

1068

PM25

264-263



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 Bromeliads, For Earlier Ripening of Home Garden Tomatoes, reducing plant height of potted Daffodils and stem topple of potted Hyacinths. Inhibiting Growth and flowering of seedling Tobacco for easier transplanting

ACTIVE INGREDIENT:

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-AA EPA Est. No. 264-PA-01

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS:

See inside booklet.

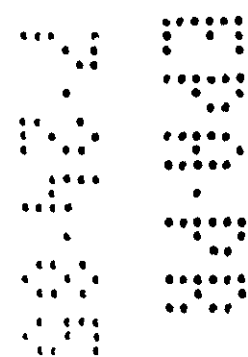
IN CASE OF EMERGENCY, TELEPHONE COLLECT
(24 HOURS A DAY) IN U.S.A. (304) 744-3487.
FOR GENERAL PRODUCT INFORMATION
CALL (800) 334-9745.

UNION CARBIDE AGRICULTURAL PRODUCTS COMPANY, INC.
P.O. Box 12014, T. W. Alexander Drive, Research Triangle Park, N.C. 27709

APC-2100-129-35

DO NOT DETACH BOOKLET FROM CONTAINER

ACCEPTED
AUG 21 1985
Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 264-263



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

Floral 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.

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.

Do not enter treated areas without protective clothing until sprays have dried. 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. 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, date of application, appropriate protective clothing, and reentry interval if applicable.

ENVIRONMENTAL HAZARDS

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

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.

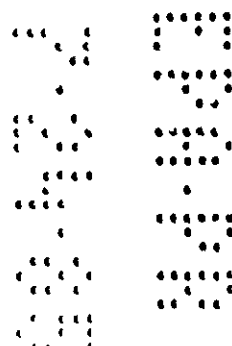
STORAGE AND DISPOSAL

PESTICIDE DISPOSAL

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



FLOREL™

PLANT GROWTH REGULATOR

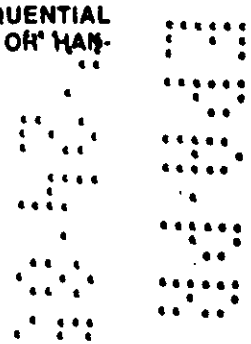
- Modifies sex expression and flowering pattern of CUCUMBERS and SQUASH to facilitate hybrid seed production
- Increases Pickling CUCUMBER FRUIT set and yield
- Causes BROMELIADS to flower
- Concentrates and accelerates TOMATO ripening for home garden tomato production
- Promotes earlier defoliation of ROSES, TALLHEDGE BUCKTHORN, 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
- Inhibits growth and flowering of seedling TOMATOS for easier transplanting

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, 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.

THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS, WARNINGS OR CAUTIONS.

BUYER'S EXCLUSIVE REMEDY AND MANUFACTURER'S OR SELLER'S EXCLUSIVE LIABILITY FOR ANY AND ALL CLAIMS, LOSSES, DAMAGES, OR INJURIES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER OR NOT BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY IN TORT OR OTHERWISE, SHALL BE LIMITED, AT THE MANUFACTURER'S OPTION, TO REPLACEMENT OF, OR THE REPAYMENT OF THE PURCHASE PRICE FOR, THE QUANTITY OF PRODUCT WITH RESPECT TO WHICH DAMAGES ARE CLAIMED. IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.



DIRECTIONS FOR USE

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

HYBRID SEED PRODUCTION

FLOREL plant growth regulator modifies sex expression and flowering pattern of cucumbers, squash and pumpkins to facilitate hybrid seed production. Application of FLOREL increases the number of pistillate (female) and decreases the number of staminate (male) flowers. 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. New breeding lines will require trial applications before extensive treatments are made.

HYBRID SEED PRODUCTION IN CUCUMBERS AND SQUASH

Amounts To Use: Apply one quart of FLOREL plant growth regulator in 40 to 100 gallons of water per acre. Spray plants thoroughly when they have developed two true leaves.

When germination is variable under field conditions, repeat application of one quart of FLOREL plant growth regulator per acre when the first true leaf is the size of a quarter and the third true leaf is expanding.

HYBRID SEED PRODUCTION IN PUMPKINS (ILLINOIS ONLY)

Amounts To Use: Apply 3 quarts of 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 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 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

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 FLOREL Plant Growth Regulator in 50 gallons of water. Use the lower rate for gynoeocious 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.

CAUSES BROMELIADS TO FLOWER

FLOREL plant growth regulator initiates flowering of ornamental bromeliads such as ANANAS, AECHMEA, NEOREGELIA, VRIESIA and BILLBERGIA.

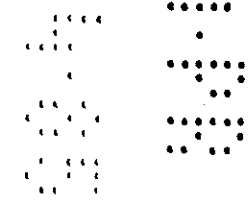
AMOUNTS TO USE:

For most bromeliad varieties, mix 8 fluid ounces of 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 FLOREL plant growth regulator spray solutions 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.

The degree of flower induction with a given rate of FLOREL is influenced by the plant age, variety, growth rate, climate and cultural conditions. Lower rates may



effectively force flowering or produce desirable leaf coloring of plants. Multiple applications at lower rates are suggested before making extensive treatments.

GUIDELINES FOR CONSISTENT FLOWERING 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

FLOREL can be used as an overall foliar spray to concentrate and accelerate tomato ripening. Apply FLOREL at the end of the growing season to hasten ripening of mature green tomatoes and allow harvesting of fruit before frost. 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.

AMOUNTS TO USE:

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

DEFOLIATION:

A foliar spray of 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 FLOREL 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 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.

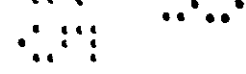
FOR APPLE NURSERY STOCK IN WASHINGTON: Mix 1-2 pints FLOREL plus 3 quarts Dupont Surfactant WK in 50 gallons water and apply no more solution than is necessary to moisten foliage without runoff. A second treatment 3-7 days later using the above rates may be applied. Apply no more than 4 pints FLOREL 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 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 1/4 to 1/2 quart of FLOREL in 10 gallons of water 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 FLOREL in 10 gallons of water 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 FLOREL in 10 gallons water 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.

INCREASED LATERAL BRANCHING:

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

FOR AZALEAS: Mix 2½ to 5 quarts of FLOREL to 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 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 FLOREL before florets show any color. Most cultivars will respond to 1000 ppm (½ pint in 2½ gallons of water) of FLOREL. Bismark, 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 FLOREL when the shoots are 4 to 5 inches tall. Most cultivars will respond to 2000 ppm (1 pint in 2½ gallons) sprays of 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 (½ pint in 2½ gallons of water). Gold Medal, Van Sion, February Gold, and Tete-a-Tete do not require FLOREL treatment.

FLOREL HOME SPRAY GUIDE

Read Detailed Instructions
In This Pamphlet First

| APPLICATION | Amount to Use | |
|--------------------------|---------------|--------|
| | 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 | 1½ Oz. | 1 Gal. |
| Olive | 3 Oz. | 1 Gal. |
| Lateral Branching | | |
| Azaleas | 2-4 Oz. | 1 Qt. |
| Geraniums | 3 Oz. | 1 Gal. |

NOTES:

TOBACCO SEEDLING—TEMPORARY GROWTH AND FLOWER INHIBITION

A foliar spray of FLOREL™ Plant Growth Regulator will temporarily inhibit the growth of tobacco seedlings, allowing for a more flexible transplanting operation. FLOREL also inhibits premature flowering.

AMOUNTS TO USE:

Mix 1 quart of FLOREL in 10 gallons of water, and apply to wet the foliage thoroughly using a fine spray. Use 3 to 4 gallons of this solution to treat 900-1200 square feet of plant bed.

Apply FLOREL 3 to 4 days before transplanting, when the plants are about 5 inches tall. Growth retardation is generally seen 48 hours after treatment. The plants will reach the height of about 9 inches within 12 to 14 days.

FLOREL also inhibits premature flowering induced by adverse conditions such as cold wet weather.

CAUTION:

Do not spray the seedling tobacco more than once as excessive growth retardation may result.

GENERAL INFORMATION (See attached Phamplet for Detailed instructions)

Hybrid Seed Production

A foliar spray of 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.

INCREASED YIELDS OF PICKLING CUCUMBERS

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

INHIBITS GROWTH AND PREMATURE FLOWERING OF SEEDBED TOBACCO

A foliar spray of FLOREL™ Plant Growth Regulator will temporarily inhibit growth and premature flowering of seedbed Tobacco for easier transplanting.

Flower induction of Bromeliads

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

Home Garden Tomato Ripening

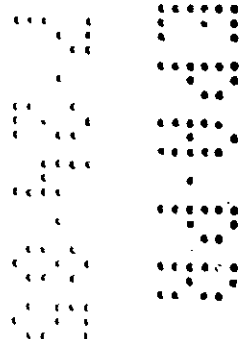
FLOREL™ Plant Growth Regulator can be used as an overall, foliar spray to concentrate and accelerate tomato ripening. Applied at the end of the growing season, FLOREL™ will hasten ripening of mature green tomatoes and allow harvesting of fruit before frost.

DeFoliation

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



Increasing Lateral Branching

A foliar spray of 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 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.

