per use season.
- Maximum single preplant or preemergence application rate is 2.11 pints of GF-2654 (1 lb of acid equivalent) per acre.
- Maximum single postemergence application rate is 1.1 pints of GF-2654 (0.5 lb of acid equivalent) per acre.

**Fallow Land<sup>1</sup> and Crop Stubble**

<sup>1</sup>Fallow land is idle land, postharvest to crops or between crops.

<b>Weeds</b>	<b>GF-2654 (pint/acre)</b>	<b>Use Directions</b>
annual broadleaf	1 - 2	Use a lower rate in the rate range when weeds are small (2 to 3 inches tall) and actively growing. Use a higher in the rate range when weeds are larger and under less favorable growth conditions.
biennial broadleaf	2 - 4	Apply when musk thistles or other biennial species are in the seedling to rosette stage and before development of flower stalks.

Weeds	GF-2654 (pint/acre)	Use Directions
		The lower rate in the rate range can be used in the spring during the rosette stage. Use the highest rate in the rate range in the fall or after flower stalks have developed.
perennial broadleaf		Apply when perennial weeds are in bud to early bloom stage or while in good vegetative growth.
wild garlic and onion in crop stubble	4	Apply to new regrowth of wild garlic or onion that occurs in the fall after harvest of small grains, corn or grain sorghum.

**Precaution:**

- For best weed control results, do not cultivate for at least two weeks after application or until top growth is dead.

**Restrictions:**

- **Preharvest Interval (PHI):** Do not apply within 7 days of forage for hay harvest.
- **Minimum Treatment Interval:** Do not apply within 30 days of a previous application.
- Do not apply more than a total of 8.4 pints of GF-2654 (4 lb of acid equivalent) per acre per use season.
- Maximum single application rate is 4.2 pints of GF-2654 (2 lb of acid equivalent) per acre.
- Do not apply more than two times per year.

**Planting in Treated Areas**

**Labeled Crops:** Within 29 days after an application of this product, plant only those crops listed on this or other registered 2,4-D labels. Follow more stringent limitations, if any, provided in directions for specific crops. Labeled crops may be at risk of crop injury or loss if planted soon after application, especially during the first 14 days. Degradation factors described below should be considered in weighing this risk.

**Other Crops:** All other crops may be planted 30 days or more after application without concern for illegal residues in the planted crop. However, under certain conditions, there may be a risk of injury to susceptible crops. Degradation factors described below should be considered in weighing this risk. Under normal conditions, any crop may be planted without risk of injury if at least 90 days of soil temperatures above freezing have elapsed since application.

**Degradation Factors:** When planting into treated areas, the risk of crop injury is less if lower rates of product were applied and conditions following application have included warm, moist soil conditions that favor rapid breakdown of 2,4-D. Risk is greater if higher rates of product were applied and soil temperatures have been cold and/or soils have been excessively wet or dry in the days following application. Consult your local agricultural extension service or information about susceptible crops and typical conditions in your area.

### **Pome Fruit (Crop Group 11)<sup>1</sup>, Stone Fruit (Crop Group 12)<sup>2</sup>, Tree Nuts (Excluding Filberts)<sup>3</sup> and Pistachio Orchard Floors**

<sup>1</sup>Pome fruit (crop group 11) including apple, crabapple, loquat, mayhaw, oriental pear, pear, quince

<sup>2</sup>Stone fruit (crop group 12) including apricot, chickasaw plum, damson plum, Japanese plum, nectarine, peach, plum, plumcot, prune, sweet cherry, tart cherry

<sup>3</sup>Tree nuts including almond, beech nut, black walnut, Brazil nut, butternut, cashew, chestnut, chinquapin, English walnut, hickory nut, macadamia nut (bush nut), pecan

Application Timing	GF-2654 (pint/acre)	Use Directions
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Application Timing	GF-2654 (pint/acre)	Use Directions
postemergence annual and biennial weeds	1 - 2	For application to orchard floors, use coarse, low pressure sprays and sufficient water for thorough coverage of weeds.
perennial weeds	up to 4	Apply to annual weeds when small and actively growing. Apply to perennial weeds from bud to bloom stage.

**Precautions:**

- Avoid application immediately before irrigation and withhold irrigation for two days before and three days after application.
- Newly established trees or young orchards are more susceptible to 2,4-D injury. Apply only to orchards that have been established for at least one year and are in vigorous growth condition.

**Restrictions:**• **Preharvest Intervals (PHI):**

**Pome Fruit:** Do not apply within 14 days of harvest.

**Stone Fruit:** Do not apply within 40 days of harvest.

**Tree Nuts and Pistachio:** Do not apply within 60 days of harvest.

• **Minimum Treatment Interval:**

**Pome Fruit and Stone Fruit:** Do not apply within 75 days of a previous application.

**Tree Nuts and Pistachio:** Do not apply within 30 days of a previous application.

**For All Uses**

- Do not cut orchard floor forage for hay within 7 days after application.
- Do not apply more than a total of 8.42 pints of GF-2654 (4 lb of acid equivalent) per acre per use season.
- Maximum single application rate is 4.21 pints of GF-2654 (2 lb of acid equivalent) per acre.
- Do not make more than two applications per year.
- To avoid tree injury, unless the risk of injury is acceptable, do not allow spray drift to contact foliage, fruit, stems, trunks or trees or exposed roots.
- Do not apply when orchards are blooming.
- Do not apply to loamy sand or coarser textured soils.

**Rice****(Not for Use in California)**

Application Timing	GF-2654 (pint/acre)	Use Directions
preplant	1 - 2	Apply 2 to 4 weeks before planting rice to control emerged broadleaf weeds.
postemergence	1 – 2 <sup>1</sup>	Apply when rice is in late tillering stage and at the time of first joint development (first to second green ring).

<sup>1</sup>Up to 3 pints per acre may be applied postemergence for difficult weed control situations. However, there is greater risk of crop injury at rates greater than 2 pints per acre. Such rates should be used only when the need for weed control justifies additional risk to the crop.

**Precautions:**

- Some rice varieties under certain conditions or stages of growth may be injured by 2,4-D. Before applying, consult local university or agricultural extension service specialists regarding for local treatment recommendations for various rice varieties.

**Restrictions:**

- **Preharvest Interval (PHI):** Do not apply within 60 days of harvest.
- Do not apply more than one preplant and one postemergence application per use season.

- Do not apply more than a total of 3.16 pints of GF-2654 (1.5 lb of acid equivalent) per acre per use season.
- Maximum single preplant application rate is 2.11 pints of GF-2654 (1 lb of acid equivalent) per acre.
- Maximum single postemergence application rate is 3.16 pints of GF-2654 (1.5 lb of acid equivalent) per acre.
- Do not apply at early seedling stage or after rice internodes exceed one-half inch or panicle initiation.

### Sorghum - Grain Sorghum (Milo) and Forage

Application Timing	GF-2654 (pint/acre)	Use Directions
postemergence crop 6 - 8 inches tall	1/2 - 1	Apply when sorghum is 6 to 15 inches tall. If sorghum is more than 8 inches tall (to top of crop canopy), use drop nozzles and apply as a directed spray to keep spray off of foliage.
crop 8 - 15 inches tall (directed spray only)	3/4 - 1	

#### Precautions:

- Sorghum hybrids vary in tolerance to 2,4-D. Some are easily injured. Apply only to varieties known to be tolerant to 2,4-D. Consult the seed company or your agricultural experiment station or extension service weed specialist for this information.
- **Note:** Temporary crop injury can be expected under conditions of high soil moisture and high air temperatures. If it is necessary to apply GF-2654 under these conditions, use no more than 2/3 pint per acre.

#### Restrictions:

- **Preharvest Interval (PHI):** Do not apply within 30 days of grain harvest.
- Do not permit meat or dairy animals to consume treated crop as fodder or forage within 30 days after application.
- Do not apply more than a total of 2.1 pints of GF-2654 (1 lb of acid equivalent) per acre per use season.
- Do not apply more than one postemergence application per use season.
- **Do not apply during boot, or later stages of growth.**

### Soybeans

#### (Preplant Burndown Only)

Crop oil concentrates, agricultural surfactants and fluid fertilizers approved for use on growing crops may be added to spray mixtures of GF-2654 to increase the herbicidal effectiveness on certain weeds. Read and follow all directions and precautions on this label and on the label of each product added to the spray mixture. Refer to the Mixing Directions section for instructions for tank mixing and compatibility testing.

Application Timing	GF-2654 (pint/acre)	Use Directions
preplant (burndown)	3/4 - 1	Apply not less than 7 days before planting soybeans, when weeds are small and actively growing. Use a higher rate in the rate range on larger weeds and when perennials are present. <b>See Precautions and Restrictions below.</b>
	1 - 2	Apply not less than 14 days before planting soybeans, when weeds are small and actively growing. Use a higher rate in the rate range on larger weeds and when perennials are present. <b>See Precautions and Restrictions below.</b>

#### Precautions:

- **Important Notice:** Unacceptable injury to soybeans planted in treated fields may occur. Whether soybean injury occurs and the extent of such injury will depend upon weather (temperature and rainfall) from herbicide application until soybean emergence and agronomic factors such as the amount of weed vegetation and previous crop residue present at the time of application. Injury is more likely under cool rainy conditions and where there is less weed vegetation and crop residue present.
- In treated fields, plant soybean seed as deep as practical, but not less than 1 inch deep. Adjust the planter, if necessary, to ensure that planted seed is adequately covered.

**Restrictions:**

- Do not disturb treated soil through tillage between application and planting of soybeans.
- Do not use on sandy soils with less than 1% organic matter.
- Do not make more than one application per season regardless of the application rate used.
- Do not apply GF-2654 as a preplant application in soybeans unless the results of soybean injury are acceptable, including possible stand loss and/or yield reduction.
- During the growing season following application, do not replant treated fields with crops other than those labeled for use with GF-2654.
- Do not apply more than a total of 2.1 pints of GF-2654 (1 lb of acid equivalent) per acre per use season.

**Sugarcane**

<b>Application Timing</b>	<b>GF-2654 (pint/acre)</b>	<b>Use Directions</b>
preemergence postemergence	2 - 4	Consult your agricultural experiment station or extension service weed specialist local recommendations. <b>Preemergence:</b> Apply to actively growing weeds before cane emerges. <b>Postemergence:</b> Apply after cane emerges through canopy closure. Use a higher rate in the rate range for perennial weeds and difficult to control species.

**Restrictions:**

- Do not apply more than a total of 8.42 pints of GF-2654 (4 lb of acid equivalent) per acre per use season.
- Maximum single application rate is 4.21 pints of GF-2654 (2 lb of acid equivalent) per acre.
- Do not harvest cane prior to maturity.
- Do not make more than one preemergence and one postemergence application per season.

**Forestry, Rangeland, Established Grass Pastures, and Non-Cropland Areas**

**Agricultural Use Requirements for Forest Use (Except Tree Injection Use):** For use in forests, follow Personal Protective Equipment (PPE) and re-entry instructions in the Agricultural Use Requirements section under the Directions for Use heading of this label.

**Agricultural Use Requirements for Rangeland, Pasture, Forest (Tree Injection Only) and Non-Cropland Areas:** When this product is applied to rangeland and established grass pastures not harvested for hay or seed; non-cropland areas, and when applied by tree injection in forest sites, follow re-entry requirements given in the Non-Agricultural Use Requirements section under the Directions for Use heading of this label.

**Forestry**

**Forest site preparation, forest roadsides, brush control, established conifer release (including Christmas trees and reforestation areas)**



<b>Application Method</b>	<b>GF-2654</b>	<b>Use Directions</b>
annual weeds	2 - 4 pt/acre	Apply before the bud stage when weeds are small and growing actively. Apply when biennial and perennial species are in the seedling to rosette stage and before flower stalks appear. For difficult to control perennial broadleaf weeds and woody species, use up to 1 gallon of GF-2654 and 1 to 4 quarts of Garlon® 3A herbicide per acre. For conifer release, apply before budbreak of conifers in early spring when weeds are small and actively growing.
biennial and perennial broadleaf weeds susceptible woody plants	4 - 8 pt/acre	
spot treatment to control broadleaf weeds	1.28 fl oz/gal of spray solution (see instructions for Spot Treatment)	To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the specified broadcast rate and spray to thoroughly wet all foliage. Mix 1.28 fl oz per gallon of spray solution and apply through pump up sprayer or backpack sprayer. Addition of a non ionic surfactant is recommended to improve coverage. See rate conversion table and instructions for Spot Treatment and use of hand-held sprayers under Application Directions.
conifer release species such as balsam fir black spruce jack pine ponderosa pine red pine red spruce white pine white spruce	1 1/2 - 3 qt/acre	To control competing hardwood species such as alder, aspen, birch, hazel, and willow, apply from mid- to late summer when growth of conifer trees has hardened off and woody plants are still actively growing. Apply with ground equipment using sufficient spray volume to ensure complete coverage. Because this treatment may cause occasional conifer injury, do not apply if such injury cannot be tolerated.
directed spray: conifer plantations including pine	4 qt/100 gal	Apply when brush or weeds are actively growing by directing the spray so as to avoid contact with conifer foliage and injurious amounts of spray. Apply in oil, oil-water, or water carrier in a spray volume of 10 to 100 gallons per acre.
basal spray (may also be used in rangeland, pastures, and non-cropland areas)	8 qt/100 gal or	Thoroughly wet the base and root collar of all stems until the spray begins to accumulate around the root collar at the ground line. Wetting stems with the mixture may also aid in control.
cut stump surfaces (may also be used in rangeland, pastures, and non-cropland areas)	2.5 fl oz/gal of water	Apply as soon as possible after cutting trees. Thoroughly soak the entire stump with the 2,4-D mixture including cut surface, bark and exposed roots.
frill and girdle (may also be used in rangeland, pastures, and non-cropland areas)		Cut frills (overlapping V-shaped notches cut downward through the bark in a continuous ring around the base of the tree) using an axe or other suitable tool. Treat freshly cut frills with as much of the 2,4-D mixture as they will hold.
tree injection (may also be used in rangeland, pastures, and non-cropland areas)	1 - 2 mL per injection site	To control unwanted hardwood trees such as elm, hickory, oak, and sweetgum in forests and other non-crop areas, apply by injecting at a rate of 1 mL of undiluted GF-2654 per inch of trunk diameter at breast height (DBH) as measured approximately 4 1/2 ft above the ground. However, inject as close to the root

Application Method	GF-2654	Use Directions
		<p>collar as possible and the injection bit must penetrate the inner bark. Make applications throughout the year, but for best results, apply between May 15 and October 15. Do not treat maples during the spring sap flow.</p> <p>For hard to control species such as ash, maple, and dogwood, use 2 mL of undiluted GF-2654 per injection site or double the number of 1 mL injections.</p> <p><b>Note:</b> No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is directly injected into agricultural plants.</p>

**Restrictions:**

- Do not allow sprays to contact conifer shoot growth (current year's new growth) or injury may occur.
- Do not apply to nursery seed beds.
- For conifer release, do not use on plantations where pine or larch are among the desired species.
- For broadcast applications, do not apply more than a total of 8.42 pints of GF-2654 (4 lb of acid equivalent) per acre per 12-month period.
- Limited to one broadcast application per year
- Limited to one basal spray or cut surface application per year.
- Limited to one injection application per year.
- For basal spray, cut surface stumps, and frill applications, do not apply more than 16.84 pints of GF-2654 (8 lb of acid equivalent) per 100 gallons of spray solution.
- Maximum single application is 8.42 pints (2 mL) of GF-2654 (4 lb of acid equivalent) per injection site.

**Rangeland and Established Grass Pastures (Including Perennial Grasslands not in Agricultural Production Including Conservation Reserve Program Acres)**

Weeds or Woody Plants	GF-2654 (pint/acre)	Use Directions
annual broadleaf weeds	2	For best results, apply before the bud stage when weeds are small and growing actively. Apply before flower stalks appear, when musk thistles or other biennial species are in the seedling to rosette stage. Refer to the Weeds Controlled section for a listing of susceptible weed species and weeds that may be only partially controlled and require repeat applications and/or use of higher specified rates, even under ideal conditions of application.
biennial and perennial broadleaf weeds	2 - 4	
spot treatment to control broadleaf weeds	1.28 fl oz/gal of spray solution (see instructions for Spot Treatment)	To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rate specified for this treatment site and spray to thoroughly wet all foliage. Mix 1.28 fl oz per gallon of spray solution and apply through pump up sprayer or backpack sprayer. Addition of a non ionic surfactant is recommended to improve coverage. See rate conversion table and instructions for Spot Treatment and use of hand-held sprayers under Application Directions.
tree injection application		See instructions for tree injection application in Forestry section.
wild garlic and wild onion	4	Make three applications (fall-spring-fall or spring-fall-spring) starting in late fall or early spring.

<b>Weeds or Woody Plants</b>	<b>GF-2654 (pint/acre)</b>	<b>Use Directions</b>
broadleaf weed control in newly sprigged coastal bermudagrass	2 - 4	Apply either preemergence or postemergence. Follow use directions for annual, biennial and perennial broadleaf weed control above.
sand shinnery oak sand sagebrush	2	<b>Sand shinnery oak:</b> Apply by aircraft between May 15 and June 15. <b>Sand sagebrush:</b> Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use a 1:4 oil-water emulsion as carrier and a spray volume of 3 to 5 gallons per acre.
big sagebrush rabbitbrush	4	Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use a 1:4 oil-water emulsion as carrier and a spray volume of 3 to 5 gallons per acre. Re-treatment may be needed.
buckbrush chamise chaparral species coastal sage coyotebrush manzanita		Apply by ground or aircraft when foliage is fully expanded and plants are actively growing. Use water or 1:4 oil-water emulsion as carrier and a spray volume of 5 to 10 gallons per acre. Re-treatment may be needed.
southern wild rose broadcast application	up to 4	<b>Broadcast:</b> Apply in a spray volume of 5 gallons or more per acre by aircraft or 10 gallons or more per acre by ground equipment. <b>Spot treatment:</b> Apply when foliage is well developed. Thorough coverage is required. Mix 1.28 fl oz per gallon of spray solution and apply through pump up sprayer or backpack sprayer. Addition of a non ionic surfactant is recommended to improve coverage. Two or more treatments may be required.
spot treatment	1.28 fl oz/gal of spray solution	Do not exceed 4 pints per acre per application.

**Precautions:**

- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable.

**Restrictions:**

- **Preharvest Interval (PHI):** Do not apply within 7 days of forage harvest. For program lands, such as CRP, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed.
- **Minimum Treatment Interval:** Do not apply within 30 days of a previous application.
- Do not use on bentgrass, alfalfa, clover, or other legumes.
- Do not use on newly seeded areas until grass is well established.
- Do not use from early boot to milk stage where grass seed production is desired.
- For grazed areas, the maximum use rate is 4.21 pints of GF-2654 (2 lb of acid equivalent) per acre per application.
- Do not apply more than a total of 8.42 pints of GF-2654 (4 lb of acid equivalent) per acre per use season.
- Do not make more than two applications per season.
- For susceptible annual and biennial broadleaf weeds: Do not apply more than 2 pints of GF-2654 (1 lb of acid equivalent) per acre per application.

- For moderately susceptible biennial, perennial broadleaf weeds and difficult to control weeds and woody plants: Do not apply more than 4 pints of GF-2654 (2 lb of acid equivalent) per acre per application.
- Spot treatment: Do not apply more than 4 pints of GF-2654 (2 lb of acid equivalent) per acre.

### Non-Cropland Areas

**Including fencerows, hedgerows, roadsides, drainage ditches, rights-of way, utility power lines, railroads, airports, and other non-cropland areas**

Application Method	GF-2654 (pint/acre)	Use Directions
annual broadleaf weeds	2 - 4	Apply before the bud stage when annual weeds are small and growing actively. Biennial and perennial weeds should be rosette to bud stage, but not flowering at the time of application. For difficult to control perennial broadleaf weeds and woody species, tank mix up to 1 gallon of GF-2654 plus 1 to 4 quarts of Garlon 3A per acre. <b>For ground application:</b> (High volume) apply a total of 100 to 400 gallons per acre; (low volume) apply a total of 10 to 100 gallons per acre. <b>For helicopter:</b> Apply a total of 5 to 30 gallons per acre spray volume.
biennial and perennial broadleaf weeds	4	
susceptible woody plants on rights-of-way	4 - 8	
spot treatment to control broadleaf weeds	1.28 fl oz/gal of spray solution (see instructions for Spot Treatment)	To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rate specified for this treatment site and spray to thoroughly wet all foliage. Mix 1.28 fl oz per gallon of spray solution and apply through pump up sprayer or backpack sprayer. Addition of a non ionic surfactant is recommended to improve coverage. See rate conversion table and instructions for Spot Treatment and use of hand-held sprayers under Application Directions.
tree injection application		See instructions for tree injection application in Forestry section.
southern wild rose broadcast application	up to 4	<b>Broadcast:</b> Apply in a spray volume of 10 gallons or more per acre by ground equipment. Apply when foliage is well developed. Thorough coverage is required. Mix 1.28 fl oz per gallon of spray solution and apply through pump up sprayer or backpack sprayer. Addition of a non ionic surfactant is recommended to improve coverage. Two or more treatments may be required.
spot treatment	1.28 fl oz/gal of spray solution	

### Precautions:

- Bentgrass, St. Augustine, clover, legumes and dichondra may be severely injured or killed by this treatment.

### Restrictions:

- Do not apply to newly seeded areas until grass is well established.
- Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.
- **Annual and perennial weeds:**

**Minimum Treatment Interval:** Do not reapply to a treated area within 30 days of a previous application.  
Do not apply more than 4.21 pints of GF-2654 (2 lb of acid equivalent) per acre per application.  
Do not make more than two applications per season.

- **Woody plants:**

Do not apply more than 8.42 pints of GF-2654 (4 lb of acid equivalent) per acre per use season.  
Do not make more than one application per season.

## Turfgrass

### Turfgrass Grown for Seed or Sod Farms

**Agricultural Use Requirements:** When used in grass grown for seed or sod farms, follow Personal Protective Equipment (PPE) and re-entry instructions in the Agricultural Use Requirements section of this label.

Application Timing	GF-2654 (pint/acre)	Use Directions
turfgrass grown for seed (postemergence) seedling grass (five-leaf stage or later)	3/4 - 1	Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth. Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pint per acre. Cool season turfgrass is tolerant of higher rates.
well-established grasses	1 - 4	Do not apply to turfgrass in the early boot through milk stage if seed production is desired. When turfgrass is well established, higher rates of up to 4 pints per acre may be applied for control of hard to kill annual or perennial weeds.
sod farms (postemergence)	2 - 4	Deep-rooted perennials such as bindweed and Canada thistle may require repeat applications. Avoid mowing sod farms for 1 to 2 days before or after application. Delay irrigation until the day following application.

#### Precautions:

- **Reseeding:** Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and, with fall application, reseed in the spring.

#### Restrictions:

- **Preharvest Interval (PHI):** Do not apply within 7 days of cutting forage for hay.
- **Minimum Treatment Interval:** Do not reapply to a treated area within 21 days of a previous application.
- Do not use on creeping grasses such as bent except as a spot treatment.
- Do not use on injury-sensitive southern turfgrass such as St. Augustinegrass.
- Do not use on dichondra or other herbaceous groundcovers. Legumes may be damaged or killed.
- Do not apply more than a total of 8.42 pints of GF-2654 (4 lb of acid equivalent) per acre per use season.
- Maximum of 2 lb acid equivalent (4.2 pints of GF-2654) per acre per application.
- Do not make more than two applications of GF-2654 per use season.

#### Ornamental Turfgrass (Excluding Turfgrass Grown for Seed or Sod Farms)

(Includes lawns, golf courses, cemeteries and parks, airfields, roadsides, vacant lots, drainage ditch banks)

**Use Requirements for Ornamental Turfgrass Areas:** When this product is applied to ornamental turfgrass areas, follow Personal Protective Equipment (PPE) and reentry instructions in the Non-Agricultural Use Requirements section of this label.

Application Timing	GF-2654 (pint/acre)	Use Directions
ornamental turfgrass (postemergence) seedling grass (five-leaf stage or later)	3/4 - 1	Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth. Deep-rooted perennial weeds such as bindweed and Canada thistle may require repeat applications. Do not apply to newly seeded turfgrass until well established (five-leaf stage or later) and then use a maximum of 1 pint per acre. Cool season turfgrass is tolerant of higher rates.
well-established turfgrass	2 - 3	
biennial and perennial broadleaf weeds	3	

**Precautions:**

- **Reseeding:** Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and, with fall application, reseed in the spring.

**Restrictions:**

- **Minimum Treatment Interval:** Do not reapply within 21 days of a previous application.
- Do not use on creeping grasses such as bent except as a spot treatment.
- Do not use on injury-sensitive southern turfgrass such as St. Augustinegrass.
- Do not use on dichondra or other herbaceous groundcovers. Legumes may be damaged or killed.
- Do not make more than two broadcast applications per year per treatment site (does not include spot treatments).
- Do not apply more than a total of 6.32 pints of GF-2654 (3 lb of acid equivalent) per acre per year.
- Maximum single application rate is 3.16 pints of GF-2644 (1.5 lb of acid equivalent) per acre.

**Aquatic Uses**

**Use Requirements for Aquatic Areas:** When this product is applied to aquatic areas, follow Personal Protective Equipment (PPE) and re-entry instructions in the Non-Agricultural Use Requirements section of this label.

**Banks of Irrigation Canals and Ditches**

Weeds	GF-2654 (pint/acre)	Use Directions
annual	2 - 4	Apply using low pressure spray (10 to 40 psi) in a spray volume of 20 to 100 gallons per acre using power operated spray equipment. Apply when wind speed is low, 5 mph or less. Apply working upstream to avoid accidental concentration of spray into water. Do not spray cross-stream to opposite banks and avoid boom spraying over water surface. When spraying shoreline weeds, allow no more than a 2-foot overspray onto water surface with an average of less than 1 foot of



Weeds	GF-2654 (pint/acre)	Use Directions
biennial and perennial broadleaf susceptible wood plants	4	overspray to prevent significant water contamination. Apply before the bud stage when weeds are small and growing actively. Apply before flower stalks appear when biennial and perennial species are in the seedling to rosette stage. For hard to control weeds, a repeat application after 30 days at the same rate may be needed. For woody species and patches of perennial weeds, mix 1 gallon of GF-2654 per 64 to 150 gallons of total spray. Wet foliage by applying about 3 to 4 gallons of spray per 1000 sq ft (10.5 X 10.5 steps).

**Restrictions:**

- Do not make more than two treatments per season or reapply within 30 days.
- Use 2 gallons or more of spray solution per acre.
- Do not apply more than 4.21 pints of GF-2654 (2 lb of acid equivalent) per acre per application or more than a total of 8.42 pints of GF-2654 (4 lb of acid equivalent) per acre per use season.

Do not use on small canals with a flow rate less than 10 cubic feet per second (CFS) where water will be used for drinking purposes. CFS may be estimated by using the formula below. Determine the approximate velocity needed for the calculation by observing the length of time that it takes a floating object to travel a defined distance. Divide the distance (ft) by the time (sec) to estimate velocity (ft per sec). Repeat three times and use the average to calculate CFS.

Average Width (ft) x Average Depth (ft) x Average Velocity (ft per sec) = CFS

**Ditchbank Weeds:** Do not spray cross-stream to opposite bank. Do not allow boom spray to be directed onto water.

**Shoreline Weeds:** Boom spraying onto water surface must be held to a minimum and allow no more than a 2-foot overspray onto water with an average of less than 1 foot overspray to prevent introduction of greater than negligible amounts of chemical into the water.

**Ponds, Lakes, Reservoirs, Marshes, Bayous, Drainage Ditches, Canals, Rivers and Streams That are Quiescent or Slow Moving, Including Programs of the Tennessee Valley Authority**

**Notice to Applicators:** Before application, coordination and approval of local and state authorities may be required, either by letter or agreement or issuance of special permits for aquatic applications.

**Emergent and Floating Aquatic Weeds Including Water Hyacinth (*Eichornia crassipe*):**

**Application Rate:** 2 to 4 quarts per acre.

**Application Timing:** Spray weed mass only. Apply when water hyacinth plants are actively growing. Reapply as necessary to kill regrowth and plants missed in previous operation. Use the 4 quart per acre rate when plants are mature or when weed mass is dense.

**Surface Application:** Use power operated sprayers with boom or spray gun mounted on boat, tractor or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 gallons of spray mixture per acre. Take special precautions such as use of low pressure, large nozzles and spray thickening agents to avoid spray drift to susceptible crops. Follow label directions for use of any drift control agent.

**Aerial Application:** Use drift control spray equipment or thickening agent mixed in the spray mixture. Apply 1 gallon of GF-2654 per acre with standard boom systems using a minimum spray volume of 5



gallons per acre. For Microfoil drift control spray systems, apply GF-2654 in a total spray volume of 12 to 15 gallons per acre.

**Restrictions for Surface Applications to Emergent Aquatic Weeds:**

- **Minimum Treatment Interval:** Minimum of 21 days between applications.
- Do not apply more than 8.42 pints of GF-2654 per acre (4 lb of acid equivalent) per surface acre.
- Spot treatments are permitted.
- Limited to two applications per season.

Fish breathe dissolved oxygen in the water and decaying weeds also use oxygen. When treating continuous, dense weed masses, it may be appropriate to treat only part of the infestation at a time. For example, apply the product in lanes separated by untreated strips that can be treated after vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2- to 3-week period following treatment. Waters having limited and less dense weed infestations may not require partial treatments. Other local factors such as water exchange and sediment load can also influence the dissolved oxygen level. Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for aquatic applications.

**Water Use:**

**1. Water for irrigation or sprays:**

- A. If treated water is intended to be used only for crops or non-cropland areas that are labeled for direct treatment with 2,4-D such as pastures, turfgrass or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at anytime after the 2,4-D aquatic application.
- B. Due to potential phytotoxicity considerations, the following restrictions are applicable: If treated water is intended to be used to irrigate or mix sprays for plants grown in commercial nurseries and greenhouses, and other plants or crops that are not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:
  - i. A setback distance from functional water intake(s) of  $\geq 600$  ft was used for the application, or
  - ii. A waiting period of 7 days from the time of application has elapsed, or
  - iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. Wait at least 3 days after application before initial sampling at water intake.

**2. Drinking water (potable water):**

- A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.
- B. For floating and emergent weed applications, the drinking water setback distance from functioning potable water intakes is  $\geq 600$  ft.
- C. If no setback distance of  $\geq 600$  ft is used for the application, applicators or the authorizing organization must provide a drinking water notification prior to a 2,4-D application to the party responsible for a public water supply or to individual private water users. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of a water use restriction when this product is applied to potable water.

The following is an example of notification via posting, but other methods of notification that convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

**Example:** Locate posting notification every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application. Posting may be removed if analysis of a

sample collected at the intake 3 days or more following application shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 7 days following application, whichever occurs first.

**Text of Notification:** Wait 7 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested at least 3 days after application and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).

Application Date: \_\_\_\_\_ Time: \_\_\_\_\_ .

- D. Following each application of this product, do not use treated water for drinking water unless one of the following restrictions has been observed:
  - i. A setback distance from functional water intake(s) of ≥600 ft was used for the application, or,
  - ii. A waiting period of at least 7 days from the time of application has elapsed, or,
  - iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than 3 days after a 2,4-D application. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40 CFR Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.
- E. **Note:** Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.
- F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.

**Submerged Aquatic Weeds Including Eurasian Water Milfoil (*Myriophyllum spicatum*):**

Sites	Maximum Application Rate <sup>1</sup>	Use Directions
aquatic weed control in ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, rivers and streams that are quiescent or slow moving, including programs of the Tennessee Valley Authority	2.84 gallons (10.8 lb of acid equivalent) per acre foot	<p><b>Application Timing:</b> For best results, apply in spring or early summer when aquatic weeds appear. Check for weed growth in areas heavily infested the previous year. A second application may be needed when weeds show signs of recovery, but no later than mid-August in most areas.</p> <p><b>Subsurface Application:</b> Apply undiluted GF-2654 directly to the water through a boat mounted distribution system. Treat shoreline areas by subsurface injection application by boat to avoid aerial drift.</p> <p><b>Surface Application:</b> Use power operated boat mounted boom sprayer. If rate is less than 5 gallons per acre, dilute to a minimum spray volume of 5 gallons per surface acre.</p> <p><b>Aerial Application:</b> Use drift control spray equipment or thickening agents mixed with sprays to reduce drift. Apply through standard boom systems in a minimum spray volume of 5 gallons per surface acre. For Microfoil drift control spray systems, apply GF-2654 in a total spray volume of 12 to 15 gallons per acre. Apply to attain a concentration of 2 to 4 ppm (see table below).</p>

<sup>1</sup>GF-2654 contains 3.8 lb of acid equivalent per gallon of product.

**Table 1: Amount to Apply for a Target Subsurface Concentration**

Surface Area (acre)	Average Depth (ft)	For typical conditions – 2 ppm (2,4-D a.e./acre)	For typical conditions – 2 ppm (GF-2654 gal/acre)	For difficult conditions – 4 ppm <sup>1</sup> (2,4-D a.e./acre)	For difficult conditions – 4 ppm <sup>1</sup> (GF-2654 gal/acre)
1	1	5.4	1.42	10.8	2.84
	2	10.8	2.84	21.6	5.68
	3	16.2	4.26	32.4	8.53
	4	21.6	5.68	43.2	11.37
	5	27.0	7.10	54.0	14.21

<sup>1</sup>Examples include spot treatments of pioneer colonies of eurasian water milfoil and certain difficult to control aquatic species.

#### Restrictions for Aquatic Sites With Submerged Aquatic Weeds:

- **Minimum Treatment Interval:** Do not apply within 21 days of previous application.
- Limited to two applications per season.
- Do not exceed 10.8 lb acid equivalent per acre foot.

Fish breathe oxygen in the water and a water-oxygen ratio must be maintained. Decaying weeds use up oxygen, but during the period when applications should be made, the weed mass is fairly sparse and the weed decomposition rate is slow enough that the water-oxygen ratio is not disturbed by treating the entire area at one time. If treatments must be applied later in the season when the weed mass is dense and repeat treatments are needed, apply product in lanes, leaving buffer strips which can then be treated when vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2- to 3-week period following treatment.

When treating moving bodies of water, apply while traveling upstream to prevent concentration of 2,4-D downstream from the application.

Coordination and approval of local and state authorities may be required, either by letter of agreement or issuance of special permits for such use.

#### Water Use:

##### 1. Water for irrigation or sprays:

- A. If treated water is intended to be used only for crops or non-cropland areas that are labeled for direct treatment with 2,4-D such as pastures, turfgrass or cereal grains, the treated water may be used to irrigate and/or mix sprays for these sites at anytime after the 2,4-D aquatic application.
- B. Due to potential phytotoxicity and/or residue considerations, the following restrictions are applicable. If treated water is intended to be used to irrigate or mix sprays for unlabeled crops, non-cropland areas, or other plants not labeled for direct treatment with 2,4-D, the water must not be used unless one of the following restrictions has been observed:
  - i. A setback distance described in the Drinking Water Setback Table was used for the application, or,
  - ii. A waiting period of 21 days from the time of application has elapsed, or,
  - iii. An approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) or less at the water intake. See Table 3 for the waiting period after application but before taking the initial sampling at water intake.

##### 2. Drinking water (potable water):

- A. Consult with appropriate state or local water authorities before applying this product to public waters. State or local agencies may require permits. The potable water use restrictions on this label are to ensure that consumption of water by the public is allowed only when the concentration of 2,4-D in the water is less than the MCL (Maximum Contaminant Level) of 70 ppb. Applicators should consider the unique characteristics of the treated waters to assure that 2,4-D concentrations in potable water do not exceed 70 ppb at the time of consumption.

- B. For submerged weed applications, the drinking water setback distances from functioning potable water intakes are provided in Table 2 Drinking Water Setback Distance (below).
- C. If no setback distance from the Drinking Water Setback Table (Table 2) is used for the application, applicators or the authorizing organization must provide a drinking water notification and an advisory to shut off all potable water intakes prior to a 2,4-D application. Notification to the party responsible for a public water supply or to individual private water users must be done in a manner to assure that the party is aware of the water use restrictions when this product is applied to potable water.

The following is an example of notification via posting, but other methods of notification that convey the above restrictions may be used and may be required in some cases under state or local law or as a condition of a permit.

**Example:** Posting notification should be located every 250 feet including the shoreline of the treated area and up to 250 feet of shoreline past the application site to include immediate public access points. Posting must include the day and time of application. Posting may be removed if analysis of a sample collected at the intake no sooner than stated in Table 3 (below) shows that the concentration in the water is less than 70 ppb (100 ppb for irrigation or sprays), or after 21 days following application, whichever occurs first.

**Text of Notification:** Wait 21 days before diverting functioning surface water intakes from the treated aquatic site to use as drinking water, irrigation, or sprays, unless water at functioning drinking water intakes is tested no sooner than (insert days from Table 3) and is demonstrated by assay to contain not more than 70 ppb 2,4-D (100 ppb for irrigation or sprays).  
 Application Date: \_\_\_\_\_ Time: \_\_\_\_\_ .

- D. Following each application of this product, do not use treated water for drinking water unless one of the following restrictions has been observed:
  - i. A setback distance described in the Drinking Water Setback Distance Table was used for the application, or,
  - ii. A waiting period of at least 21 days from the time of application has elapsed, or,
  - iii. An approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) or less at the water intake. Sampling for drinking water analysis should occur no sooner than stated in Table 3. Analysis of samples must be completed by a laboratory that is certified under the Safe Drinking Water Act to perform drinking water analysis using a currently approved version of analytical Method Number 515, 555, other methods for 2,4-D as may be listed in Title 40 CFR, Part 141.24, or Method Number 4015 (immunoassay of 2,4-D) from U.S. EPA Test Methods for Evaluating Solid Waste SW-846.
- E. **Note:** Existing potable water intakes that are no longer in use, such as those replaced by a connection to a municipal water system or a potable water well, are not considered to be functioning potable water intakes.
- F. Drinking water setback distances do not apply to terrestrial applications of 2,4-D adjacent to water bodies with potable water intakes.

**Table 2: Drinking Water Setback Distance for Submerged Weed Applications**

Application Rate and Minimum Setback Distance From Functioning Potable Water Intake (ft)			
1 ppm <sup>1</sup>	2 ppm <sup>1</sup>	3 ppm <sup>1</sup>	4 ppm <sup>1</sup>
600	1200	1800	2400

<sup>1</sup>ppm acid equivalent target water concentration

**Table 3: Sampling for Drinking Water Analysis After 2,4-D Application for Submerged Weed Applications**

Minimum Days After Application Before Initial Water Sampling at the Functioning Potable Water Intake
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1 ppm <sup>1</sup>	2 ppm <sup>1</sup>	3 ppm <sup>1</sup>	4 ppm <sup>1</sup>
5	10	10	14

<sup>1</sup>ppm acid equivalent target water concentration

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