# Plant growth regulator for use on apples

# **ACTIVE INGREDIENT**

Gibberellins A <sub>4</sub> A <sub>7</sub>	0.95%
OTHER INGREDIENTS	99.05%
TOTAL	100.00%

EPA Reg. No. 62097-54-82917

EPA Est. No. indicated by first letter of batch number on this package (E) 39578-TX-001

(C) 70815-GA-001

Net Contents: 1 gallon (3.78 liters)

# KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you **DO NOT** understand the label, find someone to explain it to you in detail.)

FIRST AID	
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove
	contact lenses, if present, after the first 5 minutes, then continue rinsing.
	<ul> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If on skin or	Take off contaminated clothing.
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.
	<ul> <li>Call a poison control center or doctor for treatment advice.</li> </ul>

Have the product container or label with you when calling a poison control center, doctor, or going for treatment. For information on this pesticide product (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 8:00 AM to 12:00 PM Pacific Standard Time. In the event of a medical emergency, call your poison control center at 1-800-222-1222.

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals

# CAUTION

Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin, 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.

#### **Environmental Hazards**

For terrestrial uses: **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 washwater or rinsate.

#### **Personal Protective Equipment**

Mixers, loaders, applicators, and other handlers must wear the following:

- Long-sleeved shirt and long pants
- Chemical resistant gloves
- Protective eyewear
- Shoes plus socks
- Chemical-resistant apron when mixing or loading this product, or cleaning equipment.
- For overhead exposure, wear chemical-resistant headgear.

Follow the 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 remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### 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 State or Tribal 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 the label about personal protective equipment and restricted-entry intervals. The requirements in this box 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 4 hours.

For early entry into 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, wear:

- Long-sleeved shirt and long pants (or coveralls)
- Waterproof gloves
- Shoes plus socks

#### **GENERAL INFORMATION**

- ARRANGE is a plant growth regulator for use on apples.
- ARRANGE may be applied in the "off" year of biennial bearing apple varieties to reduce the amount of return bloom observed in the following "on" bloom year.
- ARRANGE, if applied at proper rates and timings, can allow the grower to reduce the fluctuations in the amount of bloom observed each year in biennial bearing varieties in order to even out the bloom observed over years.
- Apply ARRANGE using conventional spray application machinery or as otherwise directed in this label.
- DO NOT apply to low vigor trees, or trees under stress from drought, winter injury, etc.
- Apply under calm weather conditions, as a uniform fine mist spray to the tree canopy, to achieve thorough coverage of the entire plant canopy.
- Use a properly calibrated sprayer to ensure uniform and complete coverage of all foliage and developing fruit. Spray volume should be adjusted for tree size and density.
- When applying to bearing trees for reduction of biennial bearing cycles DO NOT apply in more than 200 gallons of water/acre, preferably use 100 gallons of water/acre.
- When applying to nursery trees or young plantings preferable spray volume would be 50-100 gallons water/acre. Spray volume less than 50 gal/acre may give less than desirable results.
- **DO NOT** apply when the air temperature is lower than 40°F or greater than 90°F.
- ARRANGE works best if climatic conditions allow an extended drying period. Consider application in the morning or evening when temperatures are lower and humidity tends to be higher than during the day.
- Rainfall within 6 hours of application may reduce the efficacy of ARRANGE.

#### **RESTRICTIONS**

- DO NOT apply ARRANGE using irrigation equipment.
- **DO NOT** apply more than 200 ppm (256 fl. oz. in 100 gal water per acre) per growing season for bearing apple trees.
- DO NOT apply more than 600 ppm (6 gallons product in 100 gal water per acre) per application to nonbearing (nursery & young plantings) apple trees. No more than 4 applications may be made during the growing season.

#### SPRAYING GUIDE FOR RETURN BLOOM REDUCTION

ARRANGE can be used to mitigate the biennial bearing cycle in apple varieties prone to producing crops in a biennial cycle. When applied to trees in the "off" bearing year, when fruit load is low, ARRANGE can be used to reduce the return bloom of the apple trees in the following "on" bearing year when fruit set/load would normally be heavier.

For best results, apply ARRANGE in 1 to 4 consecutive applications. ARRANGE may be applied in a single application up to a rate of 200 ppm (256 fl. oz./100 gal/acre) or in split applications of 25 to 100 ppm per application as long as the total amount of product applied does not exceed 200 ppm or 256 fl. oz./100 gal/acre per growing season. In younger trees and trees with a limited biennial bearing cycle 100 ppm per season may be sufficient to reduce the biennial bearing pattern. However, in varieties and/or certain orchards with stronger biennial bearing patterns the high rate of 200 ppm may be required to reduce the biennial cycle and reduce the amount of bloom observed in the following "on" bloom year. Make applications to trees in the "off" year of the biennial bearing cycle. Application timings in the year of application can be from Petal Fall through to 15 mm fruitlet size. When applying as split applications, apply at 7 to 14 day intervals depending on the number of applications being made. The application rates and intervals can vary depending on the variety, health of the trees and growing conditions.

- Apply all sprays as a fine mist to ensure maximum coverage and spray retention on foliage and fruitlets. Use a properly calibrated sprayer.
- **DO NOT** apply in more than 200 gallons of water/acre, preferably use 100 gallons of water/acre.

- **DO NOT** add any wetting adjuvant or surfactant unless you are sure of its crop safety. Materials of this type have been shown to cause russeting.
- Apply in conditions conducive to slow drying.
- Always refer to the partner product label when applying ARRANGE in tank mixtures and follow all
  precautions and directions given. The efficacy of ARRANGE may be reduced by compounds causing
  a high pH in the spray tank.
- Application results on bloom the following year can be dependent on the health of the tree and the
  growing conditions both in the year of application and in the following year leading up to bloom.
  Differences may also be seen between varieties depending on the severity of the biennial bloom swing
  from year to year for that variety.
- As it is not possible to have tested all possible combinations of apple varieties, root stocks, growing
  conditions and production systems, the use of ARRANGE in apple trees should be tested on a limited
  number of trees before applying to entire orchards. Failure to do so could result in less than favorable
  results.
- <u>NOTE:</u> Consideration must be given before applications of other products that contain GA<sub>7</sub> or other products that can reduce return bloom the following season. Applying such products in addition to ARRANGE may reduce return bloom levels in the following season to below desirable levels.

### MAINTENANCE APPLICATIONS IN THE YEARS FOLLOWING THE FIRST YEAR APPLICATIONS

Bloom levels should be monitored closely in both the first "on" year and the following "off" year to assess the effects of the initial ARRANGE treatments and assess what application rate may be required to continue to reduce the biennial bearing cycle of that variety.

After the application of ARRANGE in the "off" year of the biennial bearing cycle to reduce the return bloom in the following "on" bloom year, a maintenance application of ARRANGE may be applied in the "on" year to attempt to keep the tree from re-entering the biennial cycle. If the return bloom in the "on" year following the initial applications is below the desired level, then it may be necessary to make a follow-up or maintenance application in that "on" year. If it is deemed that a follow-up application is needed, then make applications of 25-50 ppm (32-64 fl. oz./100 gal/acre) to the trees as a single or split application. If applied in a split application, use a spray interval of 7-14 days. It is not recommended to apply more than 50 ppm (64 fl. oz./100 gal/acre) to the trees in the year following the initial applications. If the bloom level in the "on" year following the initial "off" year application is much higher than desired, then it may not be advisable to apply ARRANGE in that "on" year as bloom levels in the following "off" would be expected to be low and the application of ARRANGE may further reduce the return bloom in the following year.

Depending on the amount of return bloom observed in the "on" year following the initial "off year" applications, it may be necessary to apply ARRANGE at rates up to 200 ppm in the <u>next</u> "off" year part of the cycle. It may be necessary to continue applications in successive "off" years until the biennial bearing trend has been reduced to the desired levels. If the return bloom in the first "on" year after the initial application of ARRANGE was significantly reduced, then a maintenance application of 25-75 ppm (32-96 fl. oz./100 gal/acre) may only be needed in the next off year cycle to maintain the tree in the non-biennial bearing state. This may change with each cycle due to tree health, prior year crop load, orchard fertility program and climatic changes that occur. Closely monitor trees throughout the bloom period of each season to evaluate result of application from previous year on this year's bloom to evaluate what application(s), if any, may be needed to maintain the tree in a reduced biennial bearing state.

• There are many factors that affect the bloom and fruit set on apple trees from year to year; therefore, the use of ARRANGE does not guarantee bloom and fruit set each year will be at desirable levels. Monitor trees each season to evaluate and apply a thinning program to obtain the proper fruit set and fruit load for the trees previously treated with ARRANGE. The use of ARRANGE to reduce/mitigate a biennial bearing pattern does not preclude the use of a proper thinning program to assure proper fruit set and fruit loads in an orchard. Use ARRANGE as one part of a management program to produce the highest quality crop.

- Apply in conditions conducive of slow drying.
- Always refer to the partner product label when applying ARRANGE in tank mixtures and follow all
  precautions and directions given. The efficacy of ARRANGE may be reduced by compounds causing
  a high pH in the spray tank.
- A non-ionic wetting agent can be used to improve coverage and enhance penetration. DO NOT add
  any kind of wetting adjuvant or surfactant unless you are sure of its crop safety. Materials of this type
  have been shown to cause russeting.
- DO NOT exceed the rates or number of applications stated on this label for ARRANGE. Multiple applications and/or rates of ARRANGE in excess of those stated above may reduce return bloom the next season to below desirable levels in certain varieties.

# NURSERY APPLICATION FOR BRANCHING AND BLOOM REDUCTION IN APPLE

In nursery tree plantings it is desirable to reduce the bloom in the following season so that the young trees utilize energy for vegetative growth and not for reproductive growth. It is more important to produce a young tree that is healthier and more vigorous by not letting the young sapling try to produce a crop. In the past this has been done by hand removal of the flowers, which is expensive and time-consuming. Chemical thinners have been tried with some success but were not consistent. Arrange can be applied to young saplings in the nursery to suppress the bloom in sapling trees in the following growing season. The applications of Arrange can also improve tree structure during the year of application going forward into the next season. These applications of Arrange can also be applied to young trees/saplings in the first 1-2 years after planting in the orchard to reduce unwanted bloom and improve tree structure.

For increased branching of nursery stock and young trees, improve tree structure and floral reduction of the year following application. For Nursery trees make 3-4 applications of 400-600ppm (4-6 gallons per 100 gallons of water) on a 28-day interval to trees that have at least 28-30 inches of growth. For young trees (young plantings not yet bearing), begin applications during petal fall timing. Up to 4 applications may be made during the growing season of 400-600ppm (4-6 gallons per 100 gallons of water) on a 28-day interval.

Final spray solution should be between pH 5-7. A buffer or acidifier may be added if necessary to bring final spray solution pH between 5-7.

- A standard spray adjuvant, preferably a non-ionic surfactant, may be used to improve coverage and
  performance consistency. Follow the adjuvant manufacturer's directions for rates to be used. Grower
  should be familiar with the adjuvant chosen to avoid possibility of increasing potential for injury from the
  applications.
- Apply in conditions conducive of slow drying.
- Always refer to the partner product label when applying Arrange in tank mixtures and follow all
  precautions and directions given. The efficacy of Arrange may be reduced by compounds causing a
  high pH in the spray tank.
- Applications can be made to trees in nursery situations and non-bearing trees in orchards.
- Direct applications to the whole tree.
- Complete coverage is essential for maximum effect. Preferrable spray volumes for these applications would be 50-100 gal/Acre. Spray volume less than 50 gal/acre may give less than desirable results.
- If applying sequential years to biennial bearing prone varieties, it may be necessary to follow the biennial bearing use pattern for Arrange in bearing trees in the first year after these non-bearing use pattern applications.

# STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Keep containers tightly closed when not in use. Store below 75°F (24°C).

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

**CONTAINER HANDLING:** Non-refillable container. **DO NOT** reuse or refill this container. 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 a 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. Then offer for recycling or reconditioning, or puncture and dispose of in sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

#### WARRANTY DISCLAIMER AND LIMITATION OF LIABILITY

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