

CHIPCO® FLOREL® PLANT GROWTH REGULATOR

For Use on Ornamentals, For Production of Cucumber, Squash and Pumpkin Hybrid Seed, For Increasing Pickling Cucumber Fruit Set and Yield, For Inducing Flowering of Ornamental Bromelads, For Earlier Ripening of Home Garden Tomatoes, For Reducing Plant Height of Potted Daffodils and Stem Topple of Potted Hyacinths.

ACTIVE INGREDIENTS:

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

INERT INGREDIENTS: 96.1%

*This product contains 0.33 lbs. ethephon per gallon

EPA Reg. No. 264-263

EPA Est. No. 264-PA-01

KEEP OUT OF REACH OF CHILDREN

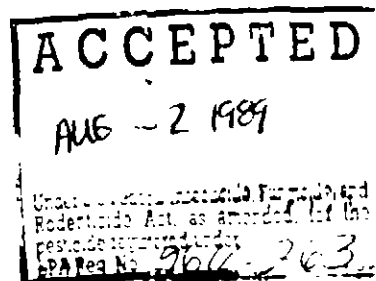
CAUTION

For EMERGENCY Information ONLY Call 24 Hours A Day
1-800-334-7577

For PRODUCT USE Information Call 1-800-334-9745

FLOREL is a trademark of Rhone-Poulenc.
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CHIPCO® FLOREL® PLANT GROWTH REGULATOR

- Modifies sex expression and flowering pattern of CUCUMBERS and SQUASH to facilitate hybrid seed production
- Increases pickling CUCUMBER FRUIT set and yield
- Causes BROMELIADS to flower
- Concentrates and accelerates TOMATO ripening for home garden tomato production
- Promotes earlier defoliation of ROSES, TALLHEDGE BUCKTHORN, and APPLE NURSERY STOCK
- Eliminates undesirable fruit on APPLE and CRABAPPLES, CAROB and OLIVE
- Stimulates lateral branching of AZALEAS and GERANIUMS
- Reduces plant height of potted DAFFODILS and stem topple of potted HYACINTHS

GENERAL INFORMATION

INCREASED YIELDS OF PICKLING CUCUMBERS

A foliar spray of CHIPCO® FLOREL® Plant Growth Regulator will modify sex expression and flowering patterns of pickling-type cucumbers, increasing fruit set and yields.

FLOWER INDUCTION OF BROMELIADS

A foliar spray of CHIPCO® FLOREL® Plant Growth Regulator initiates flowering of ornamental bromeliads such as ANANAS, AECHMEA, NEOREGELIA, VRIESIA, and BILLBERGIA.

HYBRID SEED PRODUCTION

A foliar spray of CHIPCO® FLOREL® Plant Growth Regulator will modify sex expression and flowering pattern of cucumbers and squash to facilitate hybrid seed production. Do not use on cucumbers or squash to be harvested for fresh or processed markets.

HOME GARDEN TOMATO RIPENING

CHIPCO® FLOREL® Plant Growth Regulator can be used as an overall, foliar spray to concentrate and accelerate tomato ripening. Applied at the end of the growing season, CHIPCO® FLOREL™ will hasten ripening of mature green tomatoes and allow harvesting of fruit before frost.

DEFOLIATION

A foliar spray of CHIPCO® FLOREL® Plant Growth Regulator applied after buds are matured, will initiate earlier leaf drop of roses, tallhedge, and apple nursery stock (in Washington only). This will allow digging of stock plants prior to the onset of unfavorable weather.

UNDESIRABLE FRUIT ELIMINATION

A foliar spray of CHIPCO® FLOREL® will reduce or eliminate undesirable fruit development on Apple, Crabapple, Carob, and Olive trees.

INCREASING LATERAL BRANCHING

A foliar spray of CHIPCO® FLOREL® Plant Growth Regulator in conjunction with chemical or mechanical pinching, will increase the number of lateral branches on Azaleas. When used on Geranium stock plants, prior to normal pinching time, an increase in the number of lateral branches to be used as cutting material can be expected.

REDUCTION OF PLANT HEIGHT AND STEM TOPPLE

A foliar spray of CHIPCO® FLOREL® Plant Growth Regulator will aid in reducing total plant height of potted daffodils and stem topple of potted hyacinths at time of full flower.

PRECAUTIONARY STATEMENTS

CAUTION

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if swallowed. Avoid contact with skin, eyes or clothing and do not inhale vapors.

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician and promptly drink large quantities of milk, egg white, gelatin solution or if these are not available, large quantities of water.

IN CASE OF EYE CONTACT: Flood eyes immediately with plenty of water for at least 15 minutes and get medical attention.

IN CASE OF SKIN CONTACT: Wash with plenty of soap and water. Remove and wash contaminated clothing before reuse.

NOTE TO PHYSICIAN

CHIPCO® FLOREL® possesses characteristics of a strong acid. Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsion may be needed.

ENVIRONMENTAL HAZARDS

Do not apply directly to lakes, streams or ponds. Do not contaminate water by cleaning of equipment or disposal of wastes.

Do not apply CHIPCO® FLOREL® Plant Growth Regulator through any type of irrigation system.

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 wetlands (swamps, bogs, marshes, and potholes). Do not contaminate water when disposing of equipment washwaters.

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

GENERAL WORKER PROTECTION STATEMENTS

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Mixers, loaders and applicators must wear a full face shield, long trousers, long sleeved shirt, gloves, and boots to avoid as much as skin and eye contact as possible.

Do not enter treated fields within 24 hours after application unless protective clothing is worn. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. See PRECAUTIONARY STATEMENTS, STATEMENT OF PRACTICAL TREATMENT and NOTE TO PHYSICIAN. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: appropriate signal word (CAUTION), area treated with CHIPCO® FLOREL® Plant Growth Regulator, date of application, appropriate protective clothing, and reentry interval.

HYBRID SEED PRODUCTION

CHIPCO® FLOREL® Plant Growth Regulator modifies sex expression and flowering pattern of of cucumber, squash and pumpkins to facilitate hybrid seed production. Application of CHIPCO® FLOREL® increases the number of pistillate (female) and decreases the number of staminate (male) flowers. CHIPCO® FLOREL® brings about earlier formation of female flowers at lower nodes where normally only male flowers are formed in standard (monoecious) 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 cucumber and squash cultivars excessive injury may result from CHIPCO® FLOREL® Plant Regulator application even when all label directions are followed. Treatment of cultivars classified as strongly male (Straight Neck, Crookneck) may result in an unacceptable level of male flowers remaining. New breeding lines will require trial applications before full scale treatments are made.

HYBRID SEED PRODUCTION IN CUCUMBER AND SQUASH

Amounts To Use: Apply 1 quart of CHIPCO® FLOREL® Plant Regulator in 40 to 100 gallons of water per acre. 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 7-10 days after the first may be necessary.

HYBRID SEED PRODUCTION IN PUMPKINS (ILLINOIS ONLY)

Amounts To Use: Apply 3 quarts of CHIPCO® FLOREL® Plant Growth Regulator in 40 to 100 gallons of water per acre. Apply no more than 6

spray applications per year at 7-10 day intervals beginning at the 2-4 leaf stage. Do not harvest within 42 days of last application.

GENERAL COMMENTS

Apply CHIPCO® FLOREL® Plant Growth Regulator spray solution within 4 hours after mixing. Mix 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.

Plants sprayed with CHIPCO® FLOREL® 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.

NOTE: For home garden use follow spray guide at end of pamphlet.

PICKLING CUCUMBERS YIELD INCREASE

CHIPCO® FLOREL® Plant Growth Regulator modifies sex expression and flowering pattern of pickling-type cucumbers and induces femaleness and the potential for increased yield.

Amounts to Use: Mix 1.25 to 2.5 pints of CHIPCO® FLOREL® Plant Growth Regulator in 50 gallons of water. Use the lower rate for gynoecious varieties to maintain femaleness under adverse environmental conditions, and the higher rate for monoecious varieties to induce femaleness.

Make two applications, the first at the 2 to 4 leaf stage and a second 5 to 7 days later. Apply to point of run-off with low pressure ground sprayer at 25 to 50 gallons per acre.

Leave one untreated row in every 10 rows to ensure sufficient male flowers for pollination.

For use on pickling-type cucumbers only. Do not apply when fruit is present.

Do not harvest cucumbers treated with CHIPCO® FLOREL® Plant Growth Regulator sooner than 17 days after the last application.

CAUSES BROMELIADS TO FLOWER

CHIPCO® FLOREL® Plant Growth Regulator initiates flowering of ornamental bromeliads such as ANANAS, AECHMEA, NEOREGELIA, VRIESIA and BILLBERGIA.

AMOUNTS TO USE

For most bromeliad varieties, mix 8 fluid ounces of CHIPCO® FLOREL® Plant 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 CHIPCO® FLOREL® Plant 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 CHIPCO® FLOREL® 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.

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 VRIESIA.
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 65-70°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.

HOME GARDEN TOMATO PRODUCTION USE

CHIPCO® FLOREL® can be used as an overall, foliar spray to concentrate and accelerate tomato ripening. Apply CHIPCO® FLOREL® at the end of the growing season to hasten ripening of mature green tomatoes and allow harvesting of fruit before frost. CHIPCO® FLOREL® spray will be most effective on healthy plants. Harvest fruit at proper maturity, generally 14 to 21 days after treatment. Some defoliation or yellowing of foliage following treatment will be observed.

Do not harvest tomatoes for processing treated with ETHREL® Plant Regulator sooner than 14 days after the last application.

Do not harvest fresh market tomatoes in California treated with ETHREL® Plant Regulator sooner than 3 days after the last application.

AMOUNTS TO USE

When treating several plants mix 1 teaspoon of CHIPCO® FLOREL® in 3 ounces (6 tablespoons) of water. When treating a larger number of plants (10 to 15) mix 1 tablespoon of CHIPCO® FLOREL® in 9 ounces (18 tablespoons) of water. Apply CHIPCO® FLOREL® with a clean hand sprayer. Thoroughly wet all leaves and fruit.

DEFOLIATION

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

FOR ROSES: Mix 1 quart of CHIPCO® FLOREL® Plant 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 nonionic surfactant such as Tween 20 or X-77 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 TALLHEDGE BUCKTHORN: Mix 5 to 10 quarts CHIPCO® FLOREL® in 10 gallons 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 IN WASHINGTON: Mix 1-2 pints CHIPCO® FLOREL® plus 3 quarts Dupont Surfactant WK in 50 gallons water and apply no more solution than is necessary to moisten foliage without runoff. A second treatment 3-7 days later using the above rates may be applied. Apply no more than 4 pints CHIPCO® FLOREL® per season. Do not use on Rome apples as defoliation will not be satisfactory. Amount of defoliation obtained will depend on variety and temperatures.

FRUIT ELIMINATION

A foliar spray of CHIPCO® FLOREL® will reduce or eliminate undesirable fruit from apple trees, crabapple trees, carob trees, and olive trees. Applications should be made at the flower bud to full bloom stage, prior to fruit set.

FOR APPLES AND CRABAPPLES: Mix 3/4 to 1 quart of CHIPCO® FLOREL® in 10 gallons of water (750 to 1,000 ppm) and apply to thoroughly wet foliage. Amount of spray used will depend on tree size. Use the higher rate when temperatures are cool. Do not use on small, red fruited varieties of crabapples as fruit elimination will not be satisfactory.

FOR CAROB (*Ceratonia siliqua*): Mix 1/2 quart CHIPCO® FLOREL® in 10 gallons of water (500 ppm) and apply to thoroughly wet foliage. Amount of spray used will depend on tree size. Some leaf drop of older leaves may occur after treatment.

FOR OLIVE (*Olea europaea*): Mix 1 quart CHIPCO® FLOREL® in 10 gallons water (1000 ppm) and apply to thoroughly wet foliage. Amount of spray used will depend on tree size. Some temporary leaf yellowing may occur. Applications must be made before fruit set for best results.

NOTE: This recommendation is not intended to be used in commercial fruit production as a thinning agent.

MISTLETOE: A foliar spray applied to dwarf mistletoe shoots in conifers before mistletoe seed dispersal will cause abscission of the shoots and fruits preventing the spread of this parasite to other parts of the tree and to other trees. Mix 1 quart of CHIPCO® FLOREL® Growth Plant Regulator in 4 gallons of water (2500 ppm). For effective removal all mistletoe shoots must be sprayed to wet. Use of a non ionic surfactant at recommended rates may increase effectiveness. Should regrowth of mistletoe occur retreat prior to mistletoe seed dispersal. Mature needle drop, that normally occurs in the fall, may be hastened by the use of CHIPCO® FLOREL® Plant Growth Regulator.

INCREASED LATERAL BRANCHING

A foliar spray of CHIPCO® FLOREL® will increase lateral branching in Azaleas and Geraniums.

FOR AZALEAS: Mix 2 1/2 to 5 quarts of CHIPCO® FLOREL® in 10 gallons of spray solution and apply to thoroughly wet foliage. Amount of spray used will depend upon plant size. Apply at normal pinching time in conjunction with either hand or chemical pinching agents. Use the higher rate on vigorous tolerant varieties as determined by experience. Do not treat sensitive varieties such as Sweetheart as growth and flower inhibition can occur.

FOR GERANIUMS: Mix 1 quart of CHIPCO® FLOREL® in 10 gallons of water and spray to thoroughly wet foliage. Apply two weeks prior to normal pinching. Use only on stock plants as delay in flowering can occur.

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 CHIPCO® FLOREL® before florets show any color. Most cultivars will respond to 1000 ppm (1/2 pint in 2 1/2 gallons of water) of CHIPCO® FLOREL®. Bismarck, Jan Bes, 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 CHIPCO® FLOREL® when the shoots are 4 to 5 inches tall. Most cultivars will respond to 2000 ppm (1 pint in 2 1/2 gallons) sprays of CHIPCO® FLOREL®. For earlier forcings, 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 1/2 gallons of water). Gold Medal, Van Sion, February Gold, and Tete-a-Tete do not require CHIPCO® FLOREL® treatment.

**CHIPCO® FLOREL®
HOME SPRAY GUIDE**

Read Detailed Instructions In This Pamphlet First

| APPLICATION | Amount to Use | |
|---|------------------------|--------------|
| | CHIPCO® FLOREL® | WATER |
| Flower Induction Bromeliads | 1 oz. | 1 pt. |
| Tomato Ripening Fall Season | 1 tsp. | 3 oz. |
| Fruit Elimination Apples/Crabapples | 3 oz. | 1 gal. |
| Carob | 1-1/2 oz. | 1 gal. |
| Olive | 3 oz. | 1 gal. |
| Lateral Branching Azaleas | 2-4 oz. | 1 qt. |
| Geraniums | 3 oz. | 1 gal. |

STORAGE AND DISPOSAL

STORAGE

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

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 incineration or if allowed by state and local authorities, by open burning. If container is burned, stay out of smoke.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use when it is used in accordance with such directions; and (c) that the directions, warnings and other statements on this label are based upon responsible experts' evaluation of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants, and of residues on food crops and upon reports of field experience. Tests have not been made on all varieties or in all states or under all conditions. THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE, ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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