



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

AUG 13 2002

Ms. Lynne C. Zahigian  
Agent for: Lawn and Garden Products, Inc.  
6650 Wade Lane  
Stagecoach, Nevada 89429

Subject: Florel® Brand Growth Regulator  
EPA Registration No. 54705-8  
Your label amendment application dated June 7, 2002

Dear Ms. Zahigian,

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable, provided that you comply with the following conditions.

1. You must make the following corrections to the label.

a. On pages 1 and 8 is the sentence, "FLOREL is a registered trademark of Rhône-Poulenc Ag Company." Check the company name to ensure that it is still correct and change it if it is not. Rhône-Poulenc Ag Company became Aventis CropScience and now has been bought by Bayer, the new company being named Bayer CropScience.

b. In the first paragraph of the "UNDESIRABLE FRUIT ELIMINATION (Ornamental Use Only)" section on page 9 is a list of trees and shrubs that includes "Cottonweed". Ensure that this is the correct name ("Cottonwood" seems more likely) and change it if it is not.

2. Submit one copy of your final printed labeling before you release the product for shipment.

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

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If you have any questions about this letter, please contact John Bazuin at (703)305-7381.

Sincerely yours,

/s/

Cynthia Giles-Parker  
Product Manager (22)  
Fungicide Branch  
Registration Division (7505C)

Attachment: Label stamped "ACCEPTED with COMMENTS"

3712



# FLOREL® BRAND GROWTH REGULATOR

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:

AUG 13 2002

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

54705-8

- Prevents Nuisance Fruit on Ornamental Trees and Shrubs
- Removes Dwarf Mistletoe from Ornamental Conifers
- Removes Leafy Mistletoe from Ornamental Deciduous Trees
- Use In Production of Cantaloupe, Cucumber, Pumpkin and Squash Hybrid Seed
- Induces Flowering of Ornamental Bromeliads
- Reduces Plant Height of Potted Daffodils and Stem Topple of Potted Hyacinths
- Increases Lateral Branching in Ornamentals

<b>ACTIVE INGREDIENT:</b>	
Ethephon, [(2-chloroethyl) phosphonic acid]*	3.9%
<b>INERT INGREDIENTS:</b>	96.1%
<b>TOTAL</b>	100.0%

This product contains 0.33 lbs. ethephon per gallon.

EPA Reg. No. 54705-8

EPA Est. No. 48498-CA-1

Manufactured for:

**LAWN AND GARDEN PRODUCTS, INC.**

P.O. Box 35000 • Fresno, CA 93745-5000 • (559) 499-2100

FLOREL is a registered trademark of Rhône-Poulenc Ag Company.

## KEEP OUT OF REACH OF CHILDREN CAUTION

### FIRST AID

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

- IF ON SKIN OR CLOTHING**
- Take off contaminated clothing.
  - Rinse skin immediately with plenty of water for 15-20 minutes.
  - Call a poison control center or doctor for treatment advice.

### 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 the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information.

### NOTE TO PHYSICIAN

Treat symptomatically. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. No specific antidote is available. Probable mucosal damage may contraindicate the use of gastric lavage.

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USEPA MASTER LABEL — COMMERCIAL AGRICULTURAL SECTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, chemical resistant gloves (such as Nitrile, Butyl, Neoprene and/or Barrier Laminate) and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

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

USER SAFETY RECOMMENDATIONS

Users should

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

ENVIRONMENTAL HAZARDS

Avoid spray drift to nearby crops as this product may cause temporary modifications in plant growth.

Do not contaminate water used for irrigation or domestic purposes.

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 disposing of equipment washwaters.

Prolonged exposure to spray deposits can damage acrylic plastics, certain paints, and metals. Remove automobiles and other vehicles from the treatment area prior to application to prevent spray deposits from falling on vehicles and potentially damaging finishes. Rinse acrylic plastic materials and painted surfaces exposed to inadvertent spray deposits using soap and water within an hour after exposure.

GENERAL INFORMATION

Apply FLOREL® BRAND GROWTH REGULATOR spray solution within 24 hours after mixing. DO NOT save unused diluted spray solutions as they will not be as effective as fresh solutions.

For ground application only.

UNDESIRABLE FRUIT ELIMINATION

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will reduce or eliminate undesirable fruit development on many ornamental trees and shrubs such as: Apple, Carob, Cottonwood, Crabapple, Elm, Flowering pear, Flowering plum, Horsechestnut (Buckeye), Maple, Oak, Olive, Pine, Sour Orange, Sweetgum, Sycamore and others.

MISTLETOE SHOOT REMOVAL

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will cause the abscission of dwarf mistletoe shoots in ornamental conifers and leafy mistletoe shoots in ornamental deciduous trees.

GREENHOUSE, SHADEHOUSE AND FIELD GROWN FLORICULTURE CROPS

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will increase lateral branching, prevent flower initiation and development, and inhibit internode elongation on a wide range of floricultural crops. These include, but are not limited to: Azalea, Begonia, Chrysanthemum, Fuschia, Zonal and Ivy Geranium, Impatiens, English Ivy, Lantana, Petunia, Poinsettia, Verbena, and Vinca vine (Vinca major).

DEFOLIATION

A foliar spray of FLOREL® BRAND GROWTH REGULATOR applied after buds are matured, will initiate earlier leaf drop of Roses, Tallhedge, and Apple nursery stock. This will allow digging of stock plants prior to the onset of unfavorable weather.

A foliar spray of FLOREL® BRAND GROWTH REGULATOR to container-grown plumeria plants accelerates defoliation prior to storage. This reduces fungal problems on dormant plants. A foliar spray of FLOREL® BRAND GROWTH REGULATOR to plumeria trees in the field causes leaf abscission and stimulates the appearance of inflorescence buds. This use enhances winter flower production in warm sites such as Hawaii.

FLOWER INDUCTION OF BROMELIADS

A foliar spray of FLOREL® BRAND GROWTH REGULATOR initiates flowering of ornamental bromeliads such as Ananas, Aechmea, Neoregelia, Vriesia, and Billbergia.

USEPA MASTER LABEL — COMMERCIAL AGRICULTURAL SECTION

**REDUCTION OF PLANT HEIGHT AND STEM TOPPLE**

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will aid in reducing total plant height of potted daffodils and stem topple of potted hyacinths at time of full flower.

**HYBRID SEED PRODUCTION**

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will modify sex expression and flowering pattern of cantaloupe, cucumbers, pumpkins and squash to facilitate hybrid seed production. Do not use on cantaloupe, cucumbers, pumpkins or squash to be harvested for fresh or processed markets.

**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 regulations.

**Read entire label before using this product.**

**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 expectations pertaining to the statements on this label about personal protective equipment (PPE), notification to workers and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 48 hours. The REI is 72 hours in areas where average rainfall is less than 25 inches per year.

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 over long-sleeved shirt and long pants, chemical resistant gloves, chemical resistant shoes plus socks, and protective eyewear.

Notify workers of the application by warning them orally and posting warning signs at entrances to treated areas.

**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.

For ornamental fruit elimination and mistletoe removal, DO NOT allow people (other than applicator) or pets on treatment area during application. DO NOT enter treatment areas until spray has dried. DO NOT allow people or pets to touch treated plants until sprays have dried.

**CHEMIGATION:** Do not apply FLOREL® BRAND GROWTH REGULATOR through any type of irrigation system.

**UNDESIRABLE FRUIT ELIMINATION (Ornamental Use Only)**

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will reduce or eliminate undesirable fruit on ornamental trees and shrubs such as: Apple, Crabapple, Carob, Cottonweed, Elm, Flowering pear, Flowering plum, Horsechestnut (Buckeye), Maple, Oak, Olive, Pine, Sour Orange, Sweetgum, Sycamore and others. Applications must be made before fruit set for best results.

When applied to plants, FLOREL® BRAND GROWTH REGULATOR readily enters the plant and breaks down to ethylene, a naturally occurring plant hormone. Ethylene production within the plant is stimulated by stress. For this reason it is important that plants being treated are not under stress from drought, high temperature, disease or other environmental stress conditions. Treating stressed plants can cause severe injury to the plant such as defoliation or leaf scorching. Injury from FLOREL® BRAND GROWTH REGULATOR usually does not kill the plant, but can render it unsightly.

Applications should be made at the mid to full bloom stage, prior to fruit set in spray volumes sufficient to wet, but not to runoff. Failure to wet blooms thoroughly will cause incomplete fruit elimination. Spraying too much (until runoff) may cause some defoliation or other plant injury. Sprays applied too early or too late will be less effective and result in incomplete fruit elimination. The activity of FLOREL® BRAND GROWTH REGULATOR is linked to plant growth activity and is therefore slower acting when temperatures are low (60°F) or very high (95°F). Trees or shrubs should not be under stress when treated such as from drought, insects or diseases. Apply when rain is not expected for 24 hours.

For most species mix 1 quart of FLOREL® BRAND GROWTH REGULATOR in 10 gallons of water (1,000 ppm) and apply to thoroughly wet blooms but not to runoff. Amount of spray used will depend on tree size. Some temporary leaf yellowing and leaf drop of old leaves may occur after treatment.

For sensitive species such as Carob: Mix 1/2 quart FLOREL® BRAND GROWTH REGULATOR in 10 gallons of water (500 ppm) and apply to thoroughly wet buds and blooms but not to runoff. Amount of spray used will depend on tree size. Some temporary leaf yellowing and drop of old leaves may occur after treatment.

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USEPA MASTER LABEL — COMMERCIAL AGRICULTURAL SECTION

FLOREL® BRAND GROWTH REGULATOR has not been tested on all varieties of trees or shrubs which may have undesirable fruit. If it is necessary to treat plant species not listed above, treat only a small portion of the plant to determine the effectiveness of the product and to evaluate plant injury.

NOTES: (1) Plants under sprayed trees are usually not affected at this rate. However, some plants are sensitive to FLOREL® BRAND GROWTH REGULATOR (nandina, maples, etc.). If desired or if effects are unknown, the plants may be covered before spraying or the solution can be washed off of foliage with a water hose after application. (2) The above recommendations are not intended to be used in commercial fruit production as a thinning agent.

DWARF MISTLETOE REMOVAL

Use FLOREL® BRAND GROWTH REGULATOR as a foliar spray on ornamental conifers for removal of dwarf mistletoe shoots and seeds. Applications made in conjunction with silvicultural mistletoe management will prevent spread of the mistletoe parasite to other parts of the tree and to other trees. Mix 1 quart of FLOREL® BRAND GROWTH REGULATOR in 4 gallons of water (2700 ppm) and spray to "wet." When treating mistletoe in Douglas Fir, mix 1 pint of FLOREL® BRAND GROWTH REGULATOR in 4 gallons of water (1350 ppm). Application of higher rates on Douglas Fir may result in excessive needle drop. Use of a nonionic surfactant at recommended rates may increase effectiveness. Treat any mistletoe regrowth before seed dispersal occurs. Mature needle drop, that normally occurs in the fall, may be hastened by the use of FLOREL® BRAND GROWTH REGULATOR. Apply when temperature is above 65°F and rain is not expected for 24 hours. NOTE: Plants under sprayed trees may be sensitive to FLOREL® BRAND GROWTH REGULATOR at this rate. Either cover the plants before spraying or wash the solution off of foliage with a water hose after application.

LEAFY MISTLETOE REMOVAL

Use FLOREL® BRAND GROWTH REGULATOR as a foliar spray on ornamental deciduous trees for removal of leafy mistletoe shoots and seeds. Make applications after fall leaf drop or in spring just before leaf out. Apply when temperature is above 65°F and rain is not expected for 24 hours. Mix 2 quarts of FLOREL® BRAND GROWTH REGULATOR in 4 gallons of water (5400 ppm). Use of a nonionic surfactant at recommended rates may increase effectiveness. For effective removal of all mistletoe, shoots must be sprayed to "wet." Large mistletoe infections and mistletoe found in mesquite may be difficult to control with a single application and retreatment may be necessary. Should regrowth of mistletoe occur, retreat prior to mistletoe seed dispersal during the labeled application window. NOTE: Plants under sprayed trees may be sensitive to FLOREL® BRAND GROWTH REGULATOR at this rate. Either cover the plants before spraying or wash the solution off of foliage with a water hose after application.

HOME SPRAY GUIDE
FLOREL® BRAND GROWTH REGULATOR
Read Detailed Instructions in This Pamphlet First

Table with 3 columns: Application, FLOREL® Amount to Use, and Water. Rows include Fruit Elimination (Carob, Other Species), Mistletoe Removal (Dwarf Mistletoe, Leafy Mistletoe).

NOTE: 1 fluid ounce = 2 tablespoons = 6 teaspoons

GREENHOUSE, SHADEHOUSE AND FIELD GROWN FLORICULTURE CROPS

A foliar spray of FLOREL® BRAND GROWTH REGULATOR can be used to increase lateral branching, prevent flower initiation and development, and inhibit internode elongation on a wide range of floricultural crops. These include, but are not limited to: Azalea, Begonia, Chrysanthemum, Fuschia, Zonal and Ivy Geranium, Impatiens, English Ivy, Lantana, Petunia, Poinsettia, Verbena, and Vinca vine (Vinca major). FLOREL® BRAND GROWTH REGULATOR has not been tested on all floricultural crops and varieties. If it is necessary to treat plants not listed above, treat only a small area using the lower rate of application to determine the effectiveness of the product.

A foliar spray with FLOREL® BRAND GROWTH REGULATOR in conjunction with hand pinching will increase the number of lateral branches on many ornamental species. In many species, this product can replace hand pinching. Plants being treated with this product will not initiate or develop flowers. FLOREL® BRAND GROWTH REGULATOR inhibits internode elongation which maintains plants in a compact form.

When applied, FLOREL® BRAND GROWTH REGULATOR readily enters the plant and breaks down into ethylene, a naturally occurring plant hormone. Ethylene production within the plant is stimulated by stress. For this reason, it is important that plants being treated are not under stress from drought, high temperature, disease or other environmental conditions. Treating stressed plants can cause severe injury such as defoliation or leaf scorching. While injury from this product usually does not kill the plant, it can render the plant unsightly and unfit for sale. The activity of this product is linked to plant growth activity and is therefore slower acting when temperatures are below 60°F or above 95°F. Avoid drift onto non-target plants.

Concentration and Coverage: Unless otherwise stated, the standard rate on greenhouse floricultural crops is 500 ppm (one pint in 10 gallons of water or 1.6 fluid ounces per gallon). Concentrations below 500 ppm can be used depending upon the growth control desired. Apply FLOREL® BRAND GROWTH REGULATOR to thoroughly wet the foliage, just to the point of run-off. FLOREL® BRAND GROWTH REGULATOR is not translocated, so portions of the plant not covered will not be affected. On most floricultural crops, FLOREL® BRAND GROWTH REGULATOR can be applied at 2 to 4 week intervals to maintain the degree of desired control. The first application can be made 1 to 2 weeks following transplanting. The spray interval will depend upon growing conditions dictated by experience.

## USEPA MASTER LABEL — COMMERCIAL AGRICULTURAL SECTION

**For Stock Plants (Except Azalea):** Stock plants of vegetatively propagated crops can be treated with FLOREL® BRAND GROWTH REGULATOR during the time between transplanting and the harvest of cuttings. Treatment will prevent flowering and maintain the plant in a vegetative stage of growth. Cuttings should not be harvested for at least one week following treatment.

**For Finished Plants (Except Azalea):** Apply FLOREL® BRAND GROWTH REGULATOR 1 to 2 weeks after transplanting. Repeat at the desired interval (2 to 4 weeks). The last application should be made 6 to 8 weeks prior to the desired flower date.

**For New Guinea Impatiens:** Premature flowering can be prevented with a FLOREL® BRAND GROWTH REGULATOR treatment. Since this species is more sensitive to this product, use a rate of 300 ppm (1 fluid ounce per gallon of water) and make the last application no less than 8 weeks prior to the desired flower date.

**For Azalea (Both Stock And Finished Plants):** To increase lateral branching, mix 2.5 to 5 quarts of FLOREL® BRAND GROWTH REGULATOR in 10 gallons of water (2,500 to 5,000 ppm) and apply to thoroughly wet the foliage. Application should be made at normal pinching times and can be used in conjunction with hand pinching or chemical pinching agents. Use the higher rate on vigorous, tolerant varieties as determined by experience. To prevent unacceptable plant injury, do not treat sensitive varieties such as Sweetheart. To optimize the vigor of cuttings, do not make application for 2 weeks prior to the harvest of cuttings from the treated stock plants. On finished plants, do not make application for 6 to 8 weeks prior to bloom or planned sale.

**DEFOLIATION**

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will cause earlier leaf drop of roses, tallhedge and apple nursery stock. Apply only after the buds are mature or some injury may result.

A foliar spray of FLOREL® BRAND GROWTH REGULATOR to container-grown plumeria plants accelerates defoliation prior to storage. This reduces fungal problems on dormant plants. A foliar spray of FLOREL® BRAND GROWTH REGULATOR to plumeria trees in the field causes leaf abscission and stimulates the appearance of inflorescence buds.

**For Roses:** Mix 1 quart of FLOREL® BRAND GROWTH REGULATOR in 10 gallons of water and apply to thoroughly wet foliage. Amount of spray used will depend on the size of the rose bush. Amount of defoliation obtained will depend on the variety and temperature. The addition of 1 pint of a nonionic surfactant per 100 gallons of spray solution will improve defoliation. Do not treat sensitive varieties such as Red American Beauty as bud injury may result.

**For Container-grown Plumeria:** Mix 2 gallons FLOREL® BRAND GROWTH REGULATOR in 100 gallons of water and apply ½ pint to 1 quart per plant depending on size and leafiness. Use of a nonionic surfactant at 0.2% vol/vol improves defoliation. Apply in the fall just prior to frost. Spray upper and lower surfaces of foliage to wetness. Leaf drop occurs in 8-12 days. Young leaves may be slow to abscise. Short day lengths enhance response. Since varietal differences were noted between cultivars, make a test application on a limited number of plants prior to field-wide applications.

**For Field-grown Plumeria:** Mix 2 gallons FLOREL® BRAND GROWTH REGULATOR in 100 gallons of water and apply ½ to 2 gallons per tree depending on size and leafiness. Use of a nonionic surfactant at 0.2% vol/vol improves defoliation. Spray upper and lower surfaces of foliage to wetness. Winter flowering of plumeria is attained when treatments are made in October. Defoliation is enhanced by short day lengths and water stress. Do not apply before September. Application before September may result in deformed inflorescences. Existing flowers will abscise with FLOREL® BRAND GROWTH REGULATOR treatment. Flower development in new inflorescences is dependant upon local temperature conditions, not FLOREL® BRAND GROWTH REGULATOR concentrations. Since varietal differences were noted between cultivars, make a test application on a limited number of plants prior to full-scale applications.

**For Tallhedge Buckthorn:** Mix 5 to 10 quarts FLOREL® BRAND GROWTH REGULATOR in 10 gallons of water and apply to thoroughly wet foliage. Amount of spray used will depend on size of tallhedge. Use the higher rate when temperatures are cool or earlier defoliation is desired.

**For Apple Nursery Stock:** Mix 1 to 2 pints FLOREL® BRAND GROWTH REGULATOR plus 3 quarts of a nonionic surfactant in 50 gallons of water and apply no more solution than is necessary to moisten foliage without runoff. A second treatment 3 to 7 days later using the above rates may be applied. Apply no more than 4 pints FLOREL® BRAND GROWTH REGULATOR per season. Do not use on Rome apples as defoliation will not be satisfactory. Amount of defoliation obtained will depend on variety and temperatures.

**FLOWER INDUCTION OF BROMELIADS**

FLOREL® BRAND GROWTH REGULATOR initiates flowering of ornamental bromeliads such as *Ananas*, *Aechmæa*, *Neoregelia*, *Vriesia*, and *Billbergia*.

**Amounts To Use:** For most bromeliad varieties, mix 8 fluid ounces of FLOREL® BRAND GROWTH REGULATOR per gallon of water. This prepares a spray concentration of approximately 2,500 ppm of ethephon. Spray all surfaces of the plant to "wet". Avoid overspraying to "runoff" which may cause damage to leaves or the growing points. For treating groups of plants, use approximately 1/2 pint of spray solution per 10 square feet of greenhouse bench or outdoor bed area.

Apply FLOREL® BRAND GROWTH REGULATOR spray solutions within 4 hours after mixing. Mix up only the amount of spray you plan to use immediately. DO NOT save unused diluted spray solutions as they will not be as effective as fresh solutions.

The degree of flower induction with a given rate of FLOREL® BRAND GROWTH REGULATOR is influenced by the plant age, variety, growth rate, climate and cultural conditions. Lower rates may effectively force flowering or produce desirable foliage coloring on certain varieties. Trial applications at lower rates are suggested before making extensive treatments.

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## USEPA MASTER LABEL — COMMERCIAL AGRICULTURAL SECTION

### Guidelines For Consistent Flower Forcing:

1. Grow plants on photoperiods regulated to maintain plants vegetatively active prior to treatment; long days for *Ananas*, *Billbergia*, *Neoregelia*, and short days for *Aechmea* and *Vriesea*.
2. Treat mature plants that have well established root systems. Treatments too early in the development of the plant will cause erratic flower initiation and the few flowers formed will be small.
3. Remove water at base of leaves. Allow foliage to dry prior to treatment. Water may be replaced 24 hours after treatment.
4. A minimum night temperature of 65 to 70°F or higher should be maintained throughout the forcing period.
5. Do not apply fertilizer two weeks prior or for two weeks after treatment.

NOTE: Inconsistent results may be obtained if the leaf surface is covered with algae.

### REDUCTION OF HYACINTH STEM TOPPLE AND DAFFODIL PLANT HEIGHT

To reduce potted hyacinth stem topple at time of full flower, apply a foliar spray of FLOREL® BRAND GROWTH REGULATOR before florets have opened. Most cultivars will respond to applications of FLOREL® BRAND GROWTH REGULATOR at 1000 to 2000 ppm (1/2 to 1 pint in 2.5 gallons of water). Bismarck, Jan Bos, Blue Giant, Delft Blue, and Madame Kruger may benefit from a second spray 2 days after the first.

To reduce total plant height of potted daffodils, apply a foliar spray of FLOREL® BRAND GROWTH REGULATOR when the shoots are 3 to 4 inches tall. Most cultivars will respond to 2000 ppm (1 pint in 2.5 gallons) sprays of FLOREL® BRAND GROWTH REGULATOR. For earlier forcing, Dutch Master, Joseph MacLeod, Flower Record, and Barrett Browning will benefit from a second spray 2 or 3 days after the first. Bridal Crown and Geranium require only 1000 ppm (1/2 pint in 2.5 gallons of water). Gold Medal, Van Sion, February Gold, and Tete-a-Tete do not require FLOREL® BRAND GROWTH REGULATOR treatment.

### HYBRID SEED PRODUCTION

FLOREL® BRAND GROWTH REGULATOR modifies sex expression and flowering pattern of cantaloupe, cucumber, squash and pumpkins to facilitate hybrid seed production. Application of FLOREL® BRAND GROWTH REGULATOR increases the number of pistillate (female) and decreases the number of staminate (male) flowers. FLOREL® BRAND GROWTH REGULATOR brings about earlier formation of female flowers at lower nodes where normally only male flowers are formed in standard (monoecious) cantaloupe, cucumber, squash and pumpkin varieties.

Sexual modification towards femaleness in treated plants is temporary (5 to 15 nodes). Variety, location, climate and cultural practices may influence the best rate for treatment. Due to the wide range in sensitivity of cantaloupe, cucumber and squash cultivars excessive injury may result from FLOREL® BRAND GROWTH REGULATOR application even when all label directions are followed. Treatment of cultivars classified as strongly male (Straight Neck, Crookneck) may result in unacceptable level of male flowers remaining. New breeding lines will require trial applications before full scale treatments are made.

Plants sprayed with FLOREL® BRAND GROWTH REGULATOR often flower 7 to 10 days earlier than untreated. Therefore pollen source plants should be seeded prior to seed parent to insure adequate pollen availability for hybrid seed production.

Temporary growth inhibition resulting from shortened internodes may be observed.

### Hybrid Seed Production In Cantaloupe, Cucumbers, Pumpkins And Squash (CALIFORNIA ONLY)

Amounts to Use: Apply up to 3 quarts per acre of FLOREL® BRAND GROWTH REGULATOR in 40 to 100 gallons of water (300 to 750 ppm) by ground application. Apply no more than 6 spray applications per year at 3 to 10 day intervals beginning at first true leaf stage. Do not harvest within 60 days of last application.

The actual amount and number of applications needed to achieve a satisfactory level of performance without excessive injury is dependent on the specific cultivar and environmental conditions at time of treatment.

**DO NOT** harvest any treated cantaloupe, cucumbers, pumpkins or squash for human or animal consumption. Treatments are to be made for seed production only.

### Hybrid Seed Production In Cantaloupe, Cucumber And Squash

Amounts to Use: Apply 1 quart per acre of FLOREL® BRAND GROWTH REGULATOR in 40 to 100 gallons of water (100 to 250 ppm). The actual amount needed to achieve a satisfactory level of performance without excessive injury is dependent on the specific cultivar and environmental conditions at time of treatment. Spray plants at the two leaf stage.

When germination is variable, a repeat application 7 to 10 days after the first may be necessary.

**DO NOT** harvest any treated cantaloupe, cucumbers or squash for human or animal consumption. Treatments are to be made for seed production only.

### Hybrid Seed Production In Pumpkins

Amounts to Use: Apply 3 quarts of FLOREL® BRAND GROWTH REGULATOR per acre in 40 to 100 gallons of water (300 to 750 ppm) per acre. Apply no more than 6 spray applications per year at 7 to 10 day intervals beginning at 2 to 4 leaf stage. Do not harvest within 42 days of last application.

**DO NOT** harvest any treated pumpkins for human or animal consumption. Treatments are to be made for seed production only.



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USEPA MASTER LABEL — COMMERCIAL AGRICULTURAL SECTION

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**STORAGE AND DISPOSAL**

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

**STORAGE:** Store in original container only. Keep in a cool, dry place inaccessible to children or animals, preferably in a locked storage area. **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:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by open burning. If container is burned, stay out of smoke.

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**CONDITIONS OF SALE AND WARRANTY**

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Lawn and Garden Products, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated when used in accordance with the use directions under normal conditions. Lawn and Garden Products, Inc. neither makes, nor authorizes any agent or representative to make, any other warranties, express or implied, including fitness or merchantability.

The directions for use of this product are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as timing and method of application, weather and crop conditions, presence of other materials, or other influencing factors, all of which are beyond the control of Lawn and Garden Products, Inc. and Seller. Buyer and user acknowledge and assume all risks and liability resulting from the handling, storage and use of this material not in strict accordance with directions given herewith. In no case shall Lawn and Garden Products, Inc. or the Seller be liable for consequential, special, indirect, or incidental damages or losses resulting from the handling or use of this product. The foregoing is a condition of sale by Lawn and Garden Products, Inc. and is accepted as such by the Buyer.

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# FLOREL® BRAND GROWTH REGULATOR

- Prevents Nuisance Fruit on Ornamental Trees and Shrubs
- Removes Dwarf Mistletoe from Ornamental Conifers
- Removes Leafy Mistletoe from Ornamental Deciduous Trees

**ACTIVE INGREDIENT:**

Ethephon, [(2-chloroethyl) phosphonic acid]\* ..... 3.9%

**INERT INGREDIENTS:** ..... 96.1%

**TOTAL** ..... 100.0%

\* This product contains 0.33 lbs. ethephon per gallon.

EPA Reg. No. 54705-8

EPA Est. No. 48498-CA-1

Manufactured for:

**LAWN AND GARDEN PRODUCTS, INC.**

P.O. Box 35000 • Fresno, CA 93745-5000 • (559) 499-2100

FLOREL is a registered trademark of Rhône-Poulenc Ag Company.

## KEEP OUT OF REACH OF CHILDREN CAUTION

### FIRST AID

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

- IF ON SKIN  
OR CLOTHING**
- Take off contaminated clothing.
  - Rinse skin immediately with plenty of water for 15-20 minutes.
  - Call a poison control center or doctor for treatment advice.

### 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 the National Pesticide Information Center at 1-800-858-7378 for emergency medical treatment information.

### NOTE TO PHYSICIAN

Treat symptomatically. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. No specific antidote is available. Probable mucosal damage may contraindicate the use of gastric lavage.

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**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wear long-sleeved shirt and long pants, chemical resistant gloves made of any waterproof material and shoes plus socks. Wash thoroughly with soap and water after handling. Wash clothing separately from other laundry. DO NOT allow people (other than applicator) or pets on treatment area during application. DO NOT allow people or pets to touch treated plants until sprays have dried.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water. Do not contaminate water when disposing of equipment washwaters or rinsate. Avoid spray drift to nearby plants as this product may cause temporary modifications in plant growth. Prolonged exposure to spray deposits can damage acrylic plastics, certain paints, and metals. Remove automobiles and other vehicles from the treatment area prior to application to prevent spray deposits from falling on vehicles and potentially damaging finishes. Rinse acrylic plastic materials and painted surfaces exposed to inadvertent spray deposits using soap and water within an hour after exposure.

**GENERAL INFORMATION**

Apply FLOREL® BRAND GROWTH REGULATOR spray solution within 24 hours after mixing. DO NOT save unused diluted spray solutions as they will not be as effective as fresh solutions.

**For ground application only.**

**UNDESIRABLE FRUIT ELIMINATION**

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will reduce or eliminate undesirable fruit development on many ornamental trees and shrubs such as: Apple, Carob, Cottonwood, Crabapple, Elm, Flowering pear, Flowering plum, Horsechestnut (Buckeye), Maple, Oak, Olive, Pine, Sour Orange, Sweetgum, Sycamore and others.

**MISTLETOE SHOOT REMOVAL**

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will cause the abscission of dwarf mistletoe shoots in ornamental conifers and leafy mistletoe shoots in ornamental deciduous trees.

**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. For use only on ornamental trees and shrubs in areas such as Ornamental Gardens, Residential Grounds, Industrial/Institutional Grounds, Parks, Golf Courses, Rights-of-way and Public or Private Grounds.

**Read entire label before using this product.**

**UNDESIRABLE FRUIT ELIMINATION (Ornamental Use Only)**

A foliar spray of FLOREL® BRAND GROWTH REGULATOR will reduce or eliminate undesirable fruit on ornamental trees and shrubs such as: Apple, Crabapple, Carob, Cottonweed, Elm, Flowering pear, Flowering plum, Horsechestnut (Buckeye), Maple, Oak, Olive, Pine, Sour Orange, Sweetgum, Sycamore and others. Applications must be made before fruit set for best results.

When applied to plants, FLOREL® BRAND GROWTH REGULATOR readily enters the plant and breaks down to ethylene, a naturally occurring plant hormone. Ethylene production within the plant is stimulated by stress. For this reason it is important that plants being treated are not under stress from drought, high temperature, disease or other environmental stress conditions. Treating stressed plants can cause severe injury to the plant such as defoliation or leaf scorching. Injury from FLOREL® BRAND GROWTH REGULATOR usually does not kill the plant, but can render it unsightly.

Applications should be made at the mid to full bloom stage, prior to fruit set in spray volumes sufficient to wet, but not to runoff. Failure to wet blooms thoroughly will cause incomplete fruit elimination. Spraying too much (until runoff) may cause some defoliation or other plant injury. Sprays applied too early or too late will be less effective and result in incomplete fruit elimination. The activity of FLOREL® BRAND GROWTH REGULATOR is linked to plant growth activity and is therefore slower acting when temperatures are low (60°F) or very high (95°F). Trees or shrubs should not be under stress when treated such as from drought, insects or diseases. Apply when rain is not expected for 24 hours.

For most species mix 1 quart of FLOREL® BRAND GROWTH REGULATOR in 10 gallons of water (1,000 ppm) and apply to thoroughly wet blooms but not to runoff. Amount of spray used will depend on tree size. Some temporary leaf yellowing and leaf drop of old leaves may occur after treatment.

For sensitive species such as Carob: Mix 1/2 quart FLOREL® BRAND GROWTH REGULATOR in 10 gallons of water (500 ppm) and apply to thoroughly wet buds and blooms but not to runoff. Amount of spray used will depend on tree size. Some temporary leaf yellowing and drop of old leaves may occur after treatment.

FLOREL® BRAND GROWTH REGULATOR has not been tested on all varieties of trees or shrubs which may have undesirable fruit. If it is necessary to treat plant species not listed above, treat only a small portion of the plant to determine the effectiveness of the product and to evaluate plant injury.

NOTES: (1) Plants under sprayed trees are usually not affected at this rate. However, some plants are sensitive to FLOREL® BRAND GROWTH REGULATOR (nandina, maples, etc.). If desired or if effects are unknown, the plants may be covered before spraying or the

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solution can be washed off of foliage with a water hose after application. (2) The above recommendations are not intended to be used in fruit production as a thinning agent.

## DWARF MISTLETOE REMOVAL

Use FLOREL® BRAND GROWTH REGULATOR as a foliar spray on ornamental conifers for removal of dwarf mistletoe shoots and seeds. Applications made in conjunction with silvicultural mistletoe management will prevent spread of the mistletoe parasite to other parts of the tree and to other trees. Mix 1 quart of FLOREL® BRAND GROWTH REGULATOR in 4 gallons of water (2700 ppm) and spray to "wet." When treating mistletoe in Douglas Fir, mix 1 pint of FLOREL® BRAND GROWTH REGULATOR in 4 gallons of water (1350 ppm). Application of higher rates on Douglas Fir may result in excessive needle drop. Use of a nonionic surfactant at recommended rates may increase effectiveness. Treat any mistletoe regrowth before seed dispersal occurs. Mature needle drop, that normally occurs in the fall, may be hastened by the use of FLOREL® BRAND GROWTH REGULATOR. Apply when temperature is above 65°F and rain is not expected for 24 hours. NOTE: Plants under sprayed trees may be sensitive to FLOREL® BRAND GROWTH REGULATOR at this rate. Either cover the plants before spraying or wash the solution off of foliage with a water hose after application.

## LEAFY MISTLETOE REMOVAL

Use FLOREL® BRAND GROWTH REGULATOR as a foliar spray on ornamental deciduous trees for removal of leafy mistletoe shoots and seeds. Make applications after fall leaf drop or in spring just before leaf out. Apply when temperature is above 65°F and rain is not expected for 24 hours. Mix 2 quarts of FLOREL® BRAND GROWTH REGULATOR in 4 gallons of water (5400 ppm). Use of a nonionic surfactant at recommended rates may increase effectiveness. For effective removal of all mistletoe, shoots must be sprayed to "wet." Large mistletoe infections and mistletoe found in mesquite may be difficult to control with a single application and retreatment may be necessary. Should regrowth of mistletoe occur, retreat prior to mistletoe seed dispersal during the labeled application window. NOTE: Plants under sprayed trees may be sensitive to FLOREL® BRAND GROWTH REGULATOR at this rate. Either cover the plants before spraying or wash the solution off of foliage with a water hose after application.

### HOME SPRAY GUIDE FLOREL® BRAND GROWTH REGULATOR *Read Detailed Instructions in This Pamphlet First*

	Amount to Use	
	FLOREL®	Water
Fruit Elimination		
Carob	1.5 Fluid Ounces	1 Gallon
Other Species	3 Fluid Ounces	1 Gallon
Mistletoe Removal		
Dwarf Mistletoe	8 Fluid Ounces	1 Gallon
Leafy Mistletoe	16 Fluid Ounces	1 Gallon

NOTE: 1 fluid ounce = 2 tablespoons = 6 teaspoons

## STORAGE AND DISPOSAL

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

**STORAGE:** Store in original container only. Keep in a cool, dry place inaccessible to children or animals, preferably in a locked storage area. **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:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by open burning. If container is burned, stay out of smoke.

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