



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

March 8, 2018

Walter Talarek
Law Offices of Walter Talarek
5153 Allison Marshall Drive
Warrenton, VA 20187

Subject: Notification per PRN 98-10 – Adds product number, back panel reference statement, warranty/disclaimer to agricultural sublabel, other minor changes
Product Name: Shift 3.9% Ethephon
EPA Registration Number: 92583-1
Application Date: 2/21/2018
Decision Number: 538573

Dear Mr. Talarek:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped “Notification” and will be placed in our records.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you have any questions, you may contact me at 703-308-9443 or via email at kish.tony@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Tony Kish".

Tony Kish, Product Manager 22
Fungicide Branch
Registration Division (7505P)
Office of Pesticide Programs

NOTIFICATION

92583-1

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

3/8/2018

MASTER LABEL

SHIFT 3.9% ETHEPHON [ABN: Optic Foliar] [ABN: Optic Foliar 3.9% Ethephon]

For use on the production of Cucumber, Squash and Pumpkin Hybrid Seed. For inducing Flowering of Ornamental plants. For reducing height of potted Daffodils and Stem Topple and increasing Lateral Branching in Ornamentals. For earlier ripening of home garden tomatoes.

ACTIVE INGREDIENT:

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

OTHER INGREDIENTS: 96.1%

TOTAL: 100.0%

*This product contains 0.33 lbs. ethephon per gallon

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, in present, after the first 5 minutes, then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • 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.
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptomatically. No specific antidote is available. Consideration should be given to the possibility that over exposure to materials other than this product may have occurred.	
Have the product container or label with you when calling a poison center or doctor, or going for treatment. You may also contact: FOR 24 HOUR EMERGENCY MEDICAL ASSISTANCE CALL THE POISON CONTROL CENTER AT 1-800-222-1212 FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300	

EPA Reg. No. 92583-1

EPA Est. No. xxxxxx-xx-x

Net Contents: [1 quart; 1, 2.5, 5, 6, 15, 30, 50 and 55 gallons]

Manufactured by:
Tulsi Enterprises Ltd.
12036 66th Avenue, Unit 25
Surrey, British Columbia V3W 3M2, Canada

SUBLABEL A – Residential/Commercial Non-WPS Use
SUBLABEL B – Agriculture/Commercial Use}

SUBLABEL A – RESIDENTIAL/COMMERCIAL NON-WPS USES

SHIFT 3.9% ETHEPHON

For use only on listed plants grown for aesthetic purposes or climatic modifications and being grown at home or in ornamental gardens or parks, golf courses, lawns and grounds

For use of ornamentals for removal of nuisance fruit from trees and shrubs, for earlier ripening of home garden tomatoes, for removal of dwarf mistletoe shoots in ornamental conifers, and for removal of leafy mistletoe shoots in ornamental deciduous trees

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EPA Reg. No. 92583-1

EPA Est. No. xxxxxx-xx-x

Net Contents: [1 quart, 1 gallon, 2.5 gallons, 5 gallons]

Manufactured by:

Tulsi Enterprises Ltd.

12036 66th Avenue, Unit 25

Surrey, British Columbia V3W 3M2, Canada

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. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Wear long-sleeved shirt and long pants, socks and shoes, and chemical resistant gloves made of any waterproof material (such as nitrile, butyl, and/ or barrier laminate).

USER SAFETY RECOMMENDATIONS

Users should:

Wash hands before eating, drinking, chewing gum, using tobacco or the toilet. Do not allow people or pets to touch treated plants until the spray has dried.

ENVIRONMENTAL HAZARDS

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 wash waters.

Avoid spray drift to nearby plants as this product may cause temporary modifications in plant growth. Do not contaminate water used for irrigation or domestic purposes.

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.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire label before using this product. Do not apply this product in a way that will contact workers or other persons, either directly or through drift.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container secure from children and domestic animals. In case of spill, absorb liquid with inert absorbent such as cat litter. Rinse contaminated area with water.

PESTICIDE DISPOSAL: Waste 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 the container (or equivalent) promptly after emptying. Triple Rinse as follows: 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or 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. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration or if allowed by state and local authorities, by burning. If burned stay out of smoke.

GENERAL INFORMATION

Apply Shift 3.9% Ethepon within 4 hours after mixing. Mix only the amount of spray you plan to use immediately. Do not save any unused diluted spray solutions, as they will not be as effective as fresh solutions.

Temporary growth inhibition resulting from shortened internodes may be observed.

AMOUNTS TO USE

When treating several plants, mix 1 teaspoon of SHIFT 3.9% ETHEPHON in 3 fluid ounces (6 teaspoons) of water. When treating a larger number of plants, mix 1 ¾ fluid ounce (3 1/2 tablespoons) of SHIFT 3.9% ETHEPHON in 1 quart of water. Apply with a clean hand sprayer. Thoroughly wet all leaves and fruit.

HOME GARDEN TOMATO PRODUCTION USE

SHIFT 3.9 % ETHEPHON can be used as an overall, foliar spray to concentrate and accelerate tomato ripening. Apply SHIFT 3.9% ETHEPHON at the end of the growing season to hasten ripening of mature green tomatoes and allow harvesting of fruit before frost. SHIFT 3.9 % ETHEPHON 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 SHIFT 3.9 % ETHEPHON sooner than 14 days after the last application.

FRUIT ELIMINATION

A foliar spray of SHIFT 3.9 % ETHEPHON will reduce or eliminate undesirable fruit on ornamental trees and shrubs such as:

Apple, Carob, Crabapple, Elm, Cottonwood, Flowering Pear, olive, Oak, Maple, Sour Orange, Sweetgum and sycamore. Applications must be made before fruit set for best results.

After being applied to plants, SHIFT 3.9 % ETHEPHON 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 SHIFT 3.9 % ETHEPHON usually does not kill the plant, but can render it unsightly.

Applications should be made at the flower bud to full bloom stage, prior to fruit set in spray volumes sufficient to wet. But not to runoff. Failure to wet bud/blooms thoroughly will cause incomplete fruit elimination. Spraying too much (until runoff) may cause some defoliation or other plant injury. The activity of SHIFT 3.9 % ETHEPHON 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, insect or diseases.

For most species, mix, ¾ to 1 quart of SHIFT 3.9 % ETHEPHON in 10 gallons of water (700 – 1000 ppm) and apply to thoroughly wet buds and blooms but not to runoff. Amount of spray used will depend on tree size. Use the higher amount when temperatures are cool. Fruit elimination may not be satisfactory on small red fruited varieties of crabapples. Some temporary leaf yellowing and drop of older leaves may occur after treatment.

For sensitive species such as Carob: Mix ½ quart SHIFT 3.9 % ETHEPHON 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 older leaves may occur after treatment.

SHIFT 3.9 % ETHEPHON has not been tested on all varieties of trees or shrubs which may have undesirable fruit. If it is necessary treat plant species not listed above, a small portion of the plant using the lower rate of application to determine the effectiveness of the product and to evaluate plant injury.

DWARF MISTLETOE REMOVAL

Use SHIFT 3.9% ETHEPHON 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 SHIFT 3.9% ETHEPHON in 4 gallons of water (2700 ppm) and spray to wet. When treating mistletoe in Douglas Fir, mix 1 pint of SHIFT 3.9% ETHEPHON in 4 gallons of water (1350 ppm). Application of higher rates on Douglas Fir may result in excessive needle drop. Use of a non-ionic 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 SHIFT 3.9% ETHEPHON.

LEAFY MISTLETOE REMOVAL

Use SHIFT 3.9% ETHEPHON as a foliar spray on deciduous trees for removal of leafy mistletoe shoots and seeds. Make applications after fall leaf drop through midwinter. Mix 2 quarts of SHIFT 3.9% ETHEPHON in 4 gallons of water (5400 ppm). For effective removal, all mistletoe shoots must be sprayed to wet. Use of a non-ionic surfactant at recommended rates may increase effectiveness. 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.

HOME SPRAY GUIDE

Read Detailed Instructions First

Application	Use Site	Amount of SHIFT 3.9% ETHEPHON	Amount of Water
Ripening	Tomato, Fall Season	1.75 fl. oz.	1 quart
Fruit Elimination	Carob	1.5 fl. oz.	1 gal.
	Other Species	2.5 – 3.0 fl. oz.	1 gal.
Mistletoe Removal	Dwarf	8 fl. oz.	1 gal.
	Leafy	16 fl. oz.	1 gal.

WARRANTY AND DISCLAIMER STATEMENT

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off- target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Tulsi, and can cause crop injury, injury to non-target crops or plants ineffectiveness of the product, or other unintended consequences. All such risks shall be assumed by the user or buyer. Tulsi. Warrants that this product conforms to the chemical description on the label and is reasonable fit for the purposes state in the directions for use, subject

to the inherent risks described above, when used in accordance with the directions for use under normal conditions, this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Tulsii, and is subject to the inherent risks described above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, TULSI DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTEND CONSISTENT WITH APPLICABLE LAW, TULSI, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT, REPRESENTATIVE OR EMPLOYEE OR TULSI IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED **HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN.**

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE TOTAL LIABILITY OF TULSI, MANUFACTURER AND SELLER, SHALL BE **LIMITED TO THE PURCHASE PRICE PAID, OR AT TULSI'S ELECTION, THE REPLACEMENT OF THE PRODUCT.**

{Optional **statement and** marketing claim that may or may not appear on label}

[Spray-it, See-it, BE-LEAF IT! That's Optic Foliar!]

[See [back panel] [pamphlet] [booklet] for [precautionary statements], [storage and disposal] [and] [directions for use]]

SUBLABEL B – AGRICULTURAL/COMMERCIAL USE

SHIFT 3.9% ETHEPHON

For use in the production of Cucumber, Squash and Pumpkin Hybrid Seed; For inducing Flowering of Ornamental Bromeliads; For reducing plant height of potted Daffodils and Stem Topple of Potted Hyacinths; and for increasing Lateral Branching in Ornamentals.

ACTIVE INGREDIENT:

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

OTHER INGREDIENTS: 96.1%

TOTAL: 100.0%

*This product contains 0.33 lbs. ethephon per gallon

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID	
IF IN EYES:	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, in present, after the first 5 minutes, then continue rinsing eyes.• Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none">• 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.
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptomatically. No specific antidote is available. Consideration should be given to the possibility that over exposure to materials other than this product may have occurred.	
Have the product container or label with you when calling a poison center or doctor, or going for treatment. You may also contact: FOR 24 HOUR EMERGENCY MEDICAL ASSISTANCE CALL THE POISON CONTROL CENTER AT 1-800-222-1212 FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300	

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Net Contents: [6, 15, 30, 50 and 55 gallons]

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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. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistance category selection chart. Applicators and other handlers must wear:

1. Coveralls over long-sleeved shirt and long pants
2. Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride
3. Chemical-resistant footwear plus socks
4. Eye protection
5. Chemical-resistant headgear for overhead exposure
6. Chemical-resistant apron when mixing or loading or cleaning equipment

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:

1. Wash hands before eating, drinking, chewing gum, using tobacco or the toilet.
2. Remove clothing immediately if pesticide gets inside.
3. Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing. Wash the outsides of gloves before removing.

ENVIRONMENTAL HAZARDS

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 wash waters.

Avoid spray drift to nearby plants as this product may cause temporary modifications in plant growth. Do not contaminate water used for irrigation or domestic purposes.

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.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire label before using this product.

Do not apply through any type of irrigation system.

Read entire label before using this product.

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.

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 increases to 72 hours in outdoor areas where average rainfall is less than 25 inches a 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:

1. Coveralls over short-sleeved shirt and short pants.
2. Chemical-resistant gloves made of any waterproof material
3. Chemical-resistant footwear plus socks
4. Chemical-resistant headgear for overhead exposure
5. Protective eyewear

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

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container secure from children and domestic animals. In case of spill, absorb liquid with inert absorbent such as cat litter. Rinse contaminated area with water.

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

CONTAINER DISPOSAL: Containers equal to or less than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse the container (or equivalent) promptly after emptying. Triple Rinse as follows: 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or 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.

Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration or if allowed by state and local authorities, by burning. If burned stay out of smoke.

Refillable containers greater than 5 gallons: Refillable container. Refill this container with this pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents of this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

PRODUCT INFORMATION

For ground application only. Do not apply this product with aerial equipment.

Apply SHIFT 3.9% ETHEPHON spray solution within 4 hours after mixing. Mix only the amount of then spray that you plan to use immediately. Do not save unused diluted spray solutions as they will not be effective as fresh solutions.

Plants sprayed with SHIFT 3.9% ETHEPHON often flower 7 to 10 days earlier than untreated. Therefore, pollen source plants should be seeded prior to seed parent to ensure adequate pollen availability for hybrid seed production.

Temporary growth inhibition resulting from shortened internodes may be observed.

DEFOLIATION

A foliar spray of SHIFT 3.9 % ETHEPHON applied after buds are matured, will initiate earlier leaf drop of roses, tall hedge and applied nursery stock (in Washington only). This will allow digging of stock plants prior to the onset of unfavorable weather.

FOR ROSES: Mix 1 quart of SHIFT 3.9% ETHEPHON in 10 gallons of water and apply to thoroughly wet foliage. The amount of spray used will depend on the size of the rose bush. The amount of defoliation obtained will depend on the variety and temperature. The addition of 1 pint on nonionic surfactant, such as Tween 20 or X-77, per 100 gallons of spray solution will improve defoliation. Do not apply to sensitive varieties such as Red American Beauty as bud injury may result.

FOR TALLHEDGE BUCKTHORN: Mix 5 to 10 quarts SHIFT 3.9% in 10 gallons of water and apply to thoroughly wet foliage. The amount of spray used will depend on the size of the tallhedge. Use the higher rate when temperatures are cool or earlier defoliation is desired.

FOR APPLE NURSERY STOCK IN WASHINGTON: Mix 1-2 pints SHIFT 3.9% ETHEPHON plus 3 quarts Dupont Surfactant WK in 50 gallons of 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 SHIFT 3.9% ETHEPHON per season. Do not use on Rome apples as defoliation will not be satisfactory. The amount of defoliation obtained will depend on variety and temperature.

HYBRID SEED PRODUCTION

SHIFT 3.9 % ETHEPHON modifies sex expression and flowering patter of cucumber, squash and pumpkins to facilitate hybrid seed production.

Application of SHIFT 3.9 % ETHEPHON increases the number of pistillate (female) and decreases the number of staminate (male) flowers. SHIFT 3.9 % ETHEPHON 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 of sensitivity of cucumber and squash cultivars excessive injury may result from SHIFT 3.9 % ETHEPHON application even when all label directions are followed. Treatment 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 PRODUCTIONS IN CUCUMBER AND SQUASH

Amounts to Use: Apply 1 quart per acre of SHIFT 3.9 % ETHEPHON in 40 – 100 gallons of water (100-500 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 the time of treatment

DO NOT HARVEST ANY TREATED CUCUMBERS OR SQUASH FOR HUMAN OR ANIMAL CONSUMPTION. TREATMENTS ARE TO BE MADE FOR SEED PRODUCTION ONLY.

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 SHIFT 3.9 % ETHEPHON per acre in 40 to 100 gallons of water (300 – 750 ppm) 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.

Do not harvest any treated pumpkins for human or animal consumption. Treatments are to be made for seed production only.

HYBRID SEED PRODUCTION IN CUCUMBERS, PUMPKINS, AND SQUASH (CALIFORNIA ONLY)

Amounts to use: Apply up to 3 quarts per acre of SHIFT 3.9 % ETHEPHON 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 the first true leaf stage.

The actual amount and number of applications needed to achieve a satisfactory level of performance within excessive injury is dependent on the specific cultivar and environmental conditions at time of treatment, but do not exceed the maximum rates listed above.

Do not harvest any treated cucumbers, pumpkins, or squash for human or animal consumption. Treatments are to be made for seed production only.

FLOWER OF INDUCTION OR BROMELIADS

SHIFT 3.9 % ETHEPHON 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 SHIFT 3.9 % ETHEPHON 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 over spraying to “runoff” which may cause damage to leaves or the growing points. For treating groups of plants, use approximately ½ pint of spray solution per 10 square feet of greenhouse bench or outdoor bed area.

Apply SHIFT 3.9 % ETHEPHON 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 SHIFT 3.9 % ETHEPHON is influenced by the plant age, variety, growth rate, climate and cultural conditions. Lower rates may 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 AECHME, 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 ° or higher should be maintained throughout the forcing period.
5. Do not apply fertilizer two weeks prior to or for two weeks after treatment.

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

INCREASING LATERAL BRANCHING

(varieties such as Azalea, Begonia, Chrysanthemum, Geranium, Impatiens, Lantana, Verbena, Vinca)

A foliar spray of SHIFT 3.9 % ETHEPHON in conjunction with hand pinching will increase the number of lateral branches on ornamental plant species. 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. Bougainvillea will be defoliated by applications of but nodes will break a few weeks after treatment.

A foliar spray of SHIFT 3.9 % ETHEPHON will increase lateral branching in the following ornamental species: Azalea, Begonia, Garden Chrysanthemum (perennial species) Zonal, Geranium, Ivy Geranium, Impatiens, Lantana, Verbena, Vinca vines (vinca major). To minimize the risk of unacceptable **plant** injury do not use SHIFT 3.9 % ETHEPHON on ornamental varieties or species not specifically listed on the label.

When applied to plants SHIFT 3.9 % ETHEPHON 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 stresses. Treating stressed plants can cause severe injury such as defoliation or leaf scorching. While injury from SHIFT 3.9 % ETHEPHON usually does not kill the plant, it can render the plant unsightly and unfit for sale. The activity of SHIFT 3.9 % ETHEPHON is linked to plant growth activity and is therefore slower acting when temperatures are below 60F or very high above 95F.

FOR STOCK PLANTS (EXCEPT AZALEA): Mix 1 pint (16 fluid ounces) of SHIFT 3.9 % ETHEPHON in 10 gallons of water (500ppm) and spray to thoroughly wet foliage, but not runoff. Make applications at normal pinching time instead of hand pinching. To ensure flowering and full foliage on finished plants do not make applications for 6- 8 weeks prior to bloom or planned sale.

FOR BOTH STOCK AND FINISHED PLANTS: Mix 2.5 to 5 quarts of SHIFT 3.9 % ETHEPHON in 10 gallons of water (2,500 to 5,000 ppm) and apply to thoroughly wet foliage. The amount of spray will depend upon the size of the plant being treated. Applications 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, and other varieties as determined by experience. To optimize the vigor of cuttings, do not make application for 2 weeks prior to harvesting cuttings from stock plants. To ensure full foliage and on finished plants, do not make applications for 6 to 8 weeks prior to bloom or planned sale.

REDUCTION OF HYACINTH STEM TOPPLE AND DAFFODIL PLANT HEIGHT

A foliar spray of SHIFT 3.9 % ETHEPHON will aid in reducing total plant height of potted daffodils and stem topple of potted hyacinths at time of full flower.

To reduce potted hyacinth stem topple at time of full flower, apply a foliar spray of SHIFT 3.9 % ETHEPHON before florets have opened. Most cultivars will respond to applications of SHIFT 3.9 % ETHEPHON at 1,000 to 2,000 ppm (1/2 to 1 pint in 2.5 gallons of water) of SHIFT 3.9 % ETHEPHON. 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 SHIFT 3.9 % ETHEPHON when the shoots are 3 to 4 inches tall. Most cultivars will respond to 2000 ppm (1 pint in 2.5 gallons) sprays of SHIFT 3.9 % ETHEPHON. For earlier forcing, Dutch Master, Joseph Macleod, Flower Record, and Barret Browning will benefit from a second spray 2 or 4 days after the first. Bridal Crown and Geranium require only 1,000 ppm (½ pint in 2.5 gallons of water). Gold Medal, Van Sion, February Gold, and Tete-a-Tete do not require SHIFT 3.9 % ETHEPHON treatment.

WARRANTY AND DISCLAIMER STATEMENT

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off- target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Tulsi, and can cause crop injury, injury to non-target crops or plants ineffectiveness of the product, or other unintended consequences. All such risks shall

be assumed by the user or buyer. TULSI warrants that this product conforms to the chemical description on the label and is reasonable fit for the purposes state in the directions for use, subject to the inherent risks described above, when used in accordance with the directions for use under normal conditions, this warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to TULSI, and is subject to the inherent risks described above.

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{Optional statement and marketing claim that may or may not appear on label}

[Spray-it, See-it, BE-LEAF IT! That's Optic Foliar!]

[See [back panel] [pamphlet] [booklet] for [precautionary statements], [storage and disposal] [and] [directions for use]]