

POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Ethrel[®]

GROWTH REGULATOR

Active Constituent: 480 g/L ETHEPHON (an anticholinesterase compound)

For crop thinning, loosening or ripening in various crops as specified in the DIRECTIONS FOR USE table

GENERAL INSTRUCTIONS

Mixing

Half fill the spray tank with water, add the required amount of product, then the remainder of water and mix well. DO NOT use alkaline water.

Application

Special Instructions for Tree and Vine Crops

Dilute Spraying

- Use a sprayer designed to apply high spray volumes, up to the point of run-off and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient spray volume to cover the crop to the point of run-off. Avoid excessive run-off.
- The required spray volume to achieve point of run-off may be determined by applying different test volumes, using different settings on the sprayer, or from industry guidelines or other expert advice.
- Add the amount of product specified in the DIRECTIONS FOR USE table for each 100 L of water. Spray to the point of run-off.
- The required dilute spray volume to achieve point of run-off will change and the sprayer set up and operation may also need to be changed, as the crop grows.

Concentrate Spraying

- Concentrate spraying is not appropriate with this product.

Compatibility

Apples, table grapes, wine grapes, macadamias and peaches

Certain applications in the above crops require the addition of a surfactant (wetter) when using Ethrel. In such cases, select a wetter that is registered for use with plant growth regulators (e.g. Kendeen 20 Surfactant or Spraymate Chemwet 1000) and apply at the recommended rate for the crop situation. If unsure of the appropriate product or product rate, seek further advice from Bayer CropScience, the surfactant manufacturer, your chemical distributor or other advisor.

Equipment

Ethrel is corrosive to metals. Mix only the quantity of spray required for immediate use and do not allow to stand in metal containers for more than 2 hours. Flush equipment thoroughly with water after use.

PRECAUTION

Re-entry period

Do not allow entry into treated areas for 48 hours after treatment. When prior entry is necessary, wear cotton overalls, elbow-length PVC gloves and goggles. Clothing must be washed after each day's use.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply under weather conditions or from spraying equipment that could be expected to cause drift onto nearby plants and adjacent crops, crop-lands or pasture. Wash sprayer thoroughly after use.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND THE ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Do not re-use empty containers for any other purpose.

SAFETY DIRECTIONS

Product is harmful if swallowed. Attacks the eyes. Protect eyes while using. Repeated minor exposure may have a cumulative poisoning effect. Obtain an emergency supply of atropine tablets 0.6 mg. When preparing the spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, elbow-length PVC gloves and face shield or goggles. Wash hands after use. After each day's use wash gloves, face shield or goggles and contaminated clothing.

FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre (telephone 13 11 26). If swallowed do NOT induce vomiting. Give a glass of water. If swallowed, splashed on skin or in eyes, or inhaled, contact a Poisons Information Centre (telephone 13 11 26) or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, activated charcoal may be advised. Give atropine if instructed. Get to a doctor or hospital quickly. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet, which may be obtained from www.bayercropscience.com.au

EXCLUSION OF LIABILITY

This product must be used strictly as directed, and in accordance with all instructions appearing on the label and in other reference material. So far as it is lawfully able to do so, Bayer CropScience Pty. Ltd. accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

Ethrel® is a Registered Trademark of Bayer.

APVMA Approval No.: 48475/0507



CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S (contains ethephon)		
UN 3265	PG III	HAZCHEM 2X
FOR 24 HOUR SPECIALIST ADVICE IN EMERGENCY ONLY PHONE 1800 033 111		

DIRECTIONS FOR USE**Restraints**

DO NOT apply to weak or stressed plants.

FRUIT – TREE AND VINE CROPS

CROP	MODE OF ACTION	STATE	RATE (Dilute Spraying)	WHP	CRITICAL COMMENTS Apply by dilute spraying equipment only. Refer to Application section in GENERAL INSTRUCTIONS. Concentrate spraying is NOT appropriate for these uses.
Apples: Jonathan, Delicious	Advancement of maturity; improvement of red colour	Qld, NSW, Vic, SA, WA only	50 to 100 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water and add 'stop drop'	7 days	Ensure fruit has reached marketable size before treatment and keep trees under observation after spraying. Apply 2 to 3 weeks before normal harvest period and 7 to 14 days before desired harvest date. Ensure fruit is picked at the correct stage of maturity, as fruit not harvested will quickly become over-ripe. Note: For best results spray when temperatures are between 15 °C and 32 °C. Continuing low temperatures will advance maturity and colouration; continuing warm to high temperatures, both day and night, will advance maturity but may reduce colouration, so use lower rate. Use higher rate for quicker response. Add a 'stop-drop' to prevent premature loosening of fruit. Thorough coverage is essential. Apply to fruit only for the fresh fruit market or short-term storage.
Tydemans Early		Tas only	40 mL/100 L water and add 'stop-drop'		
Gravenstein, Golden Delicious, Jonathan and Red Delicious	Thinning *	Vic, SA only	20 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	Apply at full bloom OR up to 1 week following full bloom. A second thinning spray 10 to 14 days after the Ethrel spray may be necessary. On Gravenstein and Golden Delicious apply carbaryl or 5 to 7.5 ppm NAA (use higher rate for maximum thinning). On Jonathan and Red Delicious apply carbaryl or 4 ppm NAA.	
Golden Delicious, Stark Crimson and Legana		Tas only	50 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	Apply at the balloon blossom stage using a high volume sprayer at 4000 L/ha. Do not apply if rain is imminent. Do not use in sequence or in mixtures with NAA. If maximum temperatures are below 13 °C after spraying, inadequate thinning may result, or if above 18 °C excessive thinning may result.	
Golden Delicious, Red Delicious, Jonathan, Granny Smith		WA only	50 to 60 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	Only use high concentration when heavy set expected.	
Lady William			60 to 100 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	*Note: For all thinning applications: The complex nature of fruit set and the possible variable action of chemical thinners due to weather conditions, make it difficult to give set recommendations and growers should consult their local agronomist.	

FRUIT – TREE AND VINE CROPS (continued)

CROP	MODE OF ACTION	STATE	RATE (Dilute Spraying)	WHP	CRITICAL COMMENTS
All varieties	Aid complete removal of fruit from trees and encourage a biennial bearing habit (Excessive vegetative growth will be suppressed and the following bloom stimulated)	NSW, SA only	100 to 200 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	7 days	Apply just prior to full bloom OR 5 to 6 weeks later during early morning or late afternoon when slow drying conditions occur. Ensure thorough coverage of foliage and flowers or fruit. Note: Under normal weather conditions use lower rate for Delicious and higher rate for Jonathans as they are difficult to de-fruit. Consult the local Department of Agriculture for specific recommendations on other varieties. Warm weather following treatment will improve results, but if temperatures below 18 °C prevail after spraying, fruit removal may be reduced, in the latter case use a higher dose rate. Fruit will loosen in 7 to 10 days and thinning should be complete within 2 to 3 weeks. Limbs can be lightly shaken to aid removal after this time.
	Retard vegetative growth and stimulate flowering of young apple trees in the following season		100 to 200 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water		Apply from full bloom to 6 weeks after full bloom. Ensure thorough coverage. Trees should be large enough to support an increased crop of apples before being treated. Increase rate towards 200 mL/100 L to maximise thinning and stimulation of blooms during the following season. DO NOT apply if harvesting fruit in same season as flowers or fruitlets will be partially or completely thinned.
Table grapes: Barlinka	To promote early uniform colouring	NSW, SA only	20 to 30 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	14 days	Apply when 5 to 30% of the berries are coloured (2-4 weeks prior to expected harvest). Use the higher rates to maximise the colouring effects required. Ensure thorough coverage of bunches although the foliage need not be completely covered. Note: Ethrel may slightly reduce firmness of grapes. DO NOT use on grapes intended for long storage.
Red Emperor, Red Prince, Red Malaga, Cardinal, Muscat of Hamburg		NSW, Vic, SA, WA only	40 to 60 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water		
Flame Seedless		WA only			
Wine grapes: Semillon	Aids to mechanical harvesting	NSW only	63 to 190 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	7 days	Apply 7 days before expected harvest. Thorough coverage of upper and lower leaf surfaces is essential. Note: Some leaf yellowing and leaf fall, which is not detrimental to vines, may occur. The concentration to use will depend on a number of factors such as seasonal conditions, crop size, weather conditions (before and after application) and trellis type. Therefore, before applying consult the local Department of Agriculture for specific recommendations.

FRUIT – TREE AND VINE CROPS (continued)

CROP	MODE OF ACTION	STATE	RATE (Dilute Spraying)	WHP	CRITICAL COMMENTS
					Apply by dilute spraying equipment only. Refer to Application section in GENERAL INSTRUCTIONS. Concentrate spraying is NOT appropriate for these uses.
Mandarins: Imperial	Thinning to increase fruit size, to reduce size of heavy crop and to even out the production cycle	Qld, NSW, SA, WA only	50 to 60 mL/ 100 L water	Not required	Apply during the early stage of fruit development for thinning and correction of the habit of alternate heavy and light crops. Apply as foliar spray when fruitlets are about 10 to 15 mm in diameter and when natural fruit drop is occurring. This is usually in November in Qld; December in SA and WA; and intermediate in NSW and Vic. Weather conditions influence the degree of thinning and care must be taken not to over-thin. Note: Fruitlets should fall off 7 to 14 days after application. Aim to apply 13 to 15 L of spray per 4 to 5 m high tree. Use the higher rate when a very heavy crop is evident. DO NOT apply in cold weather (less than 18 °C) OR when rain is likely within 1 to 2 days of spraying. DO NOT add surfactants or wetting agents as leaf fall may be increased. See also GENERAL INSTRUCTIONS.
		Vic only	40 to 50 mL/ 100 L water		
Oranges: Navel		Qld, NSW, Vic, SA, WA only	50 to 60 mL/ 100 L water		
		Qld, NSW, SA, WA only			
Valencia		Vic only	60 to 70 mL/ 100 L water		
Macadamia nuts: Own Choice		Aid harvesting by promoting uniform nut fall	NSW only		
	H2 Variety			80 to 160 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	
Peaches	Advancement and concentration of maturity	Vic only:- Goulburn Valley	25 mL PLUS recommended rate of a suitable wetter (refer to Compatibility section) per 100 L water	6 weeks	Apply once as foliar spray after commencement of the final fast growth stage. Timing depends on variety. Determine by measuring twice weekly, fruit circumference, of 20 tagged fruit/block. After rapid growth stage determined, wait 3 to 4 days for further confirmation, then spray. Thorough coverage is essential. Note: Instances have been recorded where this product, when applied in peaches at apparently the correct time, has resulted in premature fruit drop, fruit gumming and fruit splitting. See also GENERAL INSTRUCTIONS.

FRUIT – NON TREE AND VINE CROPS

CROP	MODE OF ACTION	STATE	RATE		WHP	CRITICAL COMMENTS
			General	Boom Spraying		
Pineapples (plus urea)	Initiation of flowering	Qld only	Individual plant: 120 mL PLUS 5 kg urea in 100 L of water. Apply 30 mL/ plant	2.4 L PLUS 100 kg urea in 2000 L of water/ha.	7 days	Apply February-March. Note: Rate should be doubled for plant crops that are growing vigorously at the time of application.
			Individual plant: 60 mL PLUS 5 kg urea in 100 L of water. Apply 30 mL/ plant	1.2 L PLUS 100 kg urea in 2000 L of water/ha.		Apply May-June OR September- October. Note: See above - February/March application with urea.
Pineapples (without urea)	Initiation of flowering in ratoon		Individual plant: 40 mL/10 L of water. Apply 30 mL/plant	9.0 L/2000 L of water/ha.		Apply February-March. Note: Use on the final crop in the block before eradication of the crop. Pineapples treated at the above time will be ready for picking 7 to 10 months after application.
			Individual plant: 10 mL/10 L of water. Apply 30 mL/plant	2.2 L/2000 L of water/ha.		Apply May-June OR September- October. Note: See above - February-March application without urea.
Pineapples	Fruit ripening		-	2.5 L/1000 L of water/ha		Ethrel for ripening should only be used on even crops successfully induced for flowering with Ethrel. DO NOT use on fields intended for ratoon production. Treatment should be made when the forced fruit are beginning to show the first colour break. An initial harvest may be necessary to remove more advanced fruit before applying Ethrel. The remaining treated fruit will be ready for harvest at least 7 days following the Ethrel ripening application. DO NOT use on fruit intended for the fresh fruit market. Ethrel for ripening is NOT SUITABLE FOR USE ON SUMMER PLANT CROPS because of scattered fruiting and high risk of forcing young suckers. Where natural fruiting has occurred prior to chemical induction, these natural fruit must be picked before Ethrel ripening. Treatment too early can result in a loss in yield and a reduction in fruit sugar levels.

OTHER CROPS

CROP	MODE OF ACTION	STATE	RATE	WHP	CRITICAL COMMENTS
Sugarcane	To increase early season c.c.s.	Qld, NSW only	1.5 L/ha	6 weeks	Apply from the beginning of March until the end of April on sugarcane to be harvested from mid June until mid August. The sugarcane juice purity should preferably be lower than 75% at the time of treatment. DO NOT apply to sugarcane under stress e.g. From excessive moisture, dry conditions, lodging, disease or insect infestation. Post spraying stresses will reduce the probability of response. DO NOT apply more than once a season.
Tomatoes	Accelerate ripening, increasing yield of marketable fruit	All States	1.8 L in 440 to 880 L of water per ha	7 days	Apply once in the season. Ensure thorough coverage of fruit and foliage, when fruit is 5 to 30% pink or red. To determine this, pull a few plants, shake off all fruit, weigh and determine above percentage. Optimum harvest maturity is expected 14 to 21 days after spraying. DO NOT use on greenhouse crops. Note: Temperatures below 18 °C retard colour development and may extend the interval between treatment and harvest. Treatment may cause some yellowing of foliage or defoliation. Sun scald or exposed fruit may occur under high temperature conditions following treatment.

NOT TO BE USED FOR ANY PURPOSE OR IN ANY MANNER CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION.

WITHHOLDING PERIOD (WHP)

Apples, macadamia nuts, pineapples, tomatoes, wine grapes: DO NOT APPLY LATER THAN 7 DAYS BEFORE HARVEST.

Table grapes: DO NOT APPLY LATER THAN 14 DAYS BEFORE HARVEST.

Peaches and sugar cane: DO NOT APPLY LATER THAN 6 WEEKS BEFORE HARVEST.