

5481-427

8-24-2000

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

AUG 24 2000

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

Jon Wood  
Amvac Chemical Company  
4695 MacArthur Court, Suite 1250  
Newport Beach, California 92660

Subject: Fruitone® N  
EPA Registration No. 5481-427  
Your label amendment application dated April 28, 2000

Dear Mr. Wood,

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable provided that you:

1. Make the following changes to the label:
  - a. In the "TO PROMOTE RETURN BLOOM THE FOLLOWING SEASON - APPLES", it is stated that "Repeat application may be required." You must clarify this by either deleting this statement or else by indicating how it can be determined whether a repeat application is needed and making a specific recommendation as to when to make the second application.
  - b. You must reinstate the 48-hour Restricted Entry Interval (REI) in the "AGRICULTURAL USE REQUIREMENTS" section. REI is based on the toxicity categories for the active ingredient, not the toxicity categories of the product. There have not been any changes in the toxicity category(ies) for the active ingredient which would justify a change in the REI for this product.
  - c. Move the sentence "Do not contaminate water, food or feed by storage or disposal from the "STORAGE" section to the line immediately following the title "STORAGE AND DISPOSAL".
  - c. In the last sentence of the "CONTAINER DISPOSAL" section, change the section of the sentence that reads "...puncture and dispose of in a sanitary landfill, or incineration or, if allowed by State and local authorities, burning..." to read exactly as follows: "...puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by State and local authorities, by burning..."

2. Submit one copy of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration may be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

We also remind you that compliance with the requirements of Pesticide Regulation Notice 2000-3 (modernizing of the First Aid statements) is also required for the labeling of this product in the not-too-distant future.

If you have any questions about this letter, please contact John Bazuin at (703)305-7381.

Sincerely yours,



Dan Kenny  
Acting Product Manager (22)  
Fungicide Branch  
Registration Division (7505C)

Attachment: Label stamped "ACCEPTED with COMMENTS"

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# Fruitone® N

**FOR THINNING AND CONTROL OF PRE-HARVEST DROP OF APPLES AND PEARS  
FOR PROMOTING RETURN BLOOM OF APPLES THE FOLLOWING SEASON**

**ACTIVE INGREDIENT:**

1-Naphthaleneacetic Acid, Sodium Salt\* ..... 3.5%

**INERT INGREDIENTS:** ..... 96.5%

Total 100.0%

\*Equivalent to 3.1% of 1-Naphthaleneacetic Acid

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

### FIRST AID

**IF ON SKIN:** Immediately wash skin with plenty of soap and water. Get medical attention if irritation persists.

**IF SWALLOWED:** Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger, or if available by administering syrup of ipecac. If person is unconscious, do not give anything by mouth and do not induce vomiting.

**IF IN EYES:** Flush eyes with plenty of water. Call a physician if irritation persists.

**IF INHALED:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

**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.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if absorbed through the skin or eyes, swallowed or inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, waterproof gloves, and shoes plus socks. 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:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

EPA Reg. No. 5481-427

EPA Est. No. 5481-CA-1

**NET CONTENTS: As Marked On Container**

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## ENVIRONMENTAL HAZARDS

Do not apply directly to water, 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 washwaters. Do not contaminate irrigation ditches or water used for irrigation or domestic purposes. Do not apply when weather conditions favor drift from treated areas. Do not use in a greenhouse.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. 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 regulation. Do not apply this product through any type of irrigation system.

## 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 exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. 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 12 hours.

**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: coveralls, waterproof gloves and shoes plus socks.

## General Information

Fruitone N is an auxin plant hormone for use in fruit production. The response of fruit trees to an application may vary in different years. In reviewing the results, the grower needs to consider varietal differences, climatic factors, dosage, tree vigor, and expected fruit set before choosing the desired rate and timing for application. Application using sufficient water to ensure complete uniform spray coverage with your specific equipment is imperative. Application can be made in the range of 50 to 400 gallons of water per acre. The appropriate spray volume is determined by the type of equipment used, tree size and density of the foliage. Each grower should consider all variables in rate and application timing for each variety and orchard location when establishing the spray program.

Fruitone N thins the fruit of apples and pears during heavy bearing years resulting in increased fruit size and promotes adequate return bloom the following season. Furthermore, an additional non-fruit thinning application may provide return bloom next year on certain apple varieties.

Fruitone N also controls pre-harvest drop of apples and pears leading to a larger harvest and a reduction of losses from windfall and knockdown.

Fruitone N, when diluted with the recommended amount of water, is physically compatible with a wide range of commonly used spray products although the full range of compatibilities under local conditions are not known. In addition, since formulations may be changed and new ones introduced, it is recommended that users premix a small quantity of a desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures. Observe all cautions and limitations on labeling of all products used in any tank mix. It is recommended that you consult your local Extension Pomologist for recommendations on when tank mixing any product you have not previously used with Fruitone N. In addition, always test spray a small area prior to the general use of a tank mix that you have not previously used.

Note: All use of ppm refers to the active ingredient (a.i.) not the formulated product.

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Table 1

Spray Preparation Chart For Dilute Application								
Rate (ppm)	Gallons of Spray per Acre							
	100		150		300		400	
	oz	(lb.)	oz	(lb.)	oz	(lb.)	oz	(lb.)
3	1.2	(0.08)	1.8	(0.11)	3.6	(0.23)	4.8	(0.30)
5	2.1	(0.13)	3.0	(0.19)	6.0	(0.38)	8.0	(0.50)
7.5	3.0	(0.19)	4.5	(0.28)	9.0	(0.56)	12.0	(0.75)
10	4.0	(0.25)	6.0	(0.38)	12.0	(0.75)	16.0	(1.00)
15	6.0	(0.38)	9.0	(0.56)	18.0	(1.12)	24.0	(1.50)
20	8.0	(0.50)	12.0	(0.75)	24.0	(1.50)	32.0	(2.00)

**CHEMICAL THINNING - APPLES**

Because of the wide differences in varieties, climatic factors before and after application, tree vigor, and fruit set and size at time of application, the application rates can range from 3 to 20 ppm (see Tables 1 & 2) and application timing can range from full bloom to 30 days after full bloom. The higher concentrations should be limited to vigorous trees with high fruit set potential. Use the lower concentrations for weaker, less vigorous trees with less food reserves and lower fruit set potential.

**IMPORTANT!** Fruitone N should not be used on early season varieties (those that mature before McIntosh) such as Early Williams Red and Oldenberg as injury may occur. Amid-Thin® W is recommended for these early season varieties. In addition, application of Fruitone N to trees younger than five years of age should be made with caution as damage to the trees may occur.

Pygmy fruit formation may occur with high application rates > 15 ppm, high temperatures > 85°F, and/or late applications when fruit size > 15 mm. This is especially true on the Delicious varieties.

Thinning spray applications are most effective when the king apple fruitlets are 5 to 10 mm in diameter. During cool springs, delay application as necessary until the largest fruits are 7 to 10 mm in diameter and anticipated daytime temperatures are likely to rise above 60°F within the next five days. The preferred application temperature is between 70°F and 75°F. Applications are not recommended below 60°F or above 80°F. Over-thinning may occur at daytime temperature above 85°F. Satisfactory thinning can be obtained under the latter conditions with lower rates.

Early applications of Fruitone N one week after full bloom (petal fall) when fruit size is 3 to 7 mm fruit size and/or 2 to 3 weeks after full bloom (early fruit set) when fruit size is 8 to 10 mm fruit size are the preferred application timing(s). Direct most of the spray to the top two-thirds of the tree canopy.

**Dilute Spray:** Varieties differ in their response to Fruitone N application(s). Use the varieties in Table 2 as a guide to adjust your thinning rates for Fruitone N. **NOTE: THIS IS JUST A GUIDE!** Experience and observations on thinning your own orchard will help to refine the rates and timing for best results.

**Concentrate Spray:** Use Fruitone N at the rate of 0.25 lb (4 oz) to 0.50 lb (8 oz) per acre in sufficient water to ensure good coverage at petal fall to early fruit set. Uniform and even coverage is imperative for good results.

Table 2

Varieties	Thinning Rates <sup>1</sup>	Application Timing
<b>Easy-to-thin:</b> Braeburn, Cortland, Empire, Ginger Gold, Paulared, Idared, Jonathan, Northern Spy, McIntosh, Red Delicious, Winesap and others	5 - 10 ppm	Petal Fall (3-7 mm fruit size) and/or early fruit set (8-10 mm fruit size)
<b>Moderate-to-thin:</b> Jerseymac, Rome, Jonamac, Spartan, Gala, Mutsu and others.	10 - 15 ppm	Use the lower concentrations for weaker trees, cooler weather, less food reserves and lower fruit set potential and slow drying conditions
<b>Difficult-to-thin:</b> Fuji, Golden Delicious, Lodi, Wealthy Spur Delicious, Macoun, York, Rhode Island Greening, York Imperial and others.	15 - 20 ppm	

<sup>1</sup> If Fruitone N is used with a non-ionic surfactant or in a tank mix with another apple thinning product, the application rate of Fruitone N should be reduced to 1/2 to 2/3 of the normal rate. If a surfactant is used, always follow the manufacturer's recommendations but never use more than 1 pint per 100 gallons of spray mix.

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**Tank Mix Combinations:** Tank mix combinations of Fruitone N and Carbaryl (e.g. Sevin® 4F and Sevin® XLR Plus) have successfully thinned several early maturing, heavy-setting varieties as well as hard-to-thin apple varieties. A petal fall application of Fruitone N followed 7 to 10 days later by an application of Fruitone N (5 to 7.5 ppm) + Carbaryl (0.5 lbs ai/100 gals) has improved thinning of hard-to-thin apple varieties. Fruitone N should not be mixed with any product containing a label restriction against such mixing. Always apply in accordance with the limitations and precautions of the most restrictive label.

### TO PROMOTE RETURN BLOOM THE FOLLOWING SEASON - APPLES

Fruitone N may promote return bloom in off years to young trees that are slow to bear or mature trees that produce only a limited number of blossoms in "off years". This application acts as a return bloom enhancer to certain apple varieties such as Fuji, Jonagold, Mutsu, Braeburn and Golden Delicious. Apply a spray concentration of 3 to 5 ppm (see Table 1) five to six weeks after full bloom in sufficient water to ensure good coverage. Repeat application may be required.

### CHEMICAL THINNING - PEARS

#### Barlett, Bosc and Comice

Apply Fruitone N at a spray concentration of between 10 to 15 ppm for dilute spray in up to 400 gallons of water per acre. Use at a rate of 0.75 lb to 1.25 lbs of product per acre for a concentrate spray. Apply Fruitone N once per year 15 to 28 days after full bloom with a surfactant (wetting agent).

During cool seasons, when the bloom period has been prolonged, delay application at least 21 days after full bloom or when fruit is 10 to 15 mm in diameter. Apply in sufficient water to ensure good coverage.

Fruitone N may not adequately thin Bartlett during some seasons. The preferred application temperature is between 70°F and 75°F. Application is not recommended below 60°F or above 80°F.

### CONTROL OF PRE-HARVEST DROP - APPLES

Apply to apples 7 to 14 days prior to harvest. Do not make more than two applications and do not delay harvest beyond optimum maturity. Do not spray within two days of harvest. Fruitone N becomes effective 1 to 3 days after application and controls drop for about two weeks depending upon the weather. For maximum effectiveness, apply when temperature is 70°F or higher. Fully "wet" the entire canopy to assure complete coverage. The following is offered only as a general guide. Variety, climatic conditions and other factors may determine the actual rate required.

**Ground Application - Dilute:** In the Eastern U.S., a single application of 10 to 20 ppm is recommended (see Table 1). In the Pacific Northwest, a single application of 15 to 20 ppm is recommended (see Table 1). Two applications at 10 ppm applied 21 days and 7 days prior to harvest may in some cases delay drop more than a single application of 20 ppm. Repeated applications of Fruitone N at 5 ppm in four weekly intervals before anticipated harvest is recommended in some states for stop-drop of apples. Repeated applications at spray concentrations of 5 to 10 ppm have little influence on the flesh firmness, soluble solids concentration, or starch index either at harvest or after cold storage.

**Ground Application - Concentrate:** Apply at the rate of 1.75 to 3.5 lbs of Fruitone N per acre (25 to 50 grams ai/acre) in sufficient water to ensure good coverage. Under normal conditions, the 3.5 lbs rate is recommended for the Pacific Northwest.

**Aerial Application:** Apply at the rate of 1.75 to 3.5 lbs in at least 5 gallons of water per acre. Aircraft should utilize spray equipment that gives thorough coverage to all portions of trees. Apply only when weather conditions favor minimal spray drift. Use lower rates for normal foliage and fruiting, the higher rates for dense foliage and heavy fruiting.

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:

AUG 24 2000

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.

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## CONTROL OF PRE-HARVEST DROP - PEARS

### Bartlett, Bosc and D'Anjou

Apply to pear trees 5 to 7 days prior to harvest. Do not make more than two applications and do not delay harvest beyond optimum maturity. Fruitone N becomes effective 3 to 4 days after application and controls drop for about two weeks. Do not apply within two days of harvest.

**Ground Application - Dilute:** Apply Fruitone N at a rate of 10 to 15 ppm in sufficient water to ensure good coverage.

**Ground Application - Concentrate:** Apply at the rate of 0.88 to 1.75 lbs per acre in sufficient water to ensure good coverage. Under normal conditions, use the 1.75 lbs rate. If Bartlett and Bosc are interplanted, apply only once per season. For D'Anjou pears Apply at the rate of 1.75 to 3.5 lbs of Fruitone N per acre (25 to 50 grams ai/acre) in sufficient water to ensure good coverage.

**Aerial Application:** Use 0.88 to 1.75 lbs in at least 5 gallons of water per acre. Aircraft should utilize spray equipment that gives thorough coverage to all portions of the trees. Apply only when weather conditions favor minimal spray drift. Use lower rates for normal foliage and fruiting, and higher rates for dense foliage and heavy fruiting. Do not apply within two days of harvest. For D'Anjou pears Apply at the rate of 1.75 to 3.5 lbs of Fruitone N per acre (25 to 50 grams ai/acre) in sufficient water to ensure good coverage.

**STORAGE AND DISPOSAL**

**STORAGE:** Do not store near fertilizers, seeds, insecticides, herbicides, or fungicides. Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE DISPOSAL:** Open dumping is prohibited. Wastes resulting from the use of this product may be used on site or disposed of them at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Do not reuse empty container. 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, burning. If burned, stay out of smoke.

### LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conform to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use, subject to the inherent risks referred to herein, 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' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions.

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AMVAC offers this product, and Buyer accepts it, subject to the foregoing Limited Warranty which may be varied only by agreement in writing signed by an authorized representative of AMVAC.

For the following emergencies, phone 24 hours a day:	
Transportation: CHEMTREC.....	1-800-424-9300
Other: AMVAC .....	1-323-264-3910

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