ETHREL® Plant Regulator

For Flue Cured Tobacco Aids Harvesting and Curing Efficiency

FOR COMMERCIAL OR AGRICULTURAL USE ONLY. NOT FOR RESIDENTIAL USE.

ACCEPTED

SEP 1 0 1987

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. Na

ACTIVE INGREDIENT:

*Contains 2 pounds ethephon per gallon.

EPA Reg. No. 264-292

EPA Est. No. 264-PA-01

KEEP OUT OF REACH OF CHILDREN

WARNING

AVISO

FOR ADDITIONAL PRECAUTIONARY STATEMENTS: SEE SIDE PANEL

PRECAUCION AL USARIO: Si usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.

IN CASE OF EMERGENCY TELEPHONE (24 HOURS A DAY) IN THE U.S.A. 1-800-UCC-HELP
FOR GENERAL PRODUCT INFORMATION CALL 1-800-334-9745

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

GENERAL INFORMATION

A foliar spray of ETHREL® Plant Regulator hastens "yellowing" of mature tobacco and reduces curing time. ETHREL® can reduce the number of primings required to harvest a crop of flue cured tobacco. ETHREL® increases the capacity of the curing barn by shortening the curing time and allows adjustments in harvest schedules. ETHREL® can be used as a directed spray to the bottom or middle portion of the tobacco plant or as an over-the-top spray.

USE PRECAUTIONS

Treat o... In the acreage of tobacco which can be harvested and barned in one day. Application made to immature leaves may result in no or slight partial yellowing. Do not allow crop to over ripen in the field after using ETHREL®, since this may cause some reduction in yield and quality.

Do not plant another crop within 30 days after treatment.

Do not treat before anticipated major storm which could prevent harvest and resultant crop loss.

Avoid spray drift to nearby crops as this product will cause modifications in plant growth. Plant injury or reduced yields will result.

Mix only the amount of spray you expect to use each day. Do not allow mixed solution to stand overnight.

Do not use surfactants or wetting agents with ETHREL® Plant Regulator.

Do not apply ETHREL® Plant Regulator if rain is expected within 4 hours.

PROPER TIME FOR TREATMENT

Successful results with ETHREL® calls for treatment when leaves are mature...not overly rank green when sprayed. To easily determine the proper time for treatment and to determine the number of leaves per stalk that are ready for harvest, test spray several plants in more than one location in each yield and observe their response. Mature leaves will begin yellowing in 24 to 72 hours. If the test plants fail to yellow the number of leaves desired after 72 hours wait a few days to permit further natural maturing, then make another test spray or "maturity" check.

When you have determined the number of leaves per plant that will color, you can determine the number of acres to treat in order to fill a barn. (See Supplemental Information).

Prepare your test spray by mixing four teaspoons of ETHREL® in one quart of water. Spray each test plant with about one ounce of this mixture, covering; all leaves with a fine mist. ETHREL® will not color immature sprayed leaves.

DIRECTIONS FOR USE

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

Dornot apply ETHREL PLANT REGULATOR through any type of irrigation system.

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DIRECTED SPRAY APPLICATION

For a directed spray to the bottom or middle leaves of a tobacco plant, apply 2 quarts of ETHREL® in 50 to 60 gallons of water per acre. Drop nozzles similar to those used in corn can be used for directed application of ETHREL® to tobacco. Nozzles mounted on drop pipes plus slow tractor speeds will keep the boom from bouncing and insure proper placement of the directed spray. Use TG or OC spray tips designed to apply 50-60 gpa at 35-40 psi and at tractor speed of 2-3 mph. Direct ETHREL® in a fine spray to the mid or lower leaves to be treated using 2 nozzles per row; one on each side of the row dropped low enough to direct the spray to the leaves to be ripened and harvested. Thorough spray coverage is essential.

OVER-THE-TOP APPLICATION

Mix 2 to 4 quarts of ETHREL® with 40 to 60 gallons of water for each acre of tobacco to be treated.

Treat only when leaves remaining on the stalk are mature, after the second or third priming. To ensure remaining leaves are mature, test spray several iobacco plants as described under the section on Proper Time of Treatment. Use the lower rate in a normally matured crop when experience indicates that minimum ripening inducement is required. Use the higher rate when the crop is heavy and has a tendency to be more rank or when temperatures are lower than normal. Test spraying, however, should still indicate whether the tobacoo will respond to treatment with ETHREL®.

Apply the over-the-top ETHREL® spray as a fine mist using three nozzles, (one nozzle tip over the center of the plant, and one on each side) so all leaves are covered thoroughly...similar to the application pattern of systemic sucker control agents. Use a spray pressure of 40 to 60 psi.

HARVESTING AND CURING

All mature, sprayed leaves will color 48 to 72 hours after ETHREL® application. The yellowing process is weather dependent...cool days will delay, while hot sunny weather can speed up the process. Harvest treated tobacco when leaves have reached the desired color intensity.

Directed Spray Application: With a directed spray be sure to harvest all leaves with 20% or more yellowing.

Over-The-Top Application: With an over-the-top application, harvesting can commence 24 hours after the ETHREL® application depending on weather conditions or to avoid overripe tobacco. Tobacco harvested 24 hours after treatment will require more time in the coloring phase of the curing process.

Do not allow tobacco to become overripe before starting harvest. Leaf drop can occur when tobacco is overripe and left on the stalk. If a number of the bottom ''' leaves have yellowed at the time of treatment, they should be harvested prior to spraying with ETHREL®.



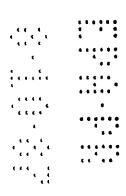
Curing procedures are as much an art as a science and each cure must be judged on the basis of tobacco condition, interval between treatment and harvest, weather and type of curing facility before prescription temperature and ventilation schedules can be established. To obtain maximum quality, care must be taken to observe and control the curing process closely, especially during the late "coloring" and early "drying" stages of the leaf.

ETHREL® treated tobacco will have started the coloring process when harvested, reducing the time required in the coloring phase of curing. Treated tobacco should be dried faster. If tobacco leaves are green or contain some green when harvested, it may be necessary to color them for a few hours. If the leaves are completely yellow, the temperature and ventilation must be adjusted in a manner to dry the tobacco as fast as possible without scalding. Once the leaf is dried (3/4 dry), the grower should follow normal procedures for curing. Since ETHREL® treated leaves cure faster, treated and untreated leaves should not be cured together in the same barn.

SUPPLEMENTAL INFORMATION

NUMBER OF PLANTS PER ACRE AT DIFFERENT ROW WIDTHS AND DRILL SPACINGS

Row	Spacing in Drill										
Width In.	16 In.	18 In.	20 In.	22 In.	24 In.	26 In.	28				
36 in.	10,890	9,680	8,712	7,920	7,260	6,701	6,22				
38 in.	10,317	9,170	8,255	7,503	6,878	6,349	5,89				
40 in.	9,801	8,712	7,841	7,128	6,535	6,032	5,60				
42 in.	9,334	8,297	7,467	6,788	6,222	5,744	5,33				
44 in.	8,912	7,920	7,128	6,480	5,940	5,483	5,09				
46 in.	8,523	7,576	6,818	6,198	5,682	5,245	4,87				
48 in.	8,167	7,260	6,534	5,940	5,445	5,026	4,66				



NUMBER OF LEAVES PER ACRE AT DIFFERENT PLANT POPULATIONS

Plants Per Acre	16	18	Topping (N 20 Per Acre (T	22	24	26
						
9800	156,800	176,400	196,000	215,600	235,200	254,800
9300	148,800	167,400	186,000	204,600	223,200	241,800
8900	142,400	160,200	178,000	195,800	213,600	231,400
8700	139,200	156,600	174,000	191,400	208,800	226,200
8500	136,000	153,000	170,000	187,000	204,000	221,000
8300	132,800	149,400	166,000	182,600	199,200	215,800
8200	131,200	147,600	164,000	180,400	196,800	213,200
7900	126,400	142,200	158,000	173,800	189,600	205,400
7800	124,800	140,400	156,000	171,600	187,200	202,800
7600	121,600	136,800	152,000	167,200	182,400	197,600
7500	120,000	135,000	150,000	165,000	180,000	195,000
7300	116,800	131,400	146,000	160,600	175,200	189,800
7100	113,600	127,800	142,000	156,200	170,400	184,600
6800	108,800	122,400	136,000	149,600	163,200	176,800
6500	104,000	117,000	130,000	143,000	156,000	169,000
6200	99,200	111,600	124,000	136,400	148,800	161,200
6000	96,000	108,000	120,000	132,000	144,000	156,000
5°00	94,400	106,200	118,000	129,800	141,600	153,400
5700	91,200	102,600	114,000	125,400	136,800	148,200
5500	88,000	99,000	110,000	121,000	132,000	143,000
5400	86,400	97,200	103,000	118,800	129,600	140,400
5200	83,200	93,600	104,000	114,400	124,800	135,200
5000	80,000	90,000	100,000	110,000	120,000	130,000

For further help in determining the time of application, changes in curing procedure, and/or the required number of treated acres needed to fill one barn, contact your County Extension Agent, Area Tobacco Specialist, or your Union Carbide Representative. (See supplemental information for guidance on the amount of tobacco needed to fill a barn).

PRECAUTIONARY STATEMENTS
WARNING
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

HARMFUL IF SWALLOWED. May cause eye damage. Wear safety goggles when handling. Avoid contact with skin or clothing and do not inhale vapors as. this product will irritate skin and mucous membranes.

STATEMENT OF PRACTICAL TREATMENT

If Swallowed: If patient is conscious and alert, give 2-3 glasses of water to drink. Do not induce vomiting. GET MEDICAL ATTENTION.

If On Skin: Immediately wash skin with plenty of soap and water, if available, while removing contaminated clothing and shoes. Wash clothing. separately before reuse.

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If Inhaled: Remove victim to fresh air. If not breathing, give artificial respiration. Administer oxygen if necessary. GET MEDICAL ATTENTION.

If In Eyes: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. GET MEDICAL ATTENTION, PREFERABLY AN OPHTHALMOLOGIST.

NOTE TO PHYSICIAN No specific antidote is available.

All treatments should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.

Victims of severe overexposure, by inhalation, should be kept under medical observation for up to 72 hours for delayed onset of pulmonary edema. In a victim of overexposure by ingestion, careful gastric lavage is required due to the possibility of stomach or esophogeal perforation. This material is an acid, but the use of alkaline substances to neutralize it is contaraindicated.

ENVIRONMENTAL HAZARDS

Do not contaminate water used for irrigation or domestic purposes.

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 Agricultural 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. Advise workers to stay out of fields during application and until sprays have dried. Regular long-sleeved work clothing should be worn when working in treated fields. See Precautionary Statements; Statement of Practicial Treatment and Note to Physician for information onaccidential exposures. 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 (WARNING), area treated with Ethrel® Plant Regulator. date of application, appropriate protective clothing, and reentry interval if applicable.

STORAGE AND DISPOSAL

STORAGE

Do not store near fertilizers, seeds, insecticides or fungicides.

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

Do not reuse container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture or dispose of in a sanitary landfill or incineration, or if allowed by state and local authorities, by burning. If 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 (it 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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