

043801

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EEE BRANCH REVIEW

DATE: IN 1/19/77 OUT 2/1/77 IN \_\_\_\_\_ OUT \_\_\_\_\_  
 FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

FILE OR REG. NO. \_\_\_\_\_

PETITION OR EXP. PERMIT NO. 275-EUP-16

DATE DIV. RECEIVED \_\_\_\_\_

DATE OF SUBMISSION \_\_\_\_\_

DATE SUBMISSION ACCEPTED \_\_\_\_\_

TYPE PRODUCT(S): I, D, H, F, N, R, S Plant Growth Regulator

PRODUCT MGR. NO. L. Zink

PRODUCT NAME(S) PROMALIN

COMPANY NAME Abbott

SUBMISSION PURPOSE EUP-Tank Mix Combination (Apples)

CHEMICAL & FORMULATION	<u>N-(phenylmethyl)-1H-purin-6-Amine</u>	<u>1.8%</u>	<u>- 281700</u>
	<u>Gibberellic Acids A<sub>4</sub> A<sub>7</sub></u>	<u>1.8%</u>	<u>- 043801</u>
	<u>Inerts</u>	<u>96.4%</u>	

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100.0 PESTICIDAL USE

Plant Growth Regulator for Use on Apples

100.1, .2 DIRECTIONS/APPLICATIONS

Directions for Use

Promalin is a plant growth regulatory for use on Red Delicious apples. Promalin may improve typiness or shape of fruit (i.e., elongation of apples and development of more pronounced calyx lobes). These desirable effects may be most evident in years when natural typiness is limited such as when hot weather occurs following bloom. Under certain conditions Promalin may increase weight of individual fruit and yield per tree. Some thinning may occur, particularly west of the Rockies, when Promalin is applied at the higher rate of application.

Before mixing and applying a tank mix of Promalin and other insecticides/fungicides, READ the labels for both products for environmental and usage conditions.

Application Rate

Use 1 pint of Promalin per 100 gallons of spray solution (1.25 ml/liter). Apply 100 to 200 gallons of spray solution per acre (900 to 1800 l/ha) as a fine mist spray, using a properly calibrated and adjusted sprayer that insures uniform coverage. The spray volume should be adjusted to tree volume which is dependent upon tree size, number of trees and area covered by the trees. This is equivalent to a sprayer nozzled for 2 x 4 x (based on 400 gallons per acre dilute).

Application Notes and Restrictions

1. Do Not apply Promalin more than once per season.
2. Do Not apply Promalin in combination with other pesticides growth regulators and/or plant nutrients.
3. Do Not apply more than 200 gallons of spray solution per acre.
4. Do Not apply to young trees (5 to 8 years old) west of the Rockies because excessive thinning may occur.
5. Where poor wetting occurs, use of a suitable wetting agent is suggested for trial usage.

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### Mixing Instructions

Add the required amount of Promalin to a clean spray tank about half filled with water. For products combined in tank mix with Promalin, follow individual label instructions for mixing and/or premix product in adequate water and slowly add to Promalin solution in tank. Agitate while bringing the total volume of water to the required level (to give 1 pint Promalin per 100 gallons of spray solution). Use spray solution within 24 hours after mixing.

### Time of Application

1. Application should be made at start of king blossom to mid petal fall. Maximum response should be obtained when applied from king bloom to early petal fall.
2. Apply when wind conditions will not cause excessive spray drift.
3. If timing of bloom conditions permit, apply during conditions favoring maximum absorption of Promalin. High relative humidity, cool weather, damp and slow drying conditions at time of spraying or shortly thereafter improves absorption. Spray in the early morning or evening. Conditions favoring rapid drying or spray should be avoided.
4. Delay applying Promalin after a rain until flower parts and leaves are free of surface droplets. Application should be made only when a six hour rainfree period is expected. If rain falls within six hours of application, reduced response should be anticipated.
5. Do not apply when temperatures are expected to be less than 45 F or greater than 90 F..

### 100.3 ENVIRONMENTAL PRECAUTIONS

Keep out of lakes, streams or ponds. Do not contaminate water by cleaning spray equipment and disposal of wastes.

### 100.4 WARNING

KEEP OUT OF REACH OF CHILDREN

WARNING

Causes eye irritation. Do not get in eyes, on skin or clothing. Harmful if swallowed. See additional precautions and directions for use on supplemental labeling.

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Not for sale to any person other than participant or cooperator of the EPA approved Experimental Use Program.

100.5 AREAS & ACRES TO BE TREATED

	<u>Acreage to be treated in cooperation with State Extension and Research Personnel</u>
California	2
Colorado	2
Georgia	2
Idaho	2
Illinois	2
Michigan	2
New York	4
North Carolina	4
Ohio	2
Oregon	2
Pennsylvania	2
South Carolina	2
Utah	2
Vermont	2
Virginia	2
Washington	4
West Virginia	2

40 Acres at 1.5 pints/A=60 pints totals

100.6 Purpose of Program

The objective of these studies are to evaluate tank mix compatibility and biological performance when PROMALIN is applied as tank mix combination at bloom.

Suggested Evaluation of Promalin on Apples for Experimental Uses Only

1. Evaluate Benomyl and Glyodin as Synergist/adjuvants Red Delicious apples:

Compare tank mix combinations of Promalin containing 1 pint of Promalin plus Benomyl at 2 to 3 oz or Glyodin 30% solution at 1 pint per 100 gallons of dilute spray, respectively with Promalin dilute spray alone. Apply 100 to 200 gallons of spray per acre.

2. Evaluate Benomyl and Glyodin as synergist/adjuvants on Golden or Yellow Delicious apples to prevent russetting:

Compare a tank mix combination containing in the final spray 25 ppm of Gibberellin GA<sub>4+7</sub> plus Benomyl applied at 2 to 3 oz or Glyodin 30% solution 100 or 200 gallons of spray per acre.

3. Evaluate tank mix and prological compatibility of Promalin plus several other pesticides:

Tank mix Promalin in dilute spray at 1 pint per 100 gallons with any one of the following fungicides: Benomyl 50% WP, CAptan 50% WP, Dithane M-45, Polyram 80% WP, Ferbam 76 WP, Dikar, Cyrex 65 WP and/or one of the following insecticides: Imidan and Guthion 50 WP. In all cases apply the fungicide/insecticide at rates equivalent to the application rates recommended for your apple growing area.

4. Evaluate as a thinning agent or thinning adjuvant west of the Rockies:

Compare tank mix combinations of Promalin in dilute spray at 1 pint/100 gallons with one of the following chemical thinning agents (Elgetol, NAA, NA amide or carbaryl). In all cases apply the chemical thinning agents at rates equivalent to the application rates recommended for your apple growing area.

101.0 CHEMICAL & PHYSICAL PROPERTIES

101.1 CHEMICAL NAME

N-(Phenylmethyl)-1H-purin-6-amine  
Gibberellins A<sub>4</sub> A<sub>7</sub>

101.2 COMMON NAME

Promalin

101.2,.1 FORMULATION

Active Ingredients: (1)

N-(Phenylmethyl)-1H-purin-6-amine.....1.8% (w/w)  
Gibberellins A<sub>4</sub>A<sub>7</sub>.....1.8% (w/w)

Inert Ingredients:.....96.4%

103.0 TOXICOLIGICAL PROPERTIES

No data Submitted

104.0 HAZARD ASSESSMENT

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104.1,3

LIKELIHOOD OF EXPOSURE TO NONTARGET ORGANISMS

Considering the small quantity of material and acreage involved the proposed EUP does not present any unreasonable adverse effects to man or the environment.

105.0

CONCLUSIONS

1. Prior to consideration of registration the following basic studies will be required as per Section 3 Regulations:
  - (a) the avian acute oral LD<sub>50</sub> for one species of waterfowl (mallard duck, preferably) or one species of upland game bird (ring-necked pheasant or bobwhite quail),
  - (b) the dietary LC<sub>50</sub> for one species of waterfowl (mallard duck) and one species of upland game bird (bobwhite quail or ring-necked pheasant),
  - (c) the 96 hour acute LC<sub>50</sub>'s for a coldwater species (rainbow trout) and a warmwater species (bluegill sunfish) of fish,
  - (d) the acute 48 hour LC<sub>50</sub> for an aquatic invertebrate (Daphnia sp., preferably). The above basic studies are required for each active ingredient.
  
2. Label precautions will be determined after all basic data requirements are satisfied.

*Ruf* 2/1/77  
R.W. Felthousen  
Environmental Safety  
Effilary & Ecological Effects Branch  
*Jwa*