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

EPA Reg. Number:  
62719-322

Date of Issuance:  
AUG 31 1999

NOTICE OF PESTICIDE:  
 Registration  
 Reregistration

Term of Issuance:  
Conditional

Name of Pesticide Product:  
NAF-522 545

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

DowAgro Sciences LLC  
9330 Zionsville Road  
Indianapolis, IN 426268-1054

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

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

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

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

1. Submit/cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) or 4 when the Agency requires all registrants of similar products to submit such data.
2. Make the labeling changes listed below before you release the product for shipment.
  - a. Add the phrase "EPA Registration No. 62719-322."
  - b. The statement "Reformulation Is Prohibited" must be removed from the label. You may change the statement to read similar to "This is an end-use product. DowAgro does not intend and has not registered it for reformulation."
  - c. On page 9 the statement "Do not add surfactants...to NAF-545" must be changed to read similar to "Do not add surfactants... to the spray solution when NAF-545 is the only pesticide used."
  - d.. Refer to Spray Drift Management attachment enclosed for statements required on the labels of all products applied by aerial application. Incorporate these statements into your label.

Signature of Approving Official:

Date:

8/31/99

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

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

A stamped copy of labeling is enclosed for your records.

The Agency has recently revised its recommended First Aid statements for pesticide products and intends to issue a PR Notice announcing the changes in the near future. In the interim we are encouraging registrants to begin using the new statements. The new statements were developed as part of the Consumer Labeling Initiative in close cooperation with poison control center personnel and other medical experts. While it is not mandatory that you revise your label at this time, you are strongly encouraged to substitute the revised statements (below) for those statements currently on the label at your next label printing:

FIRST AID

If swallowed:	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> </ul>
If in eyes:	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If on skin:	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If inhaled:	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>

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

*view*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Attachment-Spray Drift Management

Under the heading **Spray Drift Management** the text should read as follows:

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversion section of this label).

Controlling Droplet Size

**Volume**-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

**Pressure**-Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy protection. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of nozzles-Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation-Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

Nozzle Type-Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

Boom Length-For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

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

#### Swath Adjustment

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

#### Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

#### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### Temperature Inversions

Applications should not occur during a temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun set and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves literally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

### Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

(Base Label):

(logo) Dow AgroSciences LLC

# NAF-545

For control of annual and perennial weeds and woody plants in various cropping systems, fallow cropland and CRP acres, and in farmsteads, and other noncrop areas.

**Avoid contact of herbicide with foliage, green stems, exposed non-woody roots or fruit of crops, desirable plants and trees, because severe injury or destruction may result.**

Active Ingredient(s):

glyphosate† N-(phosphonomethyl)glycine, isopropylamine salt.....	41.0%
Inert Ingredients.....	59.0%
Total Ingredients.....	100.0%

† Contains 4 pounds per gallon glyphosate, isopropylamine salt (3 pounds per gallon glyphosate acid).

**Keep Out of Reach of Children**

## CAUTION      PRECAUCION

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

**Causes Eye Irritation**

**Avoid contact with eyes or clothing.**

#### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:**

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

ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
AUG 31 1999

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
62719-32-2

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

#### Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in 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.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### First Aid

**If in eyes:** Flush with plenty of water. Get medical attention if irritation persists.

**Domestic Animals:** NAF-545 is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of NAF-545 or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

### Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

### Physical or Chemical Hazards

Spray solutions of NAF-545 should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

**Do not mix, store or apply NAF-545 or spray solutions of NAF-545 in galvanized steel or unlined steel (except stainless steel) containers or spray tanks.** NAF-545 or spray solutions of NAF-545 react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### Agricultural Use Requirements

Use NAF-545 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 label booklet for Directions for Use including Storage and Disposal.

**Notice:** Read the entire label. Use only according to label directions. **Before buying or using NAF-545, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.**

In case of emergency endangering health or the environment involving NAF-545, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at [www.dowagro.com](http://www.dowagro.com).

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

EPA Reg. No. 62719-XXX

EPA Est. 00000-XX-00

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

## Herbicide

Net Contents \_\_ gal

(Label Booklet):

(logo) Dow AgroSciences LLC

# NAF-545

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Inert Ingredients.....	59.0%
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### Agricultural Use Requirements

Use NAF-545 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 additional precautionary information including Personal Protective Equipment (PPE), User Safety Recommendations and Directions for Use including Storage and Disposal.**

**Notice:** Read the entire label. Use only according to label directions. **Before buying or using NAF-545, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.**

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EPA Reg. No. 62719-XXX

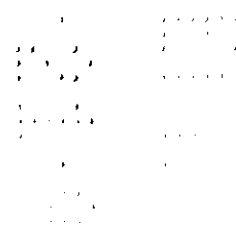
EPA Est. 00000-XX-00

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

## Herbicide



Net Contents \_\_ gal



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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

# CAUTION

Causes Eye Irritation

Avoid contact with eyes or clothing.

### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

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

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

### Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in 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.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### First Aid

**If in eyes:** Flush with plenty of water. Get medical attention if irritation persists.

**Domestic Animals:** NAF-545 is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of NAF-545 or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

### Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

### Physical or Chemical Hazards

Spray solutions of NAF-545 should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

**Do not mix, store or apply NAF-545 or spray solutions of NAF-545 in galvanized steel or unlined steel (except stainless steel) containers or spray tanks.** NAF-545 or spray solutions of NAF-545 react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### Directions for Use

It is a violation of Federal law to use NAF-545 in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

#### **Reformulation of NAF-545 is prohibited.**

Do not apply NAF-545 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 NAF-545 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 NAF-545 that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

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

- Coveralls
- Waterproof gloves
- Shoes plus socks

### Non-Agricultural Use Requirements

The requirements in this box apply to uses of NAF-545 that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when NAF-545 is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of NAF-545 onto desirable vegetation.

### Storage and Disposal

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

**Pesticide Disposal:** Wastes of this pesticide may cause eye and skin irritation and may be dangerous. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law. If these wastes cannot be disposed of according to label use instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Disposal:** Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Do not reuse this container. Triple rinse (or equivalent). Then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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**General Information**  
(How NAF-545 works)

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NAF-545 herbicide is a postemergence, systemic herbicide with no soil residual activity and is intended for control of annual and perennial weeds and woody plants in various cropping systems, fallow cropland and CRP acres, and in farmsteads, and other noncrop areas. NAF-545 is generally non-selective and gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. No additional surfactants, additives containing surfactant, buffering agents or pH adjusting agents are needed or recommended. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to label instructions.

Do not add surfactants, additives containing surfactants, buffering agents or pH adjusting agents to NAF-545. Ammonium sulfate may be used. See the "Mixing" section of this label for instructions.

**Time to Symptoms:** The active ingredient in NAF-545 moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of NAF-545 and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant that advances to complete browning of above ground growth and deterioration of underground plant parts.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. Refer to the annual, perennial, woody brush and trees rate tables for recommendations for specific weeds.

Always use the higher rate of NAF-545 per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced herbicidal activity may also occur when treating weeds heavily covered with dust.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

**Rainfastness:** Heavy rainfall soon after application may wash NAF-545 off of the foliage and a repeat application may be required for adequate control.

**Spray Coverage:** For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

**Mode of Action:** The active ingredient in NAF-545 inhibits an enzyme found only in plants that is essential to formation of specific amino acids.

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by NAF-545. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow.

When NAF-545 comes in contact with soil, it is bound to soil particles. Under recommended use situations, once NAF-545 is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treated area or if the soil is transported off-site. The strong affinity of NAF-545 to soil particles prevents NAF-545 from leaching out of the soil profile and entering ground water.

**Biological Degradation:** Degradation of NAF-545 is primarily a biological process carried out by soil microbes.

**Volatility:** NAF-545 is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

**Toxicology Testing:** Exposure to workers and other applicators generally is expected to pose minimal risks based on results of short-term toxicity studies. Glyphosate has been thoroughly tested and determined not to cause cancer or other adverse long-term health effects.

**Tank Mixing:** NAF-545 does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of NAF-545 with herbicides or other materials that are not expressly recommended in this labeling. Mixing NAF-545 with herbicides or other materials not recommended on this label may result in reduced performance.

**Annual Maximum Use Rate:** Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of NAF-545 per acre per year.

For noncrop uses, the combined total of all treatments must not exceed 10.6 quarts of NAF-545 per acre per year.

### Attention

**Avoid contact of herbicide with foliage, green stems, exposed non-woody roots or fruit of crops, desirable plants and trees, because severe injury or destruction may result.**

**AVOID DRIFT. Extreme care must be used when applying NAF-545 to prevent injury to desirable plants and crops.**

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of NAF-545 can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of NAF-545 increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. **Avoid applying at excessive speed or pressure.**

**NOTE:** Use of NAF-545 in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

## Mixing

Clean sprayer parts immediately after using NAF-545 by thoroughly flushing with water.

**NOTE: reduced results may occur if water containing soil is used, such as visibly muddy water or water from ponds and ditches that is not clear.**

### Mixing with Water

NAF-545 mixes readily with water. Mix spray solutions of NAF-545 as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of NAF-545 near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

### Tank Mixing Procedure

Mix labeled tank mixtures of NAF-545 with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it **slowly** through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture **SLOWLY** through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of NAF-545 near the end of the filling process.
7. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive and water-soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of NAF-545 with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section under "General Information" for additional precautions.

### Mixing for Hand-held Sprayers

Prepare the desired volume of spray solution by mixing the amount of NAF-545 in water as shown in the following table:



**Spray Solution**

Desired Volume	Amount of NAF-545					
	1/2%	1%	1 1/2%	2%	5%	10%
1 gal	2/3 fl oz	1 1/3 fl oz	2 fl oz	2 2/3 fl oz	6 1/2 fl oz	13 fl oz
25 gal	1 pt	1 qt	1 1/2 qt	2 qt	5 qt	10 qt
100 gal	2 qt	1 gal	1 1/2 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of NAF-545 be mixed with water in a larger container. Fill sprayer with the mixed solution.

**Ammonium Sulfate**

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of NAF-545, particularly when tank mixed with certain residual herbicides on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

**Note:** When using ammonium sulfate, apply NAF-545 at rates recommended in this label. Lower rates will result in reduced performance.

**Colorants or Dyes**

Agriculturally-approved colorants or marking dyes may be added to NAF-545. Colorants or dyes used in spray solutions of NAF-545 may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

**Drift Control Additives**

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and CDA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

### Application Equipment and Techniques

Do not apply NAF-545 through any type of irrigation system.

NAF-545 may be applied with the following application equipment:

**Aerial:** Fixed Wing and Helicopter

**Ground Broadcast Spray:** Boom or boomless systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

**Hand-Held and High-Volume Spray Equipment:** Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, hand wands, mistblowers<sup>1</sup>, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

<sup>1</sup>NAF-545 is not registered in California or Arizona for use in mistblowers.

**Selective Equipment:** Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.

**Injection Systems:** Aerial or ground injection sprayers.

**Controlled Droplet Applicator (CDA):** Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

**Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes.**

**Injection and Frill Application (Woody Brush and Trees):** Use suitable equipment that will deliver NAF-545 into the living tissue of trees and brush.

**Cut Stump Application:** Apply using suitable equipment to ensure coverage of the entire cambium of cut stems.

## Aerial Equipment

**Do not apply NAF-545 using aerial spray equipment except under conditions as specified within this label.**

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of NAF-545 may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates.

**For aerial application in California, refer to the federal supplemental label for aerial applications in that state for specific instructions, restrictions and requirements.** Tank mixtures of NAF-545 plus Banvel (dicamba) or 2,4-D herbicide may not be applied by air in California.

Avoid direct application to any body of water.

**AVOID DRIFT: do not apply during low-level inversion conditions, when winds are gusty or under any other condition which favors drift. Drift may cause damage to any vegetation contacted to which treatment is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.**

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations that dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

**Ensure uniform application:** To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of NAF-545 accumulated during spraying or from spills. **Prolonged exposure of NAF-545 to uncoated steel surfaces may result in corrosion and possible failure of the part. Landing gear are most susceptible.** The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

## Ground Broadcast Equipment

Use the recommended rates of NAF-545 in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

## Hand-Held and High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

For control of weeds listed in the annual weeds rate tables, apply a 0.5 percent solution of NAF-545 to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution.

For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods that result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

## Selective Equipment

NAF-545 may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

### **Avoid contact of herbicide with desirable vegetation.**

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

**Shielded and hooded applicators**

Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **Extreme care must be exercised to avoid contact of herbicide with desirable vegetation.**

**Wiper applicators and sponge bars**

*Wiper applicators are devices that physically wipe appropriate amounts of NAF-545 directly onto the weed.*

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using NAF-545 by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

**For Rope or Sponge Wick Applicators:** Mix 1 gallon of NAF-545 in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this section.

**For Porous-Plastic Applicators:** Solutions ranging from 33 to 100 percent of NAF-545 in water may be used in porous-plastic wiper applicators.

When applied as recommended, NAF-545 **controls** the following weeds:

corn, volunteer	sicklepod
panicum, Texas	spanishneedles
rye, common	starbur, bristly
shattercane	

When applied as recommended, NAF-545 **suppresses** the following weeds:

beggarweed, Florida	ragweed, common
bermudagrass	ragweed, giant
dogbane, hemp	smutgrass
dogfennel	sunflower
guineagrass	thistle, Canada
johnsongrass	thistle, musk
milkweed	vaseygrass
nightshade, silverleaf	velvetleaf
pigweed, redroot	

## Injection Systems

NAF-545 may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix NAF-545 with the concentrate of other products when using injection systems.

## CDA Equipment

The rate of NAF-545 applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of NAF-545 at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of NAF-545 at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

## Injection and Frill Application (Woody Brush and Trees)

**Types of Application:** Injection and frill application may be used in any noncrop site listed on this label

NAF-545 may be used to control woody brush and trees by injection or frill applications. Apply NAF-545 using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 1 ml of NAF-545 per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100 percent concentration of NAF-545 either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100 percent concentration of NAF-545. For best results, applications should be made during periods of active growth and after full leaf expansion. NAF-545 will control many species, some of which are listed below:

Control	Partial Control
Oak	Black gum
Poplar	Dogwood
Sweetgum	Hickory
Sycamore	Maple, red

## Cut Stump Application

**Types of Application:** Treating cut stumps in any noncrop site listed on this label

**Specific Use Recommendations:** NAF-545 will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply NAF-545 using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of NAF-545 to the freshly cut surface immediately after cutting. Delays

in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion

alder	saltcedar
eucalyptus	sweetgum
madrone	tan oak
oak	willow
reed, giant	

**Precautions and Restrictions:** Do not make cut stump applications when the roots of desirable woody brush or trees may be grafted to the roots of the cut stump. Injury resulting from root grafting may occur in adjacent woody brush or trees.

### CROPS (Alphabetical)

This section is organized alphabetically by crop category. There may be several labeled crops listed in a crop category.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables. Also refer to the "Selective Equipment" section.

For any crop not listed in this "Crops" section, applications must be made at least 30 days prior to planting.

For broadcast postemergence treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

When applying NAF-545 prior to transplanting crops into plastic mulch, residues may be removed from the plastic by 0.5 inches of water via sprinkler irrigation or natural rainfall.

### **Alfalfa, Clover, and Other Forage Legumes**

**Labeled Crops:** Alfalfa, clover, kudzu, lespedeza, lupin, sainfoin, trefoil, velvet bean, vetch, crown vetch, milk vetch

**Types of Applications:** Preplant, preemergence, at-planting, spot treatment, wiper applicators, renovation, preharvest

#### **Preplant, Preemergence and At-planting**

**Specific Use Recommendations:** NAF-545 may be applied before, during or after planting alfalfa and clover. Applications must be made prior to emergence of the crop.

**Precautions and Restrictions:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### **Preharvest (Alfalfa only)**

**Specific Use Recommendations:** NAF-545 may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy the stand of alfalfa. NAF-545 will control annual and perennial weeds, including quackgrass, when applied prior to the harvest of alfalfa. The treated crop and weeds can be harvested and fed to livestock after 36 hours.

Allow a minimum of 36 hours between application and harvest. Applications may be made at any time of the year. Make only one application to an existing stand of alfalfa per year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

**Precautions and Restrictions:** Do not apply more than 1 quart of NAF-545 per acre as a preharvest treatment. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur.

#### **Spot treatment or Wiper applications (Alfalfa and Clover only)**

**Specific Use Recommendations:** NAF-545 may be applied as a spot treatment in alfalfa or clover. NAF-545 may be applied with wiper applicators to control or suppress the weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label. Applications may be made in the same area at 30-day intervals.

**Precautions and Restrictions:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

#### **Renovation**

**Specific Use Recommendations:** NAF-545 may be applied as a broadcast spray to existing stands of alfalfa, clover, and other labeled forage legumes. Labeled crops may be planted into the treated area.

**Precautions and Restrictions:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

### **Asparagus**

**Types of Applications:** Preplant, preemergence, spot treatment, postharvest

#### **Preplant, Preemergence**

**Specific Use Recommendations:** NAF-545 may be applied prior to emergence of asparagus.

**Precautions and Restrictions:** Do not apply within a week before the first spears emerge.

#### **Spot treatment**

**Specific Use Recommendations:** NAF-545 may be applied immediately after cutting, but prior to the emergence of new spears.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

#### **Postharvest**

**Specific Use Recommendations:** NAF-545 may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears.

**Precautions and Restrictions:** Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

## Cereal Crops

**Labeled Crops:** Barley, buckwheat, millet (pearl, proso), oats, rice, rye, teosinte, triticale, wheat (all), wild rice

**Types of Applications:** Preplant, preemergence, at-planting, spot treatment (except rice), post-harvest, preharvest (wheat only), wiper applicators (wheat only)

Do not treat rice fields or levees when the field contains flood water.

### Preplant, Preemergence and At-planting

**Specific Use Recommendations:** NAF-545 may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

### Spot treatment (except rice)

**Specific Use Recommendations:** NAF-545 may be applied as a spot treatment in cereal crops. Apply NAF-545 before heading in small grains.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Postharvest

**Specific Use Recommendations:** NAF-545 may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures of NAF-545 with 2,4-D or dicamba may be used.

**Precautions and Restrictions:** For any crop not listed on this label, applications must be made at least 30 days prior to planting the next crop. Do not harvest or feed treated vegetation for 8 weeks following application.



### Preharvest (wheat only)

**Specific Use Recommendations:** NAF-545 provides weed control when applied prior to harvest of wheat. Apply after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest. Wheat stubble may be grazed immediately after harvest.

NAF-545 may be applied using either aerial or ground spray equipment. For ground or aerial applications, apply NAF-545 in 3 or more gallons of water per acre.

**Precautions and Restrictions:** Do not apply more than 1 quart of NAF-545 per acre. Do not apply to wheat grown for seed, as a reduction in germination or vigor may occur.

### Wiper applications (wheat only)

**Specific Use Recommendations:** Wiper applications may be used in wheat. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, when the rye is at least 6 inches above the wheat crop.

**Precautions and Restrictions:** Allow at least 35 days between application and harvest. Do not use roller applicators.

## Christmas Trees

**Types of Applications:** Post-directed, spot treatment, site preparation

### Post-directed, Spot treatment

**Specific Use Recommendations:** NAF-545 may be used as a post-directed spray and spot treatment around established Christmas trees.

**Precautions and Restrictions:** Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. **NAF-545 is not recommended for use as an over-the-top broadcast spray in Christmas trees.** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees.

### Site preparation

**Specific Use Recommendations:** NAF-545 may be used prior to planting Christmas trees.

**Precautions and Restrictions:** Precautions should be taken to protect nontarget plants during site preparation applications.

## Citrus Crops

**Labeled Crops:** Calamondin, chironja, citron, citrus hybrids, grapefruit, kumquat, lemon, lime, mandarin (tangerine), orange (all), pummelo, tangelo, tangor

**Types of Applications:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE: for general use directions, see the "tree, nut and vine (general)" section. The following directions are specific to citrus crops.**

**Florida and Texas only:** For burndown or control of the weeds listed below, apply the recommended rates of NAF-545 in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 2 to 3 quarts of NAF-545 per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of Krovar II herbicide or Karmex herbicide may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

**Perennial weeds:**

Weed Species	NAF-545 Rate Per Acre			
	1 qt	2 qt	3 qt	5 qt
bermudagrass	B	--	PC	C
guineagrass				
Texas and Florida ridge	B	C	C	C
Florida flatwoods	--	B	C	C
paragrass	B	C	C	C
torpedograss	S	--	PC	C

S = Suppression      B = Burndown  
PC = Partial control    C = Control

**Precautions and Restrictions:** Allow a minimum of 1 day between last application and harvest.

### Conservation Reserve Program (CRP)

**Types of Applications:** Renovation (rotating out of CRP), site preparation, dormant, wiper

#### Rotating out of CRP, Site preparation

**Specific Use Recommendations:** NAF-545 may be used to prepare CRP land for crop production.

#### Dormant, Wiper

**Specific Use Recommendations:** NAF-545 may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 8 to 10 fluid ounces of NAF-545 per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

**Precautions and Restrictions:** Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant.

## Corn

**Types of Corn:** Field corn, seed corn, sweet corn and popcorn

**Types of Applications:** Preplant, preemergence, at-planting, spot treatment, post-harvest

### Preplant, Preemergence and At-Planting

**Specific Use Recommendations:** NAF-545 may be applied before, during or after planting corn. Applications must be made prior to emergence of the crop.

**Tank Mixes:** Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre. For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. See the map in the Annual Weeds section of this label for areas included in this recommendation.

**Tank mixtures with the following herbicide products may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue:**

atrazine	Extrazine	Lorox
dicamba	Frontier	Marksman
Bicep	Guardman	Micro-Tech
Bicep II	Harness	Partner
Bladex/Cyanazine	Harness Xtra	Prowl
Hornet*	Harness Xtra 5.6l	Simazine
Bullet	Lariat	Surpass
Dual	Lasso/Alachlor	Surpass 100
Dual II	Linex	Topnotch

For improved burndown, NAF-545 may be tank mixed with 2,4-D or dicamba.

**Annual weeds:** For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply NAF-545 at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of NAF-545 per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

**Precautions and Restrictions:** Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn.

The tank mix recommendations in this section are not registered in California.

### Spot treatment

**Specific Use Recommendations:** For spot treatments, apply NAF-545 prior to silking of corn.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

## Post-harvest

**Specific Use Recommendations:** NAF-545 may be applied after harvest of corn. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures of NAF-545 with 2,4-D or dicamba may be used.

**Precautions and Restrictions:** Do not harvest or feed treated vegetation for 8 weeks following application.

## Cotton

**Types of Applications:** Preplant, preemergence, at-planting, hooded sprayer, selective equipment, spot treatment, preharvest

### Preplant, Preemergence, and At-planting

**Specific Use Recommendations:** NAF-545 may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

### Hooded sprayer, Selective equipment

**Specific Use Recommendations:** NAF-545 may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

**Precautions and Restrictions:** See the "Selective Equipment" part of the "Application Equipment and Techniques" section of this label for information on proper use and calibration of this equipment.

### Spot treatment

**Specific Use Recommendations:** For spot treatments, apply NAF-545 prior to boll opening of cotton.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

### Preharvest

**Specific Use Recommendations:** NAF-545 provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the annual, perennial and woody brush tables. Apply 1 pint to 2 quarts of NAF-545 per acre for cotton regrowth inhibition. Allow a minimum of 7 days between application and harvest of cotton.

NAF-545 may be applied using either aerial or ground spray equipment. For ground applications, apply NAF-545 in 10 to 20 gallons of water per acre. For aerial applications, apply NAF-545 in 3 to 10 gallons of water per acre.

Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

NAF-545 may be tank mixed with DEF 6, Folex, or Prep defoliant to provide additional enhancement of cotton leaf drop.

**Precautions and Restrictions:** Do not feed or graze treated cotton forage or hay following preharvest applications. **Do not apply more than 1 quart of NAF-545 per acre by air.** Do not apply more than 2 quarts of NAF-545 per acre by ground. Do not apply to cotton grown for seed, as a reduction in germination or vigor may occur.

## Fallow Systems

**Types of Applications:** Chemical fallow, preplant fallow beds, aid-to-tillage

### Chemical fallow

**Specific Use Recommendations:** NAF-545 may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. NAF-545 may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures of NAF-545 with 2,4-D, dicamba, Tordon\* 22K herbicide, atrazine or cyanazine herbicide may be used.

**Precautions and Restrictions:** Tank mixtures of NAF-545 with Banvel (dicamba), Tordon 22K or 2,4-D may not be applied by air in California.

Follow planting, cropping, crop rotation and other restrictions and use precautions on the labels of each product used in tank mixtures.

**Dicamba:** Some crop injury may occur if dicamba is applied within 45 days of planting.

**Tordon 22K:** The addition of Tordon 22K in a mixture with NAF-546 may provide short-term residual control of selected weed species. Application of NAF-546 in tank mix with Tordon 22K should be made only to land that will be planted the following year to grass, barley, oats, wheat, grain sorghum (milo) or fallowed. Some crop injury may occur if Tordon 22K is applied within 45 days of planting. Do not plant grain sorghum within 8 months after application. Tordon 22K is not intended for use on land planted to sweet sorghum.

### Preplant fallow beds

**Specific Use Recommendations:** NAF-545 may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. NAF-545 will control weeds listed in the annual, perennial and woody brush tables.

In addition, 12 fluid ounces of NAF-545 plus 2 to 3 oz of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 3" -- common cheeseweed, chickweed, groundsel; 6" -- London rocket, shepherd's-purse.

16 fluid ounces of NAF-545 plus 2 to 3 oz of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6" -- common cheeseweed, groundsel, maretail (*Conyza canadensis*), 12" -- chickweed, London rocket, shepherd's-purse.

### Aid-to-tillage

**Specific Use Recommendations:** NAF-545 may be used in conjunction with tillage practices in fallow systems or preplant to labeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of NAF-545 in 3 to 10 gallons of water per acre. Make applications before

weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

**Precautions and Restrictions:** Tank mixtures NAF-545 with residual herbicides may result in reduced performance.

## Grain Sorghum (Milo)

**Types Of Applications:** Preplant, preemergence, at-planting, spot treatment, wiper applicators, post-harvest

### Preplant, Preemergence, At-planting

**Specific Use Recommendations:** NAF-545 may be applied before, during or after planting grain sorghum. Applications must be made prior to emergence of the crop.

The following herbicide products may be applied in tank mix combination with NAF-545 in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre. Apply before, during or after planting in conventional tillage systems, into a cover crop, established sod or over previous crop residue.

atrazine	Lariat
Bicep II	Lasso / atachlor
Bullet	Micro-Tech
Dual II	Partner

Annual weeds: For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply NAF-545 at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of NAF-545 per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

### Spot treatment and Wiper applications

**Specific Use Recommendations:** NAF-545 may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. NAF-545 may be applied with wiper applicators to control or suppress the weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label.

**Precautions and Restrictions:** For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

### Post-harvest

**Specific Use Recommendations:** NAF-545 may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds that were growing in the crop at the time of harvest. Tank mixtures of NAF-545 with 2,4-D or dicamba may be used.

NAF-545 may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of NAF-545 per acre for control, or 1.5 pints of NAF-545 per acre for suppression.

**Precautions and Restrictions:** Do not harvest or feed treated vegetation for 8 weeks following application.

## Grass Seed Production

**Types of Applications:** Preplant, renovation, site preparation

**Specific Use Recommendations:** Applications may be made prior to planting or renovation of turf or forage grass areas grown for seed production. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

**Precautions and Restrictions:** Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

Do not feed or graze treated areas for 8 weeks following application.

## Herbs

**Types of Herbs:** Peppermint, spearmint

**Specific Use Recommendations:** NAF-545 may be used as a spot treatment in spearmint and peppermint. Apply spray-to-wet with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, hand-guns, hand-wands or any other hand-held or motorized spray equipment used to direct the spray solution on to a limited area.

**Precautions and Restrictions:** Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30-day intervals. No more than one-tenth of any acre should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason.

## Pastures

**Type of Pastures:** Bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa and clover

**Types of Applications:** Spot treatment, wiper application, preplant, preemergence, pasture renovation

### Spot treatment and Wiper application

**Specific Use Recommendations:** NAF-545 may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

**Precautions and Restrictions:** For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

**Preplant, Preemergence and Pasture renovation**

**Specific Use Recommendations:** NAF-545 may be applied prior to planting or emergence of forage grasses and legumes. In addition, NAF-545 may be used to control perennial pasture species listed on this label prior to re-planting.

**Precautions and Restrictions:** Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

**Peanuts**

**Types of Applications:** Preplant, preemergence, at-planting

**Specific Use Recommendations:** NAF-545 may be applied before, during or after planting peanuts. Applications must be made prior to the emergence of the crop.

**Small Fruits and Berries**

**Labeled Crops:** Blackberry, blueberry, boysenberry, cranberry, currant, dewberry, elderberry, gooseberry, huckleberry, loganberry, olallieberry, raspberry (black, red), youngberry

**Types of Applications:** Preplant, preemergence, directed spray (except cranberry), wiper application

**Specific Use Recommendations:** NAF-545 may be applied as a preplant or preemergence broadcast application or as a wiper application for crops listed in this section. Directed sprays may be applied to any crop except cranberries. For wick or wiper applicators, mix 1 gallon of NAF-545 in 4 gallons of water to prepare a 20 percent solution. In severe infestations, reduce equipment ground speed to ensure that adequate amounts of NAF-545 are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

**Precautions and Restrictions:** Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. For other small fruits and berries, allow a minimum of 14 days between last application and harvest.

**Soybeans**

**Types of Applications:** Preplant, preemergence, at-planting, spot treatment, preharvest, selective equipment, hooded sprayers

**Preplant, Preemergence and At-planting**

**Specific Use Recommendations:** NAF-545 may be applied before, during or after planting soybeans. Applications must be made prior to emergence of the crop.



**Tank mixtures of NAF-545 with the following herbicide products may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue:**

Canopy	Gemini	Prowl
Command	Lasso/Alachlor	Pursuit
Dual	Linex	Pursuit Plus
Dual II	Lorox/Linuron	Python*
FirstRate*	Lorox Plus	Scepter
Frontier	Micro-Tech	Sencor/Lexone
Frontrow*	Partner	Squadron
Fusion	Preview	Turbo

For improved burndown, NAF-545 may be tank-mixed with 2,4-D or 2,4-DB herbicide. See the 2,4-D label for intervals between application and planting.

**Annual weeds:** For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply NAF-545 at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of NAF-545 per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

**Precautions and Restrictions:** The tank mix recommendations in this section are not registered in California.

#### **Spot treatment**

**Specific Use Recommendations:** For spot treatments, apply NAF-545 prior to initial pod set in soybeans.

**Precautions and Restrictions:** Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

#### **Preharvest**

**Specific Use Recommendations:** NAF-545 provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the annual, perennial-and woody brush tables. NAF-545 may be applied using either aerial or ground spray equipment. For ground applications, apply NAF-545 in 10 to 20 gallons of water per acre. For aerial applications, apply NAF-545 in 3 to 10 gallons of water per acre.

Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

**Precautions and Restrictions:** Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application. **Do not apply more than 6 quarts per acre of NAF-545 for preharvest applications. Do not apply more than 1 quart per acre of NAF-545 by air.** Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur.

### Selective equipment

**Specific Use Recommendations:** NAF-545 may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

**Precautions and Restrictions:** See the "Selective Equipment" part of the "Application Equipment and Techniques" section of this label for information on proper use and calibration of this equipment.

### Sugarcane

**Types of Applications:** Preplant, preemergence, spot treatment, fallow, hooded sprayers

#### Preplant, Preemergence

**Specific Use Recommendations:** NAF-545 may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

**Precautions and Restrictions:** Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

#### Spot treatment

**Specific Use Recommendations:** NAF-545 may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1 percent solution of NAF-545 in water and spray to wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

**Precautions and Restrictions:** Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

#### Fallow treatments

**Specific Use Recommendations:** NAF-545 may be used as a replacement for tillage in fields that are lying fallow between sugarcane crops. NAF-545 may also be used to remove the last stubble of ratoon cane. For removal of last stubble of ratoon cane, apply 4 to 5 quarts of NAF-545 in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage.

#### Hooded sprayers

**Specific Use Recommendations:** NAF-545 may be used through hooded sprayers for weed control between the rows of sugarcane. A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution.

Minimize the potential for spray particles to escape from under the hood by operating the sprayer at appropriate ground speeds, nozzle pressures and wind speeds. Operation on rough or sloping ground may result in spray particles escaping from the hood.

When applying to sugarcane that is grown on raised beds, ensure that the hood is designed to completely enclose the spray. If necessary, extend the front and rear flaps of the hoods to reach the ground in furrows between the rows.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting the crop. Contact of NAF-545 in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

**Precautions and Restrictions:** Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction.

## Sunflowers

**Types of Applications:** Preplant, preemergence

**Specific Use Recommendations:** NAF-545 may be applied before, during or after planting sunflowers. Applications must be made prior to emergence of the crop.

**Precautions and Restrictions:** Do not apply more than 1 quart of NAF-545 per acre for sunflowers. Make only one preplant or preemergence application per year. Do not feed or graze sunflower forage following application of NAF-545.

## Tree and Vine Crops (General)

**Types of Applications:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment (except kiwi), perennial grass suppression

**NOTE:** This section gives general directions that apply to all citrus crops, tree fruits, tree nuts and vine crops. See the individual crop sections for instructions, preharvest intervals, precautions and restrictions for specific crops.

NAF-545 may be applied in middles, strips and for general weed control in established citrus groves, tree fruit and tree nut orchards, and vineyards. Apply at 1 pint to 5 quarts per acre. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. NAF-545 may also be used for site preparation prior to transplanting these crops. Allow a minimum of 3 days between application and transplanting. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, orchard guns or with wiper applicator equipment, except as directed.

### Middles (between rows)

**Specific Use Recommendations:** NAF-545 will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been mowed prior to application.

A tank mixture of NAF-545 plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. Application of 16 to 32 oz/A of NAF-545 plus 3 to 12 oz/A of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, hairy fleabane (*Coryza bonariensis*), common groundsel, junglerice, common lambsquarters, redroot pigweed,

London rocket, common ryegrass, shepherd's-purse, annual sowthistle, common cheeseweed (malva), filaree (suppression), horseweed/marestail (*Conyza canadensis*), stinging nettle and common purslane (suppression). Application of 12 to 32 oz/A of NAF-545 plus 3 to 12 oz/A of Goal 2XL will control common cheeseweed (malva) with a maximum height or diameter of 3 inches.

### Strips (in rows)

**Specific Use Recommendations:** NAF-545 may be applied in rows of tree or vine crops and may also be tank mixed with the following herbicide products:

Devrinol 50 DF	Princep Caliber 90
Direx 4L	Simazine 4L
Goal 2XL	Simazine 80w
Karmex DF	Sim-Trol 4L
Krovar I	Solicam DF
Krovar II	Surflan* A.S.
Prowl	

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Apply 1 pint to 5 quarts of NAF-545 per acre in these tank mixtures. Use rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

### Perennial grass suppression

NAF-545 will suppress perennial grasses such as bahiagrass, bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of NAF-545 in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of NAF-545 per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply NAF-545 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of NAF-545 in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of NAF-545 per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 1 to 2 quarts of NAF-545 in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of bermudagrass, apply 6 to 16 fluid ounces of NAF-545 per acre east of the Rocky Mountains and 16 fluid ounces of NAF-545 per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 6 to 10 fluid ounces per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

### Selective equipment

Shielded and wiper applicators may be used in tree crops and grapes. Refer to the individual crop sections for time interval between application and harvest.

**General Precautions/Restrictions:** For all uses in this section.

**Extreme care must be exercised to avoid contact of herbicide solution, spray, drift or mist with foliage or green bark of trunk, branches, suckers, fruit or other parts of trees and vines. Contact of NAF-545 with other than matured brown bark can result in serious crop damage.**

**Avoid painting cut stumps with NAF-545 as injury resulting from root grafting may occur in adjacent trees.**

## Tree Fruits

**Labeled Crops:** Apple, apricot, cherry (sweet, sour), crabapple, loquat, mayhaw, nectarine, olive, peach, pear, plum/prune (all), quince

**Types of Applications:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** For general use directions, see the "Tree, Nut and Vine (General)" section. The following directions are specific to tree fruits.

### Restrictions on application equipment

For cherries, any application equipment listed in this section may be used in all states.

For citron and olives, apply as a post-directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

For **peaches** grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of NAF-545 with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. **Extreme care must be taken to ensure no part of the peach tree is contacted.**

**Precautions and Restrictions:** Allow a minimum of 1 day between last application and harvest for apple, crabapple, loquat, mayhaw, pear, quince.

Allow a minimum of 17 days between last application and harvest for apricot, cherry, nectarine, olive, peach, plum/prune.

### Tree Nuts

**Labeled Crops:** Almond, beechnut, brazil nut, butternut, cashew, chestnut, chinquapin, filbert (hazelnut), hickory nut, macadamia, pecan, pistachio, walnut (black, English)

**Types of Applications:** General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

**NOTE:** For general use directions, see the "tree, Nut and Vine (General)" section. The following directions are specific to tree nuts.

**Precautions and Restrictions:** Allow a minimum of 3 days between last application and harvest of tree nuts.

### Tropical Crops

**Labeled Crops:** Atemoya, avocado, banana, Barbados cherry (acerola), breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, coffee, dates, figs, guava, jaboticaba, jackfruit, longan, lychee, mango, marmaladebox (genip), papaya, passion fruit, persimmon, pineapple, plantain, pomegranate, sapodilla, sapote (black, mamey, white), soursop, sugar apple, tamarind, tea.

**Specific Use Recommendations:** NAF-545 may be applied for general weed control or for site preparation prior to transplanting crops listed in this section. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

**Precautions and Restrictions:** Allow a minimum of 14 days between last application and harvest of acerola, atemoya, avocado, breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, dates, figs, genip, jaboticaba, jackfruit, longan, lychee, mango, mayhaw, passion fruit, persimmon, pomegranate, sapodilla, sapote, soursop, sugar apple, tamarind, and tea.

Allow a minimum of 28 days between last application and harvest of plantain and coffee.

Allow a minimum of 1 day between last application and harvest of banana, guava and papaya.

Do not feed or graze treated pineapple forage following application.

### Vegetable Crops

**Labeled Crops:** Amaranth, arrugula, artichoke (Jerusalem), beans (all), beet greens, garden beets, broccoli (all), brussels sprouts, cabbage (all), cabbage (Chinese), cantaloupe, cardoon, cavalo broccolo, carrot, cauliflower, casaba melon, celery, celery (Chinese), celeriac, celtuce, chard (Swiss), chayote, chervil, chick peas, chicory, chrysanthemum, collards, corn salad, crenshaw melon, cress, cucumber, dandelion, dock (sorrel), eggplant, endive, fennel (florence), garlic, gherkin, ginseng, gourds, ground cherry, guar, honeydew melon, honey ball melon, horseradish, kale, kohlrabi, leek, lentils, lettuce, mango

melon, melons (all), mizuna, muskmelon, mustard greens, okra, onion, oriental radish, parsley, parsnips, peas (all), pepinos, pepper (all), Persian melon, potato (Irish), pumpkin, purslane, radish, rape greens, rhubarb, rutabaga, salsify, shallot, spinach (all), mustard spinach, squash (summer, winter), sugar beets, sweet potato, tomatillo, tomato, turnip, watercress, watermelon, yams.

**Specific Use Recommendations:** NAF-545 may be applied prior to the emergence of direct seeded vegetables or prior to transplanting vegetables.

**Precautions and Restrictions:** When applying NAF-545 prior to transplanting crops into plastic mulch, care must be taken to remove residues of NAF-545 from the plastic prior to transplanting. Residues can be removed by 0.5-inch natural rainfall or by applying water via a sprinkler system.

For the following crops, apply only prior to planting. Allow at least 3 days between application and planting of cantaloupe, casaba melon, crenshaw melon, cucumber, eggplant, garlic, gherkin, gourds, ground cherry, honeydew melon, honey ball melon, mango melon, melons (all), muskmelon, pepper (all), Persian melon, pumpkin, squash (summer, winter), tomatillo, tomato, watercress, and watermelon.

Wiper applicators may be used in rutabagas. Allow at least 14 days between application and harvest.

## Vine Crops

**Labeled Crops:** Grapes (raisin, table, wine), kiwi fruit

**Types of Applications:** General weed control, middles (between rows), strips (in row), selective equipment

**NOTE:** For general use directions, see the "Tree, Nut and Vine (General)" section. The following directions are specific to vine crops.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

**Precautions and Restrictions:** Allow a minimum of 14 days between last application and harvest.

## General Noncrop Areas and Industrial Sites

**Labeled Use Sites:** NAF-545 may be used in areas such as airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumberyards, manufacturing sites, office complexes, ornamental nurseries, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, utility substations, warehouse areas, farmsteads (including building foundations, along and in fences, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas), other public areas, and similar industrial and noncrop sites.

**Types of Applications:** General nonselective weed control, trim-and-edge, chemical mowing, cut stumps, injection and frill, habitat management.

NAF-545 may be used in general noncrop areas. It may be applied with any application equipment described in this label. NAF-545 may be used to trim-and-edge around objects in noncrop sites, for spot

treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. NAF-545 may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

### General nonselective weed control, Trim-and-edge and Bare Ground

NAF-545 may be tank mixed with the following herbicide products. Refer to these product labels for labeled application sites and application rates. For annual weeds, use 1 quart per acre of NAF-545 when weeds are less than 6 inches tall and 1.5 quarts per acre when weeds are greater than 6 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For tank mixtures of NAF-545 with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "Hand-Held And High Volume Equipment" section of this label for recommended rates.

Arsenal	Plateau
Banvel (dicamba)	Princep DF
Barricade 65WG	Princep Liquid
diuron	Ronstar 50WP
Endurance	Sahara
Escort	simazine
Karmex DF	Surflan*
Krovar I DF	Telar
Oust	Vanquish
Pendulum 3.3 EC	2,4-D
Pendulum WDG	

Tank mixtures of NAF-545 with Oust, Banvel and 2,4-D may not be applied by air in California.

When applied as a tank mixture for bare ground, NAF-545 provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of NAF-545 plus 2 to 4 ounces of Oust per acre.

Bahiagrass	Fescue, tall
Bermudagrass	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Quackgrass
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

### Chemical mowing

**Perennials:** NAF-545 will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply NAF-545 at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces of NAF-545 per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of NAF-545 per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

**Precautions and Restrictions:** Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

**Annuals:** For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of NAF-545 in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are



actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

### **Dormant turfgrass**

NAF-545 may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 8 to 64 fluid ounces of NAF-545 per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. **Do not** apply tank mixtures of NAF-545 plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for dormant bermudagrass and bahiagrass treatments.

### **Actively growing bermudagrass**

NAF-545 may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. **Do not** apply more than 16 fluid ounces of NAF-545 per acre in highly maintained turfgrass areas. **Do not** apply tank mixtures of NAF-545 plus Oust in highly maintained turfgrass areas. For further uses, refer to the "Roadsides" section of this label, which gives rates for bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

### **Turfgrass renovation, seed, or sod production**

NAF-545 controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. When repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply NAF-545 after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

## Ornamentals, Plant Nurseries and Christmas trees

**Post-direct, Trim-and-edge:** NAF-545 may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, eunonymus, fir, douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, privet, pine, spruce and yew. NAF-545 may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. **This product is not recommended for use as any over-the-top broadcast spray in ornamentals and Christmas trees.** Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

**Site preparation:** NAF-545 may be used prior to planting any ornamental, nursery or Christmas tree species.

**Greenhouse/Shadehouse:** NAF-545 may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

## Wildlife Habitat Management

**Types of Uses:** Habitat restoration and maintenance, wildlife food plots

### Habitat restoration and maintenance

**Specific Use Recommendations:** NAF-545 may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat maintenance and enhancement. The tank mixtures listed in this section of the label may be used for habitat restoration and maintenance.

### Wildlife food plots

**Specific Use Recommendations:** NAF-545 may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying NAF-545, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

## Parks, Recreational and Residential Areas

NAF-545 may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. NAF-545 may be used to trim-and-edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. NAF-545 may be used for spot treatment of unwanted vegetation. NAF-545 may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. NAF-545 may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "**General Noncrop Areas and Industrial Sites**" section apply to park and recreational areas.

## Railroads

All of the instructions in the "General Noncrop Areas and Industrial Sites" section apply to railroads.

### Bare ground, Ballast and Shoulders, Crossings, and Spot treatment

NAF-545 may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of NAF-545 may be used, as weeds emerge, to maintain bare ground. NAF-545 may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used. NAF-545 may be tank mixed with the following herbicide products for ballast, shoulder, spot, bare ground and crossing treatments:

Arsenal	Krovar I DF
Banvel (dicamba)	Oust
Diuron	Sahara
Escort	Spike*
Garlon* 3A herbicide	Telar
Garlon 4	Vanquish
Hyvar X	2,4-D

### Brush control

NAF-545 may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of NAF-545 per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a ¾ to 2 percent solution of NAF-545 when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of NAF-545 when using low volume directed sprays for spot treatment. NAF-545 may be mixed with the following herbicide products for enhanced control of woody brush and trees:

Arsenal	Garlon 4
Escort	Tordon K
Garlon 3A	

### Bermudagrass release

NAF-545 may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of NAF-545 in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpet creeper
Fescue, tall	Vaseygrass

NAF-545 may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 3 pints of NAF-545 with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry

Dallisgrass	Trumpet creeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

## Roadsides

All of the instructions in the "**General Noncrop Areas and Industrial Sites**" section apply to roadsides.

### Shoulder treatments

NAF-545 may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

### Guardrails and other obstacles to mowing

NAF-545 may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

### Spot treatment

NAF-545 may be used as a spot treatment to control unwanted vegetation growing along roadsides.

### Tank mixtures

NAF-545 may be tank-mixed with the following herbicide products for shoulder, guardrail, spot and bare ground treatments:

Banvel (dicamba)	Princep Liquid
diuron	Ronstar 50WP
Endurance	Sahara
Escort	simazine
Krovar I DF	Surflan
Oust	Telar
Pendulum 3.3 EC	Vanquish
Pendulum WDG	2,4-D
Princep DF	

See the "**General Noncrop Areas and Industrial Sites**" section of this label for general instructions for tank mixing.

### Release of Bermudagrass or Bahiagrass Dormant applications

NAF-545 may be used to partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. NAF-545 may also be tank-mixed with Oust for residual control. Tank mixtures of NAF-545 with Oust may delay greenup.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 8 to 64 fluid ounces of NAF-545 per acre alone or in a tank mixture with ¼ to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where

bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

#### Actively growing bermudagrass

NAF-545 may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of NAF-545 in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

NAF-545 may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 2 pints of NAF-545 with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpetcreeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

#### Actively growing bahiagrass

For suppression of vegetable growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of NAF-545 in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of NAF-545 per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

A tank mixture of NAF-545 plus Oust may be used. Apply 6 fluid ounces of NAF-545 plus 0.25 ounces of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

## Annual Weeds Rate Tables (Alphabetically By Species)

Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended.

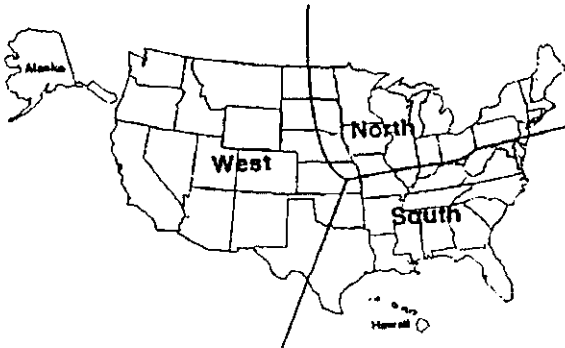
Apply to actively growing annual weeds.

Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

For those rates less than 48 fluid ounces per acre, NAF-545 may be used up to 48 fluid ounces per acre where heavy weed densities exist.

Refer to this map for location of the regions listed in the annual weed tables below.



**Annual Weeds Rate Table, North and South Regions**

Weed Species	Region	Rate of NAF-545 (Fluid Ounces Per Acre)					
		12	16	24	32	40	48
		Maximum Height/Length					
annoda, spurred		-	1"	2"	3"	5"	8"
barley		-	18"	18"+	-	-	-
barnyardgrass	South	-	3"	5"	7"	9"	12"
	North	-	-	6"	12"	-	-
bittercress		-	12"	20"	-	-	-
bluegrass, annual		-	10"	-	-	-	-
brassica, fivehook		-	-	-	6"	-	-
brome, downy		6"	-	-	-	-	-
brome, Japanese		-	6"	-	24"	-	-
browntop panicum		-	6"	8"	12"	-	24"
burcucumber		-	6"	12"	-	-	-
buttercup		-	12"	20"	-	-	-
Carolina foxtail		-	20"	-	-	-	-
Carolina geranium		-	-	-	4"	-	9"

carpetweed		-	-	6"	12"	-	-
cheat		-	6"	20"	-	-	-
chervil		-	20"	-	-	-	-
chickweed		-	12"	18"	-	-	-
cocklebur		-	12"	18"	24"	-	-
copperleaf, hophornbeam		-	1"	2"	3"	4"	6"
copperleaf, Virginia		-	1"	2"	3"	4"	6"
corn		-	12"	20"	-	-	-
corn speedwell		-	12"	-	-	-	-
crabgrass		-	12"	18"	-	-	-
cutleaf evening primrose		-	-	-	3"	-	6"
dwarf dandelion		-	20"	-	-	-	-
eastern manna grass		-	8"	12"	-	-	-
eclipta		-	4"	8"	12"	-	-
fall panicum	South	-	4"	6"	8"	12"	24"
	north	-	6"	12"	18"	-	-
falsedandelion		-	20"	-	-	-	-
falseflax, smallseed		-	12"	-	-	-	-
fiddleneck		-	-	-	6"	-	12"
field pennycress		-	6"	12"	-	-	-
filaree		-	-	-	-	-	12"
fleabane, annual		-	6"	20"	-	-	-
fleabane, hairy ( <i>conyza bonariensis</i> )		-	6"	-	-	-	-
fleabane, rough		-	3"	6"	12"	-	-
Florida pusley		-	-	-	12"	-	-
foxtail	South	-	8"	12"	20"	-	-
	North	18"	18"+	-	-	-	-
goatgrass, jointed		-	6"	-	-	-	-
goosegrass		-	3"	5"	8"	-	18"
grain sorghum (milo)		-	6"	12"	20"	-	-
groundsel, common		-	6"	-	-	-	-
hemp sesbania		-	-	2"	4"	6"	8"
henbit		-	-	-	6"	-	20"
horseweed/marestail ( <i>conyza canadensis</i> )	South	-	-	12"	30"	-	-
	North	-	6"	12"	18"	-	-
itchgrass		-	6"	12"	18"	-	-
jimsonweed		-	-	-	6"	-	12"
johnsongrass (seedling)	South	-	-	-	18"	-	-
	North	-	12"	18"	-	-	-
junglerice		-	3"	5"	7"	9"	12"
knotweed		-	3"	8"	12"	-	20"
kochia <sup>1</sup>		-	3 to 6"	12"	-	-	-
lambquarters		-	6"	8"	12"	-	20"
little barley		-	20"	-	-	-	-
London rocket		-	6"	-	-	-	-
mayweed		-	-	2"	6"	12"	18"
morningglory ( <i>ipomoea spp.</i> )		-	-	2"	4"	-	6"
mustard, blue		6"	-	-	-	-	-
mustard, tansy		6"	12"	20"	-	-	-

mustard, tumble		6"	-	-	-	-	-
mustard, wild		6"	12"	18"	-	-	-
nightshade, black		6"	12"	-	-	-	-
nightshade, hairy		-	6"	12"	-	-	-
oats		-	-	6"	20"	-	-
pigweed		-	12"	18"	24"	-	-
plains/tickseed (coreopsis)		-	5"	12"	18"	-	-
prickly lettuce		-	6"	12"	20"	-	-
purslane		-	-	-	6"	-	12"
ragweed, common	South	-	4"	6"	8"	-	11"
	North	-	6"	12"	18"	-	-
ragweed, giant		-	-	4"	6"	-	11"
red rice		-	-	-	4"	-	-
Russian thistle		-	6"	-	-	-	-
rye	South	-	6"	20"	60"	-	-
	North	-	18"	18"+	-	-	-
ryegrass		-	-	-	6"	-	7+"
sandbur, field		12"	-	-	-	-	-
shattercane		-	12"	18"	-	-	-
shepherd's-purse		-	6"	12"	-	-	-
sicklepod		-	-	2"	4"	-	8"
signalgrass, broadleaf		-	3"	5"	7"	9"	12"
smartweed, ladythumb		-	4"	6"	8"	-	12"
smartweed, pennsylvania		-	4"	6"	8"	-	12"
sowthistle, annual		-	-	-	6"	-	12"
spanishneedles		-	-	-	8"	-	18"
speedwell, purslane		-	12	-	-	-	-
sprangletop		-	6"	12"	20"	-	-
spurge, prostrate		-	6"	12"	20"	-	-
spurge, spotted		-	6"	12"	20"	-	-
spurry, umbrella		6"	-	-	-	-	-
stinkgrass		12"	-	-	-	-	-
sunflower		-	12"	18"	-	-	-
teaweed/ prickly sida		1"	2"	3"	4"	6"	
Texas panicum		6"	8"	12"	-	24"	
velvetleaf	South	-	2"	3"	4"	5"	8"
	North	-	3"	6"	12"	-	-
Virginia pepperweed		-	18	-	-	-	-
waterhemp		-	-	6"	12"	-	-
wheat	South	-	6"	30"	-	-	-
	North	-	18"	18"+	-	-	-
wheat (over-wintered)		-	6"	18"	-	-	-
wild oats		-	12"	-	-	-	-
witchgrass		-	12"	-	-	-	-
woolly cupgrass		-	6"	12"	-	-	-
yellow rocket		-	-	12"	20"	-	-

<sup>1</sup>Do not treat kochia in the button stage.



## Annual Weeds Rate Table, West Region

Weed Species	Rate of NAF-545 (Fluid Ounces Per Acre)				
	12	16	24	32	48
	Maximum Height/Length				
barley	12"	-	-	-	-
barnyardgrass	6"	-	-	-	-
bluegrass, annual	6"	-	-	-	-
bluegrass, bulbous	-	6"	-	-	-
brome, downy <sup>1</sup>	6"	-	-	-	-
buttercup	-	12"	-	-	-
cheat	-	6"	-	-	-
chickweed	-	6"	-	-	-
cocklebur	-	12"	-	-	-
corn	-	6"	-	-	-
crabgrass	-	12"	-	-	-
dwarf dandelion	-	12"	-	-	-
fall panicum	-	12"	-	-	-
false flax, smallseed	-	12"	-	-	-
field pennycress	-	6"	-	-	-
filaree	-	-	-	-	12
fleabane, hairy ( <i>conyza bonariensis</i> )	-	6"	-	-	-
Florida pusley	-	-	-	12"	-
foxtail	(8 fl. oz. for up to 12")				
goatgrass, jointed	-	6"	-	-	-
groundsel, common	-	6"	-	-	-
henbit	-	6"	-	-	-
horseweed/marestail ( <i>conyza canadensis</i> )	-	6"	-	-	-
johnsongrass, seedling	-	12"	-	-	-
lambquarters	-	6"	-	-	-
London rocket	-	6"	-	-	-
morningglory ( <i>ipomoea spp.</i> )	-	2"	-	-	-
mustard, blue	6"	-	-	-	-
mustard, tansy	6"	-	-	-	-
mustard, tumble	6"	-	-	-	-
mustard, wild	6"	-	-	-	-
pigweed	-	12"	-	-	-
rye	12"	-	-	-	-
ryegrass, Italian	-	6"	-	-	-
sandbur, field	12"	-	-	-	-
shattercane	12"	-	-	-	-
shepherd's-purse	-	6"	-	-	-
sowthistle, annual	-	6"	-	-	-
spurge, annual	-	6"	-	-	-
stinkgrass	12"	-	-	-	-
Texas panicum	-	12"	-	-	-
wheat	18"	-	-	-	-
wild oats	-	12"	-	-	-

witchgrass	-	12"	-	-	-
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For control of Downy brome in no-till systems, use 16 fluid ounces per acre.

### Annual Weeds--Water Carrier Volumes of 10 to 40 Gallons per Acre

Apply 1 to 1.5 quarts of NAF-545 per acre. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall. These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10 to 40 gallons per acre for ground applications.

### Annual Weeds -- Tank Mixtures with 2,4-D, Dicamba or Tordon 22K

Application of 12 to 24 fluid ounces of this product plus 0.25 pound a.i. of dicamba or 0.5 pound a.i. of 2,4-D or 1 to 2 ounces of Tordon 22K per acre will control the following weeds with the maximum height or length indicated: 6" -- prickly lettuce, maretail/horseweed (*Conyza canadensis*), morningglory (*Ipomoea spp.*), kochia (dicamba only); wild buckwheat (Tordon 22K only); 12" -- cocklebur, lambsquarters, pigweed, Russian thistle.

Application of 16 fluid ounces of NAF-545 plus 0.5 pound a.i. of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

Application of 12 fluid ounces of NAF-545 plus 0.25 pound a.i. of dicamba or 0.5 pound a.i. of 2,4-D per acre will control foxtail up to 18".

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if dicamba or Tordon 22K is applied within 45 days of planting.

Tank mixtures of NAF-545 with Banvel (dicamba), Tordon 22K or 2,4-D may not be applied by air in California.

### Annual Weeds-Tank Mixtures with Atrazine or Bladex for Fallow and Reduced Tillage Systems

For use only in Colorado, Kansas, Nebraska, Oklahoma, Oregon, South Dakota, and Washington. In Oregon and Washington, do not exceed 1 pound atrazine per acre.

Application of 16 ounces of this product plus 1 to 2 pounds of atrazine or 2.4 to 4 pounds of cyanazine per acre will control the following weeds: barnyardgrass (barnyardgrass requires 26 ounces of NAF-545 for control), downy brome, green foxtail, lambsquarters, prickly lettuce (*Lactuca serriola*), tansy mustard, pigweed, field sandbur (*Cenchrus spp.*), stinkgrass, Russian thistle (*Salsola kali*), volunteer wheat, witchgrass (*Panicum capillare*) and kochia (for Kochia, add 4fl oz of Banvel/dicamba for control).

### Perennial Weeds Rate Table (Alphabetically By Species)

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

For hand-held sprayers, prepare the desired volume of spray solution by mixing the amount of NAF-545 in water as shown in the following table:

#### Spray Solution

Desired Volume	Amount for NAF-545					
	1/2%	1%	1 1/2%	2%	5%	10%
1 gal	2/3 fl oz	1 1/3 fl oz	2 fl oz	2 2/3 fl oz	6 1/2 fl oz	13 fl oz
25 gal	1 pt	1 qt	1 1/2 qt	2 qt	5 qt	10 qt
100 gal	2 qt	1 gal	1 1/2 gal	2 gal	5 gal	10 gal

2 tablespoons = 1 fluid ounce

Weed Species	Rate (qt/acre)	Water Volume (gpa)	Hand-Held (% Solution)
<b>Alfalfa</b>	1	3 - 10	2%
Make applications after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.			
<b>Alligatorweed</b>	4	3 - 20	1.5%
Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.			
<b>Anise (fennel)</b>	-	-	1 - 2%
Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.			
<b>Bahiagrass</b>	3 - 5	3 - 20	2%
Apply when most plants have reached the early head stage.			
<b>Bentgrass</b>	1.5	10 - 20	2%
For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.			

<b>Bermudagrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
For control, apply 5 quarts of NAF-545 per acre. For partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.			
<b>Bermudagrass, water (knotgrass)</b>	<b>1 - 1.5</b>	<b>5 - 10</b>	<b>2%</b>
Apply 1.5 quarts of NAF-545 in 5 to 10 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.			
<b>Fall applications only:</b> Apply 1 quart of NAF-545 in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length.			
<b>NAF-545 is not registered in California for use on water bermudagrass.</b>			
<b>Bindweed, field</b>	<b>0.5 - 5.0</b>	<b>3 - 20</b>	<b>2%</b>
Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.			
For control, apply 4 to 5 quarts of NAF-545 per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.			
Also for control, apply 2 quarts of NAF-545 plus 0.5 pound a.i. of dicamba in 10 to 20 gallons of water per acre. Do not apply by air.			
For suppression on irrigated agricultural land, apply 1 to 2 quarts of NAF-545 plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.			
For suppression, apply 16 fluid ounces of NAF-545 plus 0.5 pound a.i. of 2,4-D or 0.25 pound a.i. of dicamba in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.			
In <b>California only</b> , apply 1 to 5 quarts of NAF-545 per acre. The actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of NAF-545 in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.			
<b>Bluegrass, Kentucky</b>	<b>1 - 2</b>	<b>3 - 40</b>	<b>2%</b>
Apply 2 quarts of NAF-545 in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of NAF-545 in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.			
<b>Blueweed, Texas</b>	<b>3 - 5</b>	<b>3 - 40</b>	<b>2%</b>
Apply 4 to 5 quarts of NAF-545 per acre west of the Mississippi River and 3 to 4 quarts per acre east			

of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.			
<b>Brackenfern</b>	<b>3 - 4</b>	<b>3 - 40</b>	<b>1 - 1.5%</b>
Apply to fully expanded fronds, which are at least 18 inches long.			
<b>Bromegrass, smooth</b>	<b>1 - 2</b>	<b>3 - 40</b>	<b>2%</b>
Apply 2 quarts of NAF-545 in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of NAF-545 in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.			
<b>Bursage, woolly-leaf</b>	<b>-</b>	<b>3 - 20</b>	<b>2%</b>
For control, apply 2 quarts of NAF-545 plus 0.5 lb a.i. of dicamba per acre. For partial control, apply 1 quart of NAF-545 plus 0.5 lb a.i. of dicamba per acre. Apply when plants are producing new active growth, which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.			
<b>Canarygrass, reed</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
For best results, apply when most plants have reached the boot-to-head stage of growth.			
<b>Cattail</b>	<b>3 - 5</b>	<b>3 - 40</b>	<b>2%</b>
Apply when most plants have reached the early head stage.			
<b>Clover; red, white</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants have reached the early bud stage.			
<b>Cogongrass</b>	<b>3 - 5</b>	<b>2 - 40</b>	<b>2%</b>
Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.			
<b>Dallisgrass</b>	<b>3 - 5</b>	<b>2 - 20</b>	<b>2%</b>
Apply when most plants have reached the early head stage.			
<b>Dandelion</b>	<b>3 - 5</b>	<b>3 - 40</b>	<b>2%</b>
Apply when most plants have reached the early bud stage of growth.			
Also for control, apply 16 fluid ounces of NAF-545 plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.			
<b>Dock, curly</b>	<b>3 - 5</b>	<b>3 - 40</b>	<b>2%</b>
Apply when most plants have reached the early bud stage of growth.			
Also for control, apply 16 fluid ounces of NAF-545 plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre.			
<b>Dogbane, hemp</b>	<b>4</b>	<b>3 - 40</b>	<b>2%</b>
Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall.			

For suppression, apply 16 fluid ounces of NAF-545 plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.			
<b>Fescue (Except tall)</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants have reached the early head stage.			
<b>Fescue, tall</b>	<b>1 - 3</b>	<b>3 - 40</b>	<b>2%</b>
Apply 3 quarts of NAF-545 per acre when most plants have reached boot-to-early seedhead stage of development.			
Fall applications only: Apply 1 quart of NAF-545 in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of NAF-545 will improve long-term control and control seedlings germinating after fall treatments or the following spring.			
<b>Guineagrass</b>	<b>3</b>	<b>3 - 40</b>	<b>1%</b>
Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment.			
<b>Horsenettle</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants have reached the early bud stage.			
<b>Horseradish</b>	<b>4</b>	<b>3 - 40</b>	<b>2%</b>
Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.			
<b>Iceplant</b>	<b>-</b>	<b>-</b>	<b>1.5 - 2.0%</b>
Iceplant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control.			
<b>Jerusalem artichoke</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants are in the early bud stage.			
<b>Johnsongrass</b>	<b>0.5 - 3.0</b>	<b>3 - 40</b>	<b>1%</b>
In annual cropping systems apply 1 to 2 quarts of NAF-545 per acre. Apply 1 quart of NAF-545 in 3 to 10 gallons of water per acre. Use 2 quarts of NAF-545 when applying 10 to 40 gallons of water per acre. In noncrop or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of NAF-545 in 10 to 40 gallons of water per acre.			
For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank mix with residual herbicides when using the 1 quart per acre rate.			
For burndown of Johnsongrass, apply 1 pint of NAF-545 in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.			
Spot treatment (partial control or suppression): Apply a 1 percent solution of NAF-545 when Johnson-grass is 12 to 18 inches in height. Coverage should be uniform and complete.			
<b>Kikuyugrass</b>	<b>2 - 3</b>	<b>3-40</b>	<b>2%</b>

Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth). Allow 3 or more days after application before tillage.			
<b>Knapweed</b>	<b>4</b>	<b>3-40</b>	<b>2%</b>
Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.			
<b>Lantana</b>	<b>-</b>	<b>-</b>	<b>1 - 1.25%</b>
Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.			
<b>Lespedeza</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants have reached the early bud stage.			
<b>Milkweed, common</b>	<b>3</b>	<b>3 - 40</b>	<b>2%</b>
Apply when most plants have reached the late bud to flower stage of growth.			
<b>Muhly, wirestem</b>	<b>1 - 2</b>	<b>3 - 40</b>	<b>2%</b>
Use 1 quart of NAF-545 in 3 to 10 gallons of water per acre. Use 2 quarts of NAF-545 when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.			
<b>Mullein, common</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants are in the early bud stage.			
<b>Napierrgrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants are in the early head stage.			
<b>Nightshade, silverleaf</b>	<b>2</b>	<b>3 - 10</b>	<b>2%</b>
Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.			
<b>Nutsedge; purple, yellow</b>	<b>0.5 - 3</b>	<b>3 - 40</b>	<b>1 - 2%</b>
Apply 3 quarts of NAF-545 per acre or apply a 1 to 2 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets, which have not germinated, will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.			
Sequential applications: 1 to 2 quarts of NAF-545 in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.			
For partial control of existing plants, apply 1 pint to 2 quarts of NAF-545 in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.			
<b>Orchardgrass</b>	<b>1 - 2</b>	<b>3 - 40</b>	<b>2%</b>
Apply 2 quarts of NAF-545 in 10 to 40 gallons of water per acre when most plants have reached boot-			

to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of NAF-545 in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

**Orchardgrass sods going to no-till corn:** Apply 1 to 1.5 quarts of NAF-545 in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

<b>Pampasgrass</b>	-	-	1.5 - 2%
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Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

<b>Paragrass</b>	3 - 5	3 - 20	2%
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Apply when most plants are in the early head stage.

<b>Phragmites</b>	3 - 5	10 - 40	1 - 2%
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For partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

<b>Poison hemlock</b>	-	-	1 - 2%
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Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.

<b>Quackgrass</b>	1 - 3	3 - 40	2%
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In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1 quart of NAF-545 in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 2 quarts of NAF-545. Do not tank mix with residual herbicides when using the 1-quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, use a moldboard plow for best results.

In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 2 to 3 quarts of NAF-545 in 10 to 40 gallons of water per acre when the quackgrass is greater than 8 inches tall.

<b>Redvine</b>	0.75 - 2	5 - 10	2%
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For suppression, apply 24 fluid ounces of NAF-545 per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

<b>Reed, giant</b>	-	-	2%
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Best results are obtained when applications are made in late summer to fall.

<b>Ryegrass, perennial</b>	1 - 3	3 - 40	1%
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In annual cropping systems apply 1 to 2 quarts of NAF-545 per acre. Apply 1 quart of NAF-545 in 3 to 10 gallons of water per acre. Use 2 quarts of NAF-545 when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of NAF-



545 in 10 to 40 gallons of water per acre.			
For best results, apply when most plants have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.			
<b>Smartweed, swamp</b>	<b>3 - 5</b>	<b>3 - 40</b>	<b>2%</b>
Apply when most plants have reached the early bud stage of growth.			
Also for control, apply 16 fluid ounces of NAF-545 plus 0.5 pound a.i. of 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall.			
<b>Spurge, leafy</b>	<b>-</b>	<b>3 - 10</b>	<b>2%</b>
For suppression, apply 16 fluid ounces of NAF-545 plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.			
<b>Starthistle, yellow</b>	<b>2</b>	<b>10 - 40</b>	<b>2%</b>
Best results are obtained when applications are made during the rosette, bolting and early flower stages.			
<b>Sweet potato, wild</b>	<b>-</b>	<b>-</b>	<b>2%</b>
Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.			
<b>Thistle, artichoke</b>	<b>-</b>	<b>-</b>	<b>2%</b>
Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.			
<b>Thistle, Canada</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of NAF-545. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.			
For suppression, apply 1 quart of NAF-545, or 1 pint of NAF-545 plus 0.5 pound a.i. 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.			
<b>Timothy</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
For best results, apply when most plants have reached the boot-to-head stage of growth.			
<b>Torpedograss</b>	<b>4 - 5</b>	<b>3 - 40</b>	<b>2%</b>
For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost.			
<b>Trumpet creeper</b>	<b>2</b>	<b>5 - 10</b>	<b>2%</b>
Partial control. Apply in late September or October, to plants that are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.			

<b>Vaseygrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants are in the early head stage.			
<b>Velvetgrass</b>	<b>3 - 5</b>	<b>3 - 20</b>	<b>2%</b>
Apply when most plants are in the early head stage.			
<b>Wheatgrass, western</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>2%</b>
For best results, apply when most plants have reached the boot-to-head stage of growth.			

### Woody Brush And Trees Rate Table (Alphabetically By Species)

Apply NAF-545 after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

<b>Weed Species</b>	<b>Rate (qt/acre)</b>	<b>Water Volume (gpa)</b>	<b>Hand-Held (% Solution)</b>
<b>Alder</b>	<b>3 - 4</b>	<b>3 - 40</b>	<b>1 - 1.5%</b>
For control			
<b>Ash</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
Partial control			
<b>Aspen, quaking</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>1 - 1.5%</b>
For control			
<b>Bearmat (Bearclover)</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
For partial control			
<b>Beech</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
Partial control			
<b>Birch</b>	<b>2</b>	<b>3 - 40</b>	<b>1%</b>
For control			
<b>Blackberry</b>	<b>3 - 4</b>	<b>10 - 40</b>	<b>1 - 1.5%</b>
For control. Make applications after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. Applications may also be made after leaf drop and			

until a killing frost or as long as stems are green. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of NAF-545. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of NAF-545 in 10 to 40 gallons of water per acre.

<b>Blackgum</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
For control			
<b>Bracken</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
For control			
<b>Broom; French, Scotch</b>	<b>-</b>	<b>-</b>	<b>1.5 - 2%</b>
For control			
<b>Buckwheat, California</b>	<b>-</b>	<b>-</b>	<b>1 - 2%</b>
For partial control. Thorough coverage of foliage is necessary for best results.			
<b>Cascara</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
Partial control			
<b>Catsclaw</b>	<b>-</b>	<b>-</b>	<b>1 - 1.5%</b>
Partial control			
<b>Ceanothus</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
Partial control			
<b>Chamise</b>	<b>-</b>	<b>-</b>	<b>1%</b>
For control. Thorough coverage of foliage is necessary for best results.			
<b>Cherry; bitter, black, pin</b>	<b>2 - 3</b>	<b>3 - 40</b>	<b>1 - 1.5%</b>
For control			
<b>Coyote brush</b>	<b>-</b>	<b>-</b>	<b>1 - 1.5%</b>
For control. Apply when at least 50 percent of the new leaves are fully developed.			
<b>Dogwood</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
Partial control			
<b>Elderberry</b>	<b>2</b>	<b>3 - 40</b>	<b>1%</b>
For control			
<b>Elm</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
Partial control			
<b>Eucalyptus</b>	<b>-</b>	<b>-</b>	<b>2%</b>
For control of eucalyptus resprouts, apply when resprouts are 6 to 12 feet tall. Ensure complete coverage. Avoid application to drought-stressed plants.			
<b>Florida holly (Brazilian Peppertree)</b>	<b>2 - 5</b>	<b>3 - 40</b>	<b>1 - 2%</b>
Partial control			

<b>Gorse</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Hasardia</b>	-	-	1 - 2%
Partial control. Thorough coverage of foliage is necessary for best results.			
<b>Hawthorn</b>	2 - 3	3 - 40	1 - 1.5%
For control			
<b>Hazel</b>	2	3 - 40	1%
For control			
<b>Hickory</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Honeysuckle</b>	3 - 4	3 - 40	1 - 1.5%
For control			
<b>Hornbeam, American</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Kudzu</b>	4	3 - 40	2%
For control. Repeat applications may be required to maintain control.			
<b>Locust, black</b>	2 - 4	3 - 40	1 - 2%
Partial control			
<b>Madrone resprouts</b>	-	-	2%
Partial control. Apply to resprouts that are 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.			
<b>Manzanita</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Maple, red</b>	2 - 4	3 - 40	1 - 1.5%
For control, apply a 1 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of NAF-545 per acre.			
<b>Maple, sugar</b>	-	-	1 - 1.5%
For control. Apply when at least 50 percent of the new leaves are fully developed.			
<b>Monkey flower</b>	-	-	1 - 2%
Partial control. Thorough coverage of foliage is necessary for best results.			
<b>Oak; black, white</b>	2 - 4	3 - 40	1 - 2%
Partial control			
<b>Oak, post</b>	3 - 4	3 - 40	1 - 1.5%
For control			

<b>Oak; northern, pin</b>	-	-	1 - 1.5%
For control. Apply when at least 50 percent of the new leaves are fully developed.			
<b>Oak; southern red</b>	2 - 3	3 - 40	1 - 1.5%
For control			
<b>Persimmon</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Pine</b>	2 - 5	3 - 40	1 - 2%
For control			
<b>Poison ivy/ Poison oak</b>	4 - 5	3 - 40	1 - 2%
For control. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.			
<b>Poplar, yellow</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Redbud, eastern</b>	2 - 5	3 - 40	1 - 2%
For control			
<b>Rose, multiflora</b>	2	3 - 40	1%
For control. Treatments should be made prior to leaf deterioration by leaf-eating insects.			
<b>Russian olive</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Sage, black</b>	-	-	1%
For control. Thorough coverage of foliage is necessary for best results.			
<b>Sage, white</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Sage brush, California</b>	-	-	1%
For control. Thorough coverage of foliage is necessary for best results.			
<b>Salmonberry</b>	2	3 - 40	1%
For control			
<b>Salt-cedar</b>	2 - 5	3 - 40	1 - 2%
For control			
<b>Sassafras</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Sourwood</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Sumac; poison, smooth, winged</b>	2 - 4	3 - 40	1 - 2%
Partial control			

<b>Sweetgum</b>	2 - 3	3 - 40	1 - 1.5%
For control			
<b>Swordfern</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Tallowtree, Chinese</b>	-	-	1%
For control. Thorough coverage of foliage is necessary for best results.			
<b>Tan oak resprouts</b>	-	-	2%
For partial control. Apply to resprouts that are less than 3 to 6 feet tall. Best results are obtained with fall applications.			
<b>Thimbleberry</b>	2	3 - 40	1%
For control			
<b>Tobacco, tree</b>	-	-	1 - 2%
Partial control			
<b>Trumpet creeper</b>	2 - 3	3 - 40	1 - 1.5%
For control			
<b>Vine maple</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Virginia creeper</b>	2 - 5	3 - 40	1 - 2%
For control			
<b>Waxmyrtle, southern</b>	2 - 5	3 - 40	1 - 2%
Partial control			
<b>Willow</b>	3	3 - 40	1%
For control			

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### Warranty Disclaimer

Dow AgroSciences warrants that NAF-545 conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences **MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.**

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### Inherent Risks of Use

It is impossible to eliminate all risks associated with use of NAF-545. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

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### Limitation of Remedies

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The exclusive remedy for losses or damages resulting from NAF-545 (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

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

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of NAF-545 unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

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

\*Trademark of Dow AgroSciences LLC  
EPA-accepted \_\_\_/\_\_\_/\_\_\_