

55146-62

03-08-2010

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

March 8, 2010

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Nathan P. Ehresman
Nufarm Americas, Inc.
501 Cascade Pointe Lane
Suite 103
Cary, NC 27513

RE: Product Name: GibGro 4LS
EPA Reg. No.: 55146-62
Application for Label Notification dated February 8, 2010 to update the
storage and disposal language per Pesticide Registration (PR) Notice
2007-4.

Dear Mr. Ehresman:

The Biopesticides and Pollution Prevention Division is in receipt of your application for Notification under PR Notice 98-10 dated above. A preliminary screen of this request has been conducted for its applicability under PR Notice 98-10 and it has been determined that the action(s) requested falls within the scope of PR Notice 98-10. Our records have been duly noted, and the label submitted with this application has been stamped "Notification, received and reviewed" and will be placed accordingly in our records.

Please note that 40 CFR § 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on nonrefillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions concerning this action, please feel free to contact Mr. Colin Walsh at (703) 308-0298 or via email at walsh.colin@epa.gov.

Sincerely,

Linda Hollis

Linda Hollis, Chief
Biochemical Pesticides Branch
Biopesticides and Pollution Prevention
Division (7511P)

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Please read instructions on reverse before completing form.

Form Approved, OMB No. 2070-0060, Approval expires 05-31-98



United States
Environmental Protection Agency
Washington, DC 20460

- Registration
- Amendment
- Other: NOTIF

OPP Identifier Number

Application for Pesticide – Section I

1. Company/Product Number 55146-62	2. EPA Product Manager Sheryl Reilly	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Nufarm USA, Inc./ GibGro 4LS	PM# 92	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Americas, Inc AGT Division 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(I), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name: _____	
<input type="checkbox"/> Check if this is a new address		

Section – II

<input type="checkbox"/> Amendment – Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

NOTIFICATION

LABELING NOTIFICATION: See Attached

Date Reviewed: MAR 08 2010

Reviewed By: C. Walsh

Section – III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
*Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 1 gallon		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On labeling accompanying product	
6. Manner in Which Label is Affixed to Product			<input type="checkbox"/> Lithograph <input type="checkbox"/> Other		
<input checked="" type="checkbox"/> Paper glued			<input type="checkbox"/> Stenciled		

Section – IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)		
Name Nathan P. Ehresman	Title Product Registration Manager	Telephone No. (Include Area Code) 919-655-0018
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Product Registration Manager	
4. Typed Name Nathan P. Ehresman	4. Date February 8, 2010	

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GibGro® 4LS

(4% LIQUID GIBBERELIC ACID)

ACTIVE INGREDIENT:

Gibberellic Acid 4.0%

OTHER INGREDIENTS: 96.0%

TOTAL: 100.0%

(Equivalent to 128 grams a.i. of Gibberellic Acid per gallon)

KEEP OUT OF REACH OF CHILDREN

WARNING - AVISO

PRECAUCION AL USUARIO: 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.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300, 24 hours per day,
7 days per week, Sunday thru Saturday.

For Medical Emergencies Only, Call (877) 325-1840

Nufarm Customer Service (800) 345-3330 7:00am - 5:30pm Monday thru Friday

EPA REG. NO. 55146-62
EPA EST. NO. 65663-TX-1

MANUFACTURED FOR
NUFARM AMERICAS, INC.
AGT DIVISION
150 HARVESTER DRIVE
BURR RIDGE, IL 60527



NET CONTENTS _____ GALS. (_____ Liters)

NOTIFICATION

Date Reviewed: MAR 08 2010

Reviewed By: C. Walsh

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(7)

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING - AVISO

Causes substantial but temporary eye injury. Harmful if swallowed, inhaled or absorbed through skin. Do not get in eyes or on clothing. Avoid breathing vapor or spray mist, and avoid contact with skin. Wear protective eyewear (goggles or faceshield). Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT(PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants,
- chemical-resistant gloves, such as Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥ 14 mils, Neoprene Rubber ≥ 14 mils, Polyvinyl Chloride (PVC) ≥ 14 mils, Viton ≥ 14 mils,
- shoes plus socks,
- protective eyewear (goggles or face shield).

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category C on an EPA chemical resistance category selection chart.

USER SAFETY RECOMMENDATIONS

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

FIRST AID

IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing call 911 or an ambulance, then give artificial respiration, preferably by mouth- to-mouth if possible. • Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information, 24 hours per day, 7 days a week, Sunday thru Saturday.

ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Exposed treated seed may be hazardous to birds and other wildlife. Dispose of all excess treated seed and seed packaging by burial away from bodies of water.

PHYSICAL OR CHEMICAL HAZARDS

FLAMMABLE! Keep away from heat and open flame. Keep container tightly closed when not in use. For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300, 24 hours per day, 7 days per week, Sunday thru Saturday.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

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

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

- Coveralls
- Chemical-resistant gloves, such as Barrier Laminate, Butyl Rubber ≥ 14 mils, Nitrile Rubber ≥ 14 mils, Neoprene Rubber ≥ 14 mils, Polyvinyl Chloride (PVC) ≥ 14 mils, Viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear (goggles or face shield).

NON-AGRICULTURAL USE REQUIREMENTS

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

Do not enter treated areas without PPE until sprays have dried.

IMPORTANT

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.

NOTE: Gibberellic Acid is an extremely potent plant growth regulator. For best results, read all directions for use thoroughly. Consult your local experiment station specialist, distributor, or the Nufarm agricultural specialist in your area for the spray schedule best suited to your conditions.

Discard any unused spray material at the end of each day. Prepare solution concentrations by mixing the required amount of product with water only in a clean, empty spray tank. Refer to individual crop sections and rate conversion tables provided in this labeling for the amount of this product to be applied.

Use only as directed. The label must be read thoroughly and understood before making applications. Effectiveness requires that all parts of plant or crop must receive spray or desired result will not occur, so spray thoroughly. When a range of rates is indicated, use the concentration and spray volume recommended locally.

Data concerning the compatibility of this product with other agricultural compounds is not available, except where specified.

COMPATIBILITY

To assure the compatibility of this product with other products, pour the products into a small container of water in the correct proportions. After thorough mixing, let stand for 5 minutes. If the combination remains mixed, or can be remixed readily, the mixture is compatible.

SPRAY INSTRUCTIONS FOR GRAPES

For all grapes, apply by ground sprayer. Apply as a dilute or concentrate spray in sufficient water to ensure thorough wetting. Use 100 to 500 gallons per acre as a dilute spray according to foliage density, or 30 to 80 gallons per acre as a concentrate spray, unless specified otherwise. High amounts of Gibberellic Acid may reduce fruitfulness (cluster counts and cluster size) the following year in some growing regions and for some cultivars. Additionally, berry skin color development, sugars accumulation and overall maturation may be delayed. Timing of subsequent sprays will be dictated by experience in the vineyard to be sprayed and temperatures occurring during the interim between sprays. Sprays made after 15-20 days from the first sizing spray will be less effective. Do not exceed maximum application rate. It is important to wet all berries thoroughly. Application to any variety not listed on this label may result in crop injury.

SEEDLESS GRAPES

THOMPSON SEEDLESS GRAPES

For cluster elongation ("Stretch"), looser cluster forms, and reduced thinning costs: Apply one to three applications of 8 to 16 grams a.i. per acre before bloom when flower clusters are 2 to 5 inches long.

For decreased berry set ("Thinning"), reduced hand-thinning costs, and hastened maturity: Apply one to four applications of 8 to 16 grams a.i. per acre per application during bloom. When the bloom period is extended, make sprays 1 to 7 days after the first application. Higher amounts or multiple applications have the potential to cause an excess of shot berries or overthinning, especially in young vines or vines with high vigor.

To help initiate the beginning of the berry growth period "bump spray": Apply 8 to 20 grams a.i. per acre as a single application during the period between the last thinning and first sizing spray.

For larger berries ("Sizing") and larger clusters when used in conjunction with established girdling and thinning practices: Apply one application of 32 to 128 grams a.i. per acre when average berry size is 3 to 5 millimeters in diameter. Make up to three more applications of 32 to 128 grams a.i. per acre per application.

THOMPSON SEEDLESS GRAPES FOR RAISINS

For cluster elongation ("Stretch"), looser cluster forms, and reduced thinning costs: Apply one to three applications of 8 to 16 grams a.i. per acre before bloom when flower clusters are 2 to 5 inches long.

For decreased berry set ("Thinning") with increased raisin quality, and hastened maturity: Apply one to four applications of 3 to 12 grams a.i. per acre per application during bloom. When the bloom period is extended, make sprays 1 to 7 days after the first application. Higher amounts or multiple applications have the potential to cause an excess of shot berries or overthinning, especially in young vines or vines with high vigor.

For larger berries ("Sizing") and larger clusters when used in conjunction with established girdling and thinning practices: Apply one application of 4 to 20 grams a.i. per acre when average berry size is 3 to 5 millimeters in diameter. Make up to three more applications of 4 to 20 grams a.i. per acre per application.

BLACK CORINTH (ZANTE CURRANT) GRAPES

To increase berry size: Apply a single application of 1 to 12 grams a.i. per acre three to five days after full bloom, but before shatter begins.

FLAME SEEDLESS GRAPES

For cluster elongation ("Stretch"), looser cluster forms, and reduced thinning costs: Apply one to three applications of 8 to 16 grams a.i. per acre before bloom when flower clusters are 2 to 5 inches long.

For decreased berry set ("Thinning"), reduced hand-thinning costs, and hastened maturity: Apply one to four applications of 3 to 16 grams a.i. per acre per application during bloom. When the bloom period is extended, make sprays 1 to 7 days after the first application. Higher amounts or multiple applications have the potential to cause an excess of shot berries or overthinning, especially in young vines or vines with high vigor.

For larger berries ("Sizing") and larger clusters when used in conjunction with established girdling and thinning practices: Apply one application of 20 to 128 grams a.i. per acre when average berry size is 6 to 8 millimeters in diameter. Make up to three more applications of 20 to 128 grams a.i. per acre per application.

PERLETTE GRAPES

For cluster elongation ("Stretch"), looser cluster forms, and reduced thinning costs: Apply one to three applications of 8 to 16 grams a.i. per acre before bloom when flower clusters are 2 to 5 inches long.

For larger berries ("Sizing") and larger clusters when used in conjunction with established girdling and thinning practices: Apply one application of 32 to 128 grams a.i. per acre when average berry size is 4 to 5 millimeters in diameter. Make up to three more applications of 32 to 128 grams a.i. per acre per application.

OTHER SEEDLESS VARIETIES (AUTUMN ROYAL, BLACK EMERALD, CRIMSON SEEDLESS, PRINCESS, RUBY SEEDLESS)

For decreased berry set ("Thinning"), reduced hand-thinning costs, and hastened maturity: Apply one to two applications per acre per application during bloom according to the table below. When the bloom period is extended, make sprays 1 to 7 days after the first application. Higher amounts or multiple applications have the potential to cause an excess of shot berries or overthinning, especially in young vines or vines with high vigor. Consult a Nufarm representative or local specialist before thinning to unfamiliar cultivars. New cultivars are very responsive and may over-thin easily, especially in temperatures exceeding 90°F.

For larger berries ("Sizing") and larger clusters when used in conjunction with established girdling and thinning practices: Apply one application of 8 to 60 grams a.i. per acre when average berry size is 3 to 14 millimeters in diameter. Make up to three more applications of 8 to 60 grams a.i. per acre per application. Timing of subsequent sprays will be dictated by experience in the vineyard to be sprayed and temperatures occurring during the interim between sprays. Sprays made after 15 to 20 days from the first sizing spray will be less effective. High amounts of Gibberellic Acid have the potential to reduce fruitfulness (cluster counts) the following year in some growing regions and for some cultivars. Additionally, berry skin color development, sugars accumulation and overall maturation may be delayed. Consult a Nufarm representative or local specialist before sizing to unfamiliar cultivars.

SPRAY RATES FOR OTHER SEEDLESS VARIETIES

Grams a.i. per Acre per Application:

VARIETY	THINNING	SIZING
Autumn Royal	1-2	Not Applicable
Black Emerald	1-2	4-8
Crimson Seedless	0.5-1	4-8
Princess	0.5-1	4-8
Ruby Seedless	0.5-1	8-16

SEEDED GRAPES (EMPEROR GRAPES)

NOTE: High amounts of Gibberellic Acid may delay berry skin color development, sugars accumulation and overall maturation. Whole vine application may reduce fruitfulness (cluster counts and cluster size) the following year.

To increase berry size and reduce berry shrivel:

Whole vine spray – Apply a single application of 20 grams a.i. per acre when average berry diameter is 12 to 16 millimeters.

Direct spray to grape clusters or cluster dip – Prepare a spray solution of 40 to 50 ppm (16 to 20 grams a.i. per 100 gallons water) as a cluster dip or spray directly to clusters without spraying foliage or buds.

SEEDED GRAPES (RED GLOBE, CALMERIA, CHRISTMAS ROSE, ROGUE, QUEEN)

NOTE: High amounts of Gibberellic Acid may delay berry skin color development, sugars accumulation and overall maturation. Whole vine application may reduce fruitfulness (cluster counts and cluster size) the following year. Consult a Nufarm representative or local specialist before sizing to unfamiliar cultivars.

To increase berry size:

Apply a single application of 8 to 16 grams a.i. per acre when average berry diameter is 12 to 16 millimeters.

Direct spray to grape clusters or cluster dip – Prepare a spray solution of 40 to 50 ppm (16 to 20 grams a.i. per 100 gallons water) as a cluster dip or spray directly to clusters without spraying foliage or buds.

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WINE GRAPES

(All states except California)

NOTE: If growers have no experience with this product, by contacting a Nufarm representative or local agricultural specialist before application, the grower can avoid some possible yield reduction of seed in wine grape cultivars. Yield reduction may arise from an increase in shot berries in the year of application and a reduction in fruitfulness (cluster counts) in the first and second years following application. Do not apply this product less than three weeks before full bloom.

To increase cluster length, provide improved air circulation and light penetration within the cluster, and help to reduce incidence of bunch and sour rot: Apply a single application in 100 gallons of water according to the table below. Make applications when dominant shoot clusters arising from buds on count spurs have begun to elongate and show separation of the uppermost flower groups. This generally coincides with an average cluster length of 3 to 4 inches (1 to 5 inch overall cluster length).

CROP/CULTIVAR	RATE (grams a.i./acre)
Palomino, Sauvignon Blanc, Tinta Madeira	0.4-1
Aleatico, Carignane, Chardonnay, Chenin Blanc, French Colombard, Pinot Noir, Valdepenas	1-2
Barbera, Petite Sirah, Zinfandel	2-4
Green Hungarian	4-8
Grenache Alicante	8
Salvadore	8-16

SPRAY INSTRUCTIONS FOR CITRUS

For all citrus, apply in sprays of sufficient water volumes to ensure thorough fruit wetting. Application to trees under stress or to trees of low vigor has the potential to cause severe leaf and/or fruit drop. A slight increase in mature leaf drop may be observed after application. Do not apply in white wash sprays in which lime or other caustic material has produced a high pH in the spray tank. If copper fungicides, insecticides, and/or oils or surfactants are applied within three weeks, either before or after, application of this product, significant leaf and fruit drop may occur.

FIELD APPLICATIONS

NAVEL ORANGES

To delay aging of the rind and reduce rind disorders (e.g., rind staining, water spotting, sticky or tacky surface, puffy rind and rupture under pressure) and to produce a more orderly harvesting pattern:

EARLY SPRAY (before color change): The delay in rind aging is greatest when the early spray is applied before a color change. This spray timing produces the firmest rind possible. Apply one spray two weeks prior to color break which normally occurs August to November. Apply 16 to 48 grams a.i. per acre as a concentrate or dilute spray in sufficient water volume to ensure thorough wetting.

AND/OR

LATE SPRAY (after color break): Apply one spray just after marketable color has developed which is normally from October through December. Apply 16 to 48 grams a.i. per acre as a concentrate or dilute spray in sufficient water volume to ensure thorough wetting. This application has the potential to cause fruit regreening.

NOTE: Do not apply the early spray to groves that will be harvested early as a reduction in grade may result due to the delayed coloring. Do not apply from January through July. Sprays applied during this time may cause reduced production the following year. Slower color development can be expected in the target crop. Increased regreening of mature fruit, if present, may occur. After marketable color is achieved, treatment effects will be reduced the longer treated fruit remains on the tree.

(For Florida use only) To enhance fruit set and yield: Make a single application of 15 to 25 grams a.i. per acre during December or January in 125 to 175 gallons of water per acre. Use a pure organo-silicone type surfactant at 0.05% (6 fl. oz./100 gallons).

VALENCIA ORANGES

(For California and Arizona use only) To reduce rind creasing and to delay aging and softening of the rind: Apply a single spray in August to October to trees with a target crop of young fruit. Apply 40 to 80 grams a.i. per acre as a concentrate or dilute spray in sufficient water volume to ensure thorough wetting.

NOTE: Do not apply the early spray to groves that will be harvested early as a reduction in grade may result due to the delayed coloring. Slower color development can be expected in the target crop. Increased regreening of mature fruit, if present, may occur. After marketable color is achieved, treatment effects will be reduced the longer treated fruit remain on the tree.

(For Florida use only) To enhance fruit set and yield: Make a single application of 15 to 25 grams a.i. per acre during December or January in 125 to 175 gallons of water per acre. Use a pure organo-silicone type surfactant at 0.05% (6 fl. oz./100 gallons).

ALL ROUND ORANGES (For Florida use only)

To reduce rind creasing and puffiness and to delay aging and softening of the rind: Apply a single spray of 20 to 60 grams a.i. per acre in August to October to trees with a target crop of young fruit. The use of a pure organo-silicone type surfactant at 0.05% (6 fl. oz./100 gallons) can be used.

AMBERSWEET ORANGE (For Florida use only)

To enhance fruit set and yield: Make a single application of 15 to 25 grams a.i. per acre during January in 125 to 175 gallons of water per acre with a pure organo-silicone type surfactant at 0.05% (6 fl. oz./100 gallons).

LEMONS & LIMES

(California except desert valleys) To decrease the amount of small tree ripe fruit and to produce a more desirable production pattern in relation to market demand: Apply one spray when target crop is 1/2 to 3/4 full size but still green. Use 10 to 32 grams a.i. per acre as a concentrate or dilute spray in sufficient water volume to ensure thorough wetting. When applied two years in a row, an even larger difference in harvest pattern and maturity occurs.

TANGERINE HYBRIDS

To delay disorders associated with rind aging (e.g., puffiness, softening) and increase peel strength of tangerine hybrids such as Orlando, Robinson, Minneola and Sunburst: Apply 20 to 40 grams a.i. per acre as a dilute spray in sufficient water volume to ensure thorough wetting.

NOTE: Do not apply if early harvest is planned. Do not apply after coloring as pre-harvest rind staining will occur. Application during coloring can cause variation in rind color development.

(All states except California) To increase fruit set and yields on tangerine hybrids such as the Orlando, Robinson, Minneola and Sunburst: Apply one to two dilute sprays during full bloom, the number of applications depends on desired fruit set. Be sure to wet the leaves sufficiently. Use 8 to 30 grams a.i. per acre.

NOTE: Fruit sizes may be reduced and color development slightly retarded. A slight increase in mature leaf drop may occur in trees under stress.

GRAPEFRUIT

(All states except California) To delay disorders associated with rind aging (e.g., puffiness, softening and orange coloration), to prevent preharvest drop of mature fruit, increase peel strength and reduce water loss during storage, and to produce a more orderly harvesting pattern:

EARLY SPRAY (before color change): The delay in rind aging is greatest when the early spray is applied before a color change. This spray timing produces the firmest rind possible. Apply a single dilute spray approximately two weeks prior to color break, which normally occurs August through September. Apply 16 to 48 grams a.i. per acre. Do not exceed 20 ppm a.i. in the spray solution.

AND/OR

LATE SPRAY (after color change): Apply one spray just after marketable color has developed which is normally from October through December. Apply 16 to 48 grams a.i. per acre. Do not exceed 20 ppm a.i. in the spray solution.

NOTE: Do not apply to groves that will be harvested early as a reduction in grade may result due to the delayed coloring. To avoid reduction of yields which generally follow late held crops, spot pick heavy crops to aid early marketing. Applications made after December, or when trees begin to break dormancy, have an increased risk of adversely affecting new crop. Fruit will begin to regreen if applications are made to fully colored fruit and fruit are allowed to remain on the tree for extended periods. Results will vary from season to season depending on environmental conditions.

(All states except California) To enhance fruit set and yield: Make a single application of 15 to 25 grams a.i. per acre during December or January in 125 to 175 gallons of water per acre with a pure organo-silicone type surfactant at 0.05% (6 fl. oz./100 gallons).

GRAPEFRUIT, STAR RUBY VARIETY

(All states except California) To reduce early-season drop of small fruit of Star Ruby Variety thereby increasing yields: Apply a single dilute spray during the bloom period. Use 25 to 35 grams a.i. per acre.

NOTE: Results will vary season to season depending on environmental conditions. Maintain a well-balanced fertilization and watering program.

CLEMENTINE MANDARIN

To increase fruit set: Apply 1 to 8 grams in 100 gallons of water per acre (2.5 to 20 ppm) in 1 to 3 applications starting at 10% bloom up to 3 weeks after petal fall. Make applications as a dilute spray in sufficient gallonage to ensure thorough wetting. The number and timing of applications is dependent upon the amount of fruit set desired. In general, more fruit will set with more than 1 application and higher rates tend to set more fruit. Differences in the strain of Clementine Mandarin will also interact with the above factors to affect the degree of fruit set achieved.

NOTE: Applications may cause severe leaf drop.

SATSUMA MANDARIN

To slow fruit maturity: To slow fruit maturity, apply 8 to 30 grams per acre insufficient water volume to cover the tree canopy. Make 1 application prior to coloring.

POSTHARVEST APPLICATIONS

LEMON

To prolong storage life and delay fruit senescence: Mix 2 to 4 fluid ounces of this product (2 to 4 grams of a.i.) in 10 gallons of diluted storage wax. Dilute storage wax in accordance with wax label instructions. Delaying senescence may reduce the incidence of sour rot.

YELLOW LEMONS AND OTHER MATURE CITRUS FRUIT

To delay rind senescence and color changes: Mix 2 to 4 fluid ounces of this product (2 to 4 grams of a.i.) in 10 gallons of diluted storage wax. Dilute storage wax in accordance with wax label instructions.

SPRAY INSTRUCTIONS FOR FRUIT CROPS

BANANA

(All states except California) To overcome the effects of stress caused by disease, insects, or adverse weather and to stimulate plant growth: Apply 1 to 6 grams a.i. per acre by ground or aerial application in sufficient water volume to adequately cover foliage. Make applications once every 30 to 90 days throughout the year. Apply more frequently (monthly) for 6 months prior to anticipated weather stress periods. Applications of this product may also improve fruit size, quality and yield.

BLUEBERRIES

To improve fruit set on Highbush varieties such as Coville, Jersey, Stanley, Earliblue, Weymouth, Walcott, Berkeley, Blueray, Bluecrop, 1316A and Concord: Make two applications of 40 grams a.i. per acre in 40 to 100 gallons of water. Apply the first spray at full bloom (when over 75% of all flowers are fully open), followed by a second spray 10 to 14 days later. For Weymouth, application can be delayed up to two weeks after full bloom to affect sizing of shot berries.

To improve fruit set on Rabbiteye varieties such as Aliceblue, Beckyblue, Bonita, Brightwell, Climax, Delite, Tiftblue and Woodward: Beginning at bloom Stage 5 (majority of flowers are elongated but not open), apply two to four applications of 20 to 40 grams a.i. per acre in 40 to 100 gallons of water per application. Make applications 10 to 14 days apart.

SWEET CHERRIES

To produce a brighter color, firmer fruit and to increase size: Apply spray when the fruit is light green to straw colored. Apply 16 to 48 grams a.i. per acre using sufficient water to obtain complete coverage of the tree.

NOTE: Color development and harvest will be slightly delayed.

RED TART CHERRIES

(All states except California) To maintain and extend high fruiting capacity of bearing tart cherry trees and reduce occurrence of "blind" nodes by stimulating lateral vegetative buds to develop a more productive balance of lateral shoots and spurs: this product must be applied annually to ensure vegetative development and subsequent yield improvement year after year.

Timing: Apply a single foliar spray between 14 to 28 days after bloom. Research and commercial experience has determined 21 days after full bloom to be optimum. Best timing is further defined as that stage when three to five terminal leaves have fully expanded, or, at least 1 to 3 inches of terminal shoot extension has occurred.

Concentration: Use 4 to 18 grams a.i. per acre depending on tree age and vigor (See table below). Apply as a concentrate or dilute spray in sufficient water volume to ensure thorough wetting.

SPRAY RATES FOR TART CHERRY TREES BY AGE

Tree Age (Years)	Grams a.i./Acre
6-10	4-6
11-15	8-10
16-20	11-14
20+	14-18

NOTE: Rates of this product in the above chart are based on expected tree vigor at various ages in a normal orchard. Each orchard presents a different situation. Adjust product rate to complement vigor of trees. If trees are vigorous, use lowest rates. Use lower rates on trees that have been heavily pruned or hedged. Do not use additional wetting or spreading agents. Use higher rate for trees low in vigor and weak in shoot and spur production. Excessive application rates on any tree will increase vegetative growth at the expense of fruit production the following year.

This product will not improve growth of trees under stress (nutritional, moisture, winter injury) or other factors inhibiting normal growth and development resulting from physical damage or unsound orchard practices. Best results from this product will be obtained when combined with good cultural practices.

STONE FRUIT GROUP

(All states except California) To improve fruit quality and increase firmness in the season of application: Apply a single spray of 16 to 32 grams a.i. per acre in sufficient water to completely cover fruits and foliage. Make application 1 to 4 weeks prior to harvest.

NOTE: Reduced flower counts can be observed in the year following application, particularly if the application is made during the months of May through July.

ITALIAN PRUNE

(All states except California) To improve quality, increase size and reduce internal browning: Apply a single application of 16 to 48 grams a.i. per acre in sufficient water to ensure thorough wetting. Make application four to five weeks prior to harvest.

NOTE: Reduced bloom, color development and harvest may be evident the following season.

SPRAY INSTRUCTIONS FOR NON-BEARING FRUIT TREES

NON-BEARING STONE FRUIT

(All states except California) To reduce flowering and fruiting in young stone fruit trees in order to minimize the competitive effect of early fruiting on tree development: Apply a single application of 20 to 80 grams a.i. per acre during the period of flower bud initiation for the following year. Use sufficient water to achieve good coverage of the canopy. A Nufarm representative or local horticulturist can provide information on timings and rates applicable to cultivars in your area.

NOTE: Do not spray trees in the first year. Treat trees in the second season to reduce flowering in the third season and treat again in the third season if a reduction in flowering and fruiting is desired in the fourth season. Do not treat trees the year before desired harvest. Only apply to trees that are in good physiological condition.

SPRAY INSTRUCTIONS FOR OTHER FRUIT

STRAWBERRIES

(All states except California) To increase runner production of mother plants: Apply a single spray to mother plants 10 to 30 days after planting. At the time of spraying, plants must have 1 to 6 leaves. Apply 100 gallons per acre to thoroughly wet new foliage to the point of run-off. Use 15 to 25 grams a.i. per acre.

NOTE: Not for use on fruiting plants. Effectiveness of treatments can be reduced on planting set out after mid May. Response to application of this product varies with cultivar and location. Consult a Nufarm representative or local horticulturist for specific information in your area.

CRANBERRY

(All states except California) To reduce or eliminate crop in the year of application: Apply 10 to 50 grams a.i. per acre as a single application at the early bloom stage (2 to 5% scatter bloom) in sufficient water to ensure thorough coverage.

NOTE: Applications made later than the early bloom stage can have no effect or result in increased fruit set. Response varies with cultivar, location and bog age. Consult a Nufarm representative or local specialist for specific information in your area.

SPRAY INSTRUCTIONS FOR VEGETABLE CROPS

ARTICHOKES

To accelerate maturity of artichokes and to shift the harvest to an earlier date:

For perennials: Make 1 to 3 applications of 10 to 20 grams a.i. per acre at bud initiation stage in sufficient water volume to ensure wetting the entire plant including leaves, stems and buds.

For annuals: Make 1 to 4 applications of 10 to 20 grams a.i. per acre at two-week intervals beginning at the fourth true leaf. Use sufficient water volume to ensure wetting the entire plant including leaves, stems and buds.

CARROTS

To reduce the severity of *Alternaria leaf blight*: Apply 1 to 6 grams a.i. per acre in sufficient water volume to thoroughly cover the foliage. Make applications 4 to 6 weeks after emergence. Make a second application 14 days later to achieve the desired amount of foliar recovery in severe disease situations, or in cool weather. Good results in suppression of *Alternaria blight* have been achieved in a concentration of 20 to 30 ppm. Dilutions of greater concentration can increase the risk of excessive top growth at the expense of root growth, particularly with a second application.

CELERY

To increase plant height and yield, and overcome stress due to cold weather conditions, or saline soils and to obtain earlier maturity: Apply spray one to four weeks prior to harvest. Lower concentrations are applied at the three to four week interval. Higher concentrations at the one to two week interval. Use 2.5 to 10 grams a.i. in 25 to 50 gallons per acre for ground application or 5 to 10 gallons of water per acre for aerial application (except in California).

NOTE: Do not apply earlier than four weeks before harvest. Do not apply by air in California.

LETTUCE FOR SEED

To obtain uniform bolting and increase seed production: Apply one to four applications two weeks apart, starting when lettuce is at the fourth true leaf. Use 1 to 4 grams a.i. per acre per application in sufficient water volume to ensure thorough wetting.

MELONS AND CUCUMBERS

(All states except California) To stimulate fruit set during periods of extended cool temperatures: Apply 1 to 4 grams a.i. per acre. Make one application prior to bloom and two additional applications at 10 to 14 day intervals following fruit set on cantaloupes and watermelons. For cucumbers, make up to four applications after fruit set.

Ensure thorough coverage of the exposed foliage by using adequate spray volume. In order to obtain maximum benefit from this product, the vines must be in good condition except for a reduced growth rate due to cool temperatures.

PEPPERS

(All states except California)

To promote plant growth: Apply one to two sprays of 1 to 3 grams a.i. per acre in 25 to 50 gallons of water per acre at two-week intervals. Begin sprays two weeks after transplanting.

NOTE: This use is for areas with short growing seasons, or when low temperatures slow plant growth.

To increase fruit set and promote fruit growth: Apply one to two sprays of 1 to 3 grams a.i. per acre in 25 to 50 gallons of water per acre at weekly intervals during the flowering period. Use the high rate for areas and/or varieties with pollination and/or fruit set problems.

To increase fruit size: Apply 1 to 3 grams a.i. per acre in 25 to 50 gallons of water per acre at the beginning of the picking period. Use the high rate plants with heavy fruit loads.

FORCING RHUBARB

To increase yield of marketable forced rhubarb and to break dormancy on plants receiving insufficient chilling: Apply 2 fluid ounces (60 mls) of a solution containing 20 grams a.i. in 10 gallons of water to each cleaned crown, when the rest period is not completely broken. When the rest period is broken by cold weather, apply 2 fluid ounces (60 mls) of a solution containing 10 grams a.i. in 10 gallons of water to each cleaned crown.

NOTE: Keep forcing house temperatures at 40°F to 50°F for 24 hours after application. If house is warmer than 50°F, the crowns must be covered with plastic. Temperatures in the forcing house above 50°F will result in lower yields and poor stalk color.

SEED POTATOES

To stimulate uniform sprouting for maximum production, more uniform development, fewer late maturing plants, and to break dormancy of newly harvested potatoes that have not had a full rest period: Dip freshly dug whole or cut seed pieces in a solution containing 0.2 to 0.4 grams a.i. in 100 gallons of water prior to planting.

NOTE: If soil temperature is very high, avoid treating rested seed and use the minimum concentration for dormant seed.

SPINACH

(All states except California) To facilitate harvest, increase yield and improve quality of fall and over-winter spinach: Apply a single spray 10 to 18 days before each anticipated harvest on fall or over-winter spinach, ideally when daytime temperatures are 40°F to 70°F and during early morning hours when dew is present on crop. Use 6 to 10 grams a.i. per acre in 10 to 50 gallons of water per acre by ground sprayer or in a minimum of 5 to 10 gallons of water per acre by air. When applied to promote growth of second cutting, wait until some regrowth has started before spraying. Maximum benefit from this product is obtained when below normal temperatures predominate following application and growth would be otherwise slowed in untreated spinach.

NOTE: Since Gibberellic Acid can promote bolting, do not apply to spinach after the mid-winter period or if temperatures are expected to exceed 75°F within several days of application. Do not apply on spring planted spinach.

SPRAY INSTRUCTIONS FOR ORNAMENTALS, CUT FLOWERS AND TURFGRASS

The following instructions are based on results with common cultivars. Differences in responsiveness vary from one cultivar to another, or from one set of growing conditions to another, or from one cultural management system to another. Therefore, prior to widespread usage, test a small number of plants from each cultivar under a specific set of growing and cultural management conditions to verify desired efficacy.

ORNAMENTALS

(ALL STATES EXCEPT CALIFORNIA)

AZALEA

Partial Substitution of Cold (Three Sprays) – As a partial replacement of cold treatment to break flower dormancy: Apply three sprays of 250 to 500 ppm a.i. at weekly intervals after three to four weeks of chilling.

NOTE: Initiate treatment when plants are at Stage 5 of floral development (i.e., style elongated and open). A representative spray schedule would consist of applications made at 3, 10 and 17 days after four weeks of chilling.

Flowers will not develop properly if applied prior to Stage 5. Do not apply after flower buds show color. To ensure uniform flowering, apply thoroughly.

Partial Substitution of Cold (One Spray) – *On some cultivars (e.g. "Gloria", "Prize", and "Redwing"):* A single spray of 1,000 ppm a.i. after three to four weeks of chilling has proven effective in breaking dormancy.

Total Substitution of Cold – *As a complete substitution of cold treatment to break flower dormancy:* Apply four to six sprays of 1,000 ppm a.i. at weekly intervals. Plants must be at Stage 5 of floral development (style elongated and open) before first spray is applied.

NOTE: Flowers will not develop properly if applied prior to Stage 5 of floral development. Do not apply after flower buds show color. To ensure uniform flowering, apply thoroughly.

Flower Bud Initiation – *To inhibit flower bud initiation during vegetative growth:* Approximately 2 to 3 weeks after each pinch, apply a single foliar application at 100 to 750 ppm a.i. After the first application, continue applying on a weekly basis for 1 to 2 weeks.

NOTE: Make a maximum of three applications.

CALLA LILY

For increased flowering: Prepare a 500 ppm a.i. solution and soak rhizome or tuber for 10 minutes prior to planting.

NOTE: Leaf or flower stretching can be observed in some cultivars. If this occurs, reduce rates.

CAMELLIA

To substitute for chilling requirements and increase bloom size: Prepare a 2.0% (a.i.) product solution by mixing equal volumes of product and water. After removing the vegetative bud, found immediately adjacent to or below the floral bud, place a single drop of the prepared solution on the vegetative bud scar.

NOTE: Adding a deposition aid (e.g., carboxymethylcellulose) to thicken the solution will reduce runoff.

CYCLAMEN

Bud Application – Apply a single application of 8 ml (0.25 fl. oz.) of a 10 to 15 ppm a.i. solution directly to the crown when buds are pinhead size in the leaf axils.

Foliar Application – Thoroughly wet the crown by applying a single foliar application of 25 ppm a.i. directly toward the crown and adjacent leaves when buds are pinhead size in the leaf axils.

NOTE: Both bud and foliar applications have been shown to promote uniform flowering. Late or excessive applications have also shown to result in poorly formed flowers or weakened stems.

FUCHSIA

To produce tree forms of common fuchsia cultivars by stem elongation: Apply a foliar application of 250 ppm a.i. beginning after the fuchsia plant has reached the desired size and continuing for four consecutive weeks. Spray plant to point of run-off.

NOTE: Staking may be required after application. Higher concentrated solutions have been known to cause long, spindly and weak stems.

GERANIUM

Cuttings – *To increase number and size of flowers on geranium cuttings:* Apply a 1 to 5 ppm a.i. solution when inflorescence first begins to show color. Apply spray to the developing inflorescence.

NOTE: Peduncle stretching can be observed if application is made prior to inflorescence showing color or if concentrations in excess of 5 ppm are used.

Seedlings – *To advance flowering:* Apply a single application of 5 to 15 ppm a.i. when the first flower bud set is noted. Spray plant to point of run-off. Depending on the type of geranium, flowering can be advanced 10 to 21 days.

NOTE: Overuse or incorrect timing will cause long, spindly and weak stems.

Tree Forms – *To produce tree forms of common geranium cultivars by stem elongation:* Apply a foliar application of 250 ppm a.i. for four consecutive weeks spraying plant to point of run-off.

NOTE: Staking may be required after application.

HYDRANGEA

To substitute for chilling requirements and break flower bud dormancy: Apply a single foliar application of 2 to 5 ppm a.i. for one to four consecutive weeks beginning at the start of forcing. Thoroughly apply solution to all growing points containing flower buds.

NOTE: Overuse or incorrect timing will cause long, spindly and weak stems.

POMPOM CHRYSANTHEMUMS

For elongating peduncles on pompom chrysanthemums: Apply a single spray four to five weeks after initiation of short day conditions. Use a 25 to 60 ppm a.i. solution and apply spray towards the flower buds.

NOTE: Overuse or incorrect timing will cause long, spindly and weak stems.

SPATHIPHYLLUM

To induce flowering of spathiphyllum: Apply single full coverage spray containing 150 to 250 ppm a.i. approximately nine to twelve weeks prior to sale. Spray plant to point of run-off, thoroughly wetting all growing points.

NOTE: Distorted bloom, increased petiole length and narrower leaves can appear on some cultivars such as "Petite", "Starlight", "Tasson", and "Mauna Loa". For other cultivars, prior to application on a commercial basis, evaluate the effects of this product on a small number of plants.

AGLAONEMA, ANTHURIUM, DIFFENBACHIA (DUMB CANE) AND SYNGONIUM

To accelerate bloom and increase flowering: Apply a single foliar application of 250 to 500 ppm a.i. for one to four consecutive weeks beginning at the start of forcing for Aglaonema, Anthurium and Diffenbachia. Apply a single foliar application of 500 to 2,000 ppm a.i. for one to four consecutive weeks beginning at the start of forcing for Syngonium. Thoroughly apply solution to all growing points containing flower buds.

NOTE: Applying this product can increase flower yield and decrease time to flowering. To induce bloom, make 1 to 2 applications while plant is in the vegetative phase. For other Araceae cultivars, prior to application on a commercial basis, evaluate the effects of this product on a small number of plants.

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CUT FLOWERS

(All states except California)

Applying this product to ornamental plants grown for cut flowers will aid in promoting longer stems and increased flower yield. Gibberellic Acid is a potent plant growth regulator and overuse will result in undesirable effects. Assess the effects of this product on a small number of plants prior to making large scale applications.

ASTER

Monte Carlo-type, Novi-type and Belgi-type – *To promote longer stems and break dormancy:* Apply 1 to 3 applications of a 50 to 100 ppm a.i. solution when plants are 2" to 6" tall. Make applications at 2 to 3 week intervals.

BABY'S BREATH (Gypsophila)

To promote plant growth, increase flower yield and uniformity: Make 3 to 4 applications of a 150 to 500 ppm a.i. solution at 4 weeks of growth (after pinching). Make applications at 2 week intervals.

BELLS OF IRELAND (Moluccella)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

BUPLUREUM

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

CAMPANULA

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

CANDY TUFT (Iberis)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

COLUMN STOCK (Matthiola)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

DELPHINIUM

Including: *D. belladonna, D. bellamosum, D. cardinale, D. elatum, D. grandiflorum, D. nudicale, and Delphinium hybrids* – *To promote plant growth and longer stems:* Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

DIDISCUS (Trachyme)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

HYDRANGEA

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

LARKSPUR

Consolida ambigua, C. orientalis, Delphinium ajacis – *To promote plant growth and longer stems:* Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

LISIANTHUS (Eustoma)

Eustoma grandiflora – *To promote plant growth and longer stems:* Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

PHLOX

Phlox paniculata and Drummondii hybrida – *To promote plant growth and longer stems:* Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

QUEEN ANNE'S LACE (Ammi)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

SAFFLOWER (Carthamus)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

SOLIDASTER (Solidago)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

STATICE (Limonium)

To promote earlier flowering and to increase flower yield: Apply as a foliar spray consisting of 10 ml of a 400 to 500 ppm a.i. solution when plants are more than 10 inches in diameter (approximately 90 to 110 days after normal seeding time).

NOTE: Do not exceed specified rates. Do not apply repeated sprays. Accelerated flowering is influenced by extended photoperiod, adequate nutrition and reduced night temperature. Treatment with Gibberellins lessens the requirement for the cold requirement and/or the long photoperiod.

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

SUNFLOWER (Helianthus)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

SWEET WILLIAM (Dianthus)

To promote plant growth and longer stems: Apply a 50 to 100 ppm a.i. solution as a foliar spray when plants are 4" to 8" tall. Make applications at 2 to 3 week intervals.

TURFGRASS

(All states except California)

Application of this product to Bermudagrass grown in golf courses, parks and turf farms has been shown to initiate or maintain growth and prevent color change during periods of cold stress.

BERMUDAGRASS

NOTE: Do not exceed specific rates. Maintain adequate moisture and proper fertilization programs as indicated for the local area. Discontinue treatments if thinning is observed. Do not apply the high rate more frequently than every two weeks. More frequent mowing may be necessary. Do not use on dormant turf.

Tidwarf, Tifgreen, and other cultivars – To initiate or maintain growth and prevent color change during periods of cold stress and light frosts: Apply 10 grams a.i. per acre weekly or 25 grams a.i. per acre biweekly in 25 to 100 gallons of water per acre.

Tidwarf, Tifgreen – To maintain or enhance regrowth of golf course Bermudagrass during summer months: Apply 1 to 3 grams a.i. per acre weekly in 25 to 100 gallons of water per acre.

BEDDING PLANTS, ANNUAL AND PERENNIAL POTTED CROPS, FIELD GROWN ORNAMENTALS AND BULB CROPS

(All states except California)

To promote plant growth and/or overcome the effects of excessive use of a gibberellin inhibiting plant growth regulator: Begin by applying a single foliar application of a 1 ppm a.i. solution unless experience dictates a higher rate is appropriate. If desired results are not achieved, make another application. Do not use more than 25 ppm a.i.

NOTE: Gibberellic Acid is a potent plant growth regulator and overuse will result in undesirable effects including stem elongation. Assess the effects of this product on a small number of plants prior to making large scale applications.

SPRAY INSTRUCTIONS FOR ADDITIONAL CROPS

COTTON

(All states except California) To promote early plant growth and increase seedling vigor: Apply 1 to 6 grams a.i. per acre as an in-furrow application to seed or as a foliar application from the cotyledon leaf stage through the 7 leaf/node stage. Up to three applications can be made.

To mix, fill the treatment tank with half the final tank mix volume. Add the required amount of this product and mix thoroughly while adding water to the desired final volume. Compatibility information regarding tank mixtures of this product with herbicides used in cotton is not available. Aerial Application: use a spray system capable of producing a uniform spray pattern of medium to fine spray droplets at 10 gallons per acre (GPA). Apply no less than 3 GPA of total spray volume. Low pressure ground sprayers equipped with boom and flat fan nozzles: apply 10 to 15 GPA spray volume. Dispose of unused spray mixture according to the label directions at the end of the day.

NOTE: Use higher rates when temperatures will likely average 75°F or less during the 14 days following the application. Do not apply more often than necessary to achieve the desired height, as overdosage will result in excessive growth. Do not apply to cotton plants under drought stress.

GRAIN SORGHUM SEED TREATMENT

(All states except California) For use as a seed treatment to break dormancy and allow germination under cold soil conditions: Apply 0.25 to 1.00 grams a.i. per 100 pounds of seed. This product can be applied to dry seed with standard mist-treating equipment. Make certain the seed is completely and uniformly covered with this product. Fill the seed treatment tank with water to one-half the final tank mix volume. Add the required amount of this product, mixing thoroughly while adding water and other seed treatment products to the desired final volume.

DO NOT USE TREATED SEED FOR FOOD, FEED OR OIL PURPOSES. An approved dye must be added to distinguish this product's treated seed and prevent inadvertent use for food, feed or oil purposes. Seed commercially treated with this product must be labeled in accordance with all applicable requirements of the federal and state seed laws. This product is compatible with most commonly used fungicide seed treatments such as VITAVAX® and DITHANE®, standard dyes and sticker-binding agents. When preparing tank mixes, the user must ensure adequate physical compatibility and mixing characteristics.

HOPS

(For seeded and seedless Fuggle hops and similar varieties adapted to the Northwestern states) To increase yield and fruit set: Apply spray when vine growth is five to eight feet in length. Use 4 to 6 grams a.i. in 100 to 150 gallons of water per acre.

RICE SEED TREATMENT

(All states except California) For use as a seed treatment on both semi-dwarf and tall rice varieties to promote germination, emergence and final stand densities when planted at greater depths where soil moisture levels are more adequate for germination: Apply only to rice seed intended for drill seeded or dry broadcast systems. Do not apply to rice used in a 24-hour presoak prior to broadcast or to water used for the presoak. Do not use more than 2.1 grams a.i. per 100 pounds of seed. **DO NOT USE TREATED SEED FOR FOOD, FEED, OR OIL PURPOSES.**

Use 0.5 to 2.1 grams a.i. in 8 to 20 oz. water per 100 pounds of rice seed. This product can be applied to dry seed with standard mist-treating equipment. Best results are obtained using a higher treatment volume (12 to 20 fl. oz. per 100 pounds of seed) to ensure the seed is completely and uniformly covered with this product. Fill the seed treatment tank with water to one-half the final tank mix volume. Add the required amount of this product, mixing thoroughly while adding water and other seed treatment products to the desired final volume.

An approved dye must be added to distinguish this product's treated seed and prevent inadvertent use for food, feed or oil purposes. Seed commercially treated with this product must be labeled in accordance with all applicable requirements of the federal and state seed laws. GIBGRO® 4LS is compatible with most commonly used fungicide seed treatments such as VITAVAX® and DITHANE®, standard dyes and sticker-binding agents. When preparing tank mixes, the user must ensure adequate physical compatibility and mixing characteristics.

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RICE POST-EMERGENCE SEEDLING TREATMENT

(All states except California) For use as a post-emergence seedling application on rice grown in the United States to promote more uniform and vigorous growth prior to permanent flooding. Early season foliar applications of this product will promote vigorous and more uniform seedling growth of rice prior to permanent flood establishment. This will allow earlier (five to ten days) flooding of drill or dry broadcast seeded varieties and is particularly effective on semi-dwarf varieties. Early flooding may reduce additional flushing costs associated with a delay in permanent flooding, weed infestations and the number of herbicide applications as well as promote earlier and more uniform grain maturity. Product application may result in a temporary lighter green foliage color due to accelerated growth rates.

Do not apply when rice is subject to drought stress conditions. This product can be tank mixed with most commonly used rice herbicides and fungicides. When this product is applied in tank mixes with Arrosolo®, Riverside Propanil®, 6ODF, Stam® M4 combined with labeled herbicides, Stam® 8OEDF or Wham® EZ, plus a recommended adjuvant, the use of a surfactant is not necessary. Do not apply with product containing the active ingredient FENOXAPROP-PETHYL.

This product applied between split-boot and 100% heading can increase panicle height of semi-dwarf rice. This will facilitate harvest efficiency in the field by allowing the rice grain to be cut above the leaf canopy at faster combine speeds and at reduced vegetative load. Grain quality and maturity can be advanced with the promotion of tiller panicle development. Heading applications to the first crop can also accelerate regrowth of second crop rice. This can result in earlier second crop maturity and maximize grain yield.

Seedling Applications

Apply this product at a rate of 1 to 3 grams a.i. per acre to rice between the 1 to 2 leaf stage and the 4 to 5 leaf stage of growth. Timing and dosage is based on environmental conditions, tank mix combinations with herbicides, and preferred permanent flood practice in relation to rice leaf stage.

For best results, apply this product at a rate of 1 to 2 grams a.i. per acre using either a commercially acceptable nonionic surfactant or in tank mix combination with rice herbicides. Use higher rates (1.5 to 3 grams a.i. per acre) with some dry and water based herbicide formulations, or when temperatures will likely average 75°F or less during fourteen days after application.

Panicle Extension Applications

Apply 3 to 8 grams a.i. per acre between split-boot and 100% panicle heading to promote main culm and tiller panicle extension. Use a nonionic surfactant known to be non-phytotoxic to rice. Heading applications to the first crop can result in earlier second crop maturity and maximized yield.

HYBRID RICE SEED PRODUCTION (All states except California)

Make 1 to 5 applications of 20 to 100 grams a.i. per acre at regular intervals during the heading period to promote main culm and tiller panicle extension.

Application Equipment for Post-Emergence Seedling Treatments and Hybrid Rice Seed Production

Apply this product by fixed wing aircraft with spray systems capable of producing a uniform medium to fine spray droplet pattern of 10 gallons per acre (GPA). Do not apply less than 3 GPA of total spray volume. Low pressure ground sprayers equipped with boom and flat fan nozzles: apply 10 to 15 GPA spray volume.

CONVERSION TABLES

This product contains approximately 1 gram of active ingredient per fluid ounce of product.

Grams of active ingredient	Fluid ounces of GIBGRO® 4LS	Grams of active ingredient	Fluid ounces of GIBGRO® 4LS
0.2	0.2 oz.	16.0	16 oz.
0.5	0.5 oz.	20.0	20 oz.
1.0	1 oz.	25.0	25 oz.
2.0	2 oz.	32.0	32 oz.
4.0	4 oz.	40.0	40 oz.
5.0	5 oz.	48.0	48 oz.
8.0	8 oz.	50.0	50 oz.
10.0	10oz.	128.0	128oz.
12.0	12oz.		

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ppm (parts per million) GA ₃	Milliliters (ml) of GIBGRO® 4LS per liter of spray solution	Milliliters (ml) of GIBGRO® 4LS per gallon of spray solution	Fl. oz. of GIBGRO® 4LS per gallon of spray solution
1	0.03	0.1	0.003
5	0.15	0.6	0.02
10	0.3	1.1	0.04
25	0.74	2.8	0.09
50	1.5	5.6	0.19
100	3.0	11.2	0.4
250	7.4	28.0	0.95
500	14.8	56	1.9
750	22.2	84	2.8
1,000	29.6	112	3.8

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep containers tightly closed when not in use. Keep away from heat and open flame.

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

CONTAINER DISPOSAL: Nonrefillable container: **DO NOT** reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

WARRANTY DISCLAIMER

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