UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

December 18, 2020

Meshea Brodie
Product Registration Manager
BASF Corporation
P.O. Box 13528, 26 Davis Drive
Research Triangle Park, NC 27709

Subject: Registration Review Label Mitigation for Prohexadione
Product Name: Apogee Plant Growth Regulator
EPA Registration Number: 7969-188
Application Dates: 10/2/2019
Decision Numbers: 555879

Dear Ms. Brodie:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Prohexadione Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions about this letter, please contact Darius Stanton by phone at 703-347-0433, or via email at Stanton.Darius@epa.gov.

Sincerely,

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure

BASF

We create chemistry

ACCEPTED

Dec 18, 2020

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 7969-188

Apogee®

Plant Growth Regulator

For use in apple, grass grown for seed, peanut, pear, strawberry, sweet cherry, and watercress

Active Ingredient:

prohexadione calcium: [calcium 3-oxido-5-oxo-4-propionylcyclohex-3-enecarboxylate] 27.5%

Other Ingredients: 72.5%

Total: 100.0%

EPA Reg. No. 7969-188 **EPA Est. No.**

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

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 to 20 minutes. • Remove contact lenses, if present, after first 5 minutes; then continue rinsing. • Call a poison control center or doctor for treatment advice.
If on skin	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information at 1-800-832-HELP (4357).	

See full label for complete **Precautionary Statements**, **Directions For Use**, **Conditions of Sale and Warranty**, and state specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statement

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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.

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 or rinsate.

Endangered Species Concerns

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of federal law.

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.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions, and **Conditions of Sale and Warranty** are to be followed. This labeling must be in the user's possession during application.

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
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

STORAGE AND DISPOSAL

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

Pesticide Storage

Store in a cool, dry place. **DO NOT** remove the product from the container except for immediate use.

Pesticide Disposal

Wastes resulting from this product may be disposed of at an approved waste disposal facility. Excess pesticide, spray mixture or rinsate must be handled and disposed of in accordance with federal, state or local procedures. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

(continued)

STORAGE AND DISPOSAL *(continued)*

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 50 pounds) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 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.

Triple rinse containers too large to shake (capacity > 50 pounds) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times. Turn the container over onto its other end and tip it back and forth several times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

In Case of Emergency

In case of large-scale spillage regarding this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Steps to be taken in case material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Product Information

Apogee® plant growth regulator is a unique production management tool for controlling vegetative growth in the following crops: apple, grass grown for seed, peanut, pear, strawberry, sweet cherry, and watercress.

Mixing Instructions

See also: Crop-specific **Additives and Tank Mixing Information**.

If tank mixes or additives are used, follow the rate restrictions, label recommendations, and precautions on all labels. Always follow the most restrictive label. Refer to the **Additives and Tank Mixing Information** crop-specific sections for additional instructions and precautions.

Physical incompatibility can result from mixing **Apogee** with other pesticides. Test compatibility of all products before adding them to the spray tank (see **Compatibility (Jar) Test**).

Compatibility (Jar) Test

- Before mixing a new combination of products or additives in the spray tank, perform a compatibility test. Begin with a quart-sized jar. Add products in the same order as the **Mixing Order** section. Start with 3.5 cups of water from the intended source at the source temperature. For each dry product, add 2 tsp per pound of product per acre. For each liquid product, add 1 tsp per pint of product per acre.
- Cap the jar and invert 10 cycles between component additions.
- When the components have all been added to the jar, let the solution stand for 15 minutes.
- Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, fine particles that precipitate to the bottom or thick (clabbered) texture. **DO NOT** use any spray solution that could clog spray nozzles.

Mixing Order

Maintain agitation throughout mixing.

1. **Water** - Fill tank 1/2 to 3/4 full with clean water and start agitation.
2. **Products in PVA bags** - Place any product contained in water-soluble PVA bags into the mixing tank. Wait until bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
3. **Water-soluble additives** - including dry and liquid fertilizer, such as ammonium sulfate or urea ammonium.
4. **Water dispersible products** - including dry flowables such as **Apogee**, dry wettable granules, suspension concentrates, or suspo-emulsions.
5. **Water soluble products**
6. **Emulsifiable concentrates** - including oil concentrates or methylated seed oil.
7. **Remaining quantity of water**

Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS. IMPORTANCE OF DROPLET SIZE.

Importance of Droplet Size

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size - Ground Bloom

- **Volume** - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- **Pressure** - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- **Spray Nozzle** - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size - Aircraft

- **Adjust Nozzles** - Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

Release Height - Aircraft

Higher release heights increase the potential for spray drift.

Shielded Sprayers

Shielding the individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

Orchard Airblast Applications

Sprays should be directed into the canopy. User should turn off outward pointing nozzles at row ends and when spraying outer row.

Temperature and Humidity

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

Temperature Inversions

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

Wind

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Cleaning Spray Equipment

Spray equipment must be cleaned thoroughly before and after applying this product using a strong detergent or commercial sprayer cleaner, particularly if a product with potential to injure crops was used prior to **Apogee® plant growth regulator**.

Apple

Apogee reduces vegetative growth in apple orchards allowing a balance between canopy development and fruit production. **Apogee** provides many beneficial effects in apples including: reduced need for summer and dormant pruning, improved light penetration into the tree canopy, improved color of red varieties because of better light penetration into the canopy, and reduced incidence and severity of fire blight of shoots (shoot blight). **Apogee** has been associated with an increase in fruit cracking on apple varieties known to be prone to cracking (such as Empire and Stayman).

Mode of Action

Apogee acts within apple trees to inhibit the biosynthesis of gibberellin, which is the natural plant hormone that regulates cell elongation. Inhibition of gibberellins results in reduced shoot growth. Vegetative growth suppression with **Apogee** typically lasts for 2 to 5 weeks per application during the current growing season. **Apogee** does not affect vegetative growth the following year.

Gibberellic Acids

When gibberellic acid sprays, such as **ProVide® Plant Growth Regulator**, are applied in the same season as **Apogee** to reduce cracking or reduce russetting, a loss in efficacy can occur in the **Apogee** and/or the gibberellin spray.

Thinning

Apogee application can cause a tree to retain more fruit (refer to **Table 2** for instructions to reduce June drop). As a result, thinning programs may need adjustment.

Fire Blight of Shoots (Shoot Blight)

Fire blight management is not registered for use in California on apple.

Controlling vegetative growth with **Apogee** as instructed in **Table 3** will reduce the incidence and severity of fire blight infection *(Erwinia amylovora)* of shoots and leaves. **Apogee** does not have direct antibiotic activity against the fire blight bacteria *(Erwinia amylovora)*, but **Apogee** can decrease host susceptibility. **Apogee** applications are not effective for suppression of blossom blight. For maximum

reduction in fire blight susceptibility, apply **Apogee® plant growth regulator** at least 10 days before the occurrence of weather conditions favorable for shoot and leaf infections. **Apogee** reduces the susceptibility of apple shoot tips to fire blight. Apply **Apogee** as one component of a comprehensive IPM strategy for control of fire blight. This decrease in susceptibility will not become effective until about 10 days after application.

Tree Row Volume (TRV)

Using **Apogee** as part of a management program significantly reduces the tree row volume. Spray guides typically recommend using the tree row volume to determine the correct pesticide application rates. Growers are advised to contact their local cooperative extension service or consultant for additional information regarding tree row volume.

Application Instructions

Apply **Apogee** to actively growing trees with ground equipment at rates and stages listed in **Tables 1-4**. **Apogee** has been associated with an increase in fruit cracking on apple varieties known to be prone to cracking (such as Empire and Stayman).

Spray Coverage

Because **Apogee** is absorbed by the leaves, thorough spray coverage of the tree foliage is necessary for adequate uptake. Direct the spray to the portion of the tree where growth control is desired. To achieve thorough coverage, use sufficient water, proper spray pressure, nozzles, nozzle spacing, spray volume per acre, and tractor speed. Consult the spray nozzle and accessory guide for information pertaining to proper equipment calibration.

Timing

For vegetative growth control, make the first **Apogee** application in the spring when trees have 1 to 3 inches of new shoot growth. **Correct timing of application is critical to success.** An early first application (i.e., 1 to 2 inches of shoot growth) is more effective than a later application (i.e., 6 to 8 inches of shoot growth). If additional vegetative growth control is needed, make a sequential application before or immediately after the shoots show signs of regrowth, typically 1 to 4 weeks after the first application. Repeat applications as needed. Refer to **Tables 1-3** for application rates and timings.

Number of Applications

The number of applications will vary depending on the timing of the first application, tree vigor, fruit load, pruning, variety, rootstock and/or the management history of the orchard. For apple orchards in locations with long growing seasons or higher vigor trees or trees with light fruit load, 3 to 5 applications per season can be more effective. The **Apogee** treatment schedule is flexible and can be applied in a number of different schedules depending on the objectives of the individual grower (see **Tables 1-4**). Consult with an extension specialist or consultant for your specific area.

Tree Vigor

Adjust the **Apogee** rate according to the vegetative vigor of the trees (see **Tables 1-4**). Vegetative vigor can be influenced by many factors, including fruit load, pruning, variety, rootstock, and location. A grower's experience is the best guide in predicting tree vigor. Some trees exhibit excessive shoot growth (high vigor) every year due to a combination of variety, rootstock, and location. However, trees that normally exhibit typical shoot growth can exhibit excessive growth in some years due to crop loss or severe winter pruning.

Tree Size

Calculate the **Apogee** rate per acre based on tree size. Base the application rate on the volume of water needed to spray the trees to drip (i.e., dilute spray or tree row volume).

Special Directions For Use for Vegetative Growth Control of Apples Grown in Idaho, Oregon, and Washington

Apply **Apogee** to actively growing trees according to the tree size, rates and application timings listed in **Table 4**. Take into consideration the size and vigor of the apple tree when determining the spray volume and application frequency, timing and rate required to achieve vegetative growth control. Spray volumes are based on the amount of solution required to thoroughly wet the tree foliage to the point of runoff. Consult your local extension agent or consultant for a recommendation on spray volume.

Application Rate

The **Apogee** application rate is based on the vegetative vigor and the size of the tree.

1. Assess if trees have low, medium, or high vigor to determine the **Apogee** rate (see **Tables 1-3**).
2. Determine the size of the tree in terms of the amount of water needed for a dilute spray (spray to drip or according to tree row volume).
3. Multiply the **Apogee** rate per 100 gallons of dilute spray by the size of the tree in gallons per acre. The result is the number of ounces needed per acre for those trees. Once the application rate is determined in ounces per acre, it can be concentrated into the actual spray volume.

$$\frac{\text{ounces of } \textbf{Apogee}}{\text{100 gallons of water}} \times \frac{\text{TRV in gallons}}{\text{acre}} = \frac{\text{ounces}}{\text{acre}}$$

Example calculation. For a block of apple trees that typically produces 25 to 32 inches of shoot growth per year (vigorous growth), the suitable rate would be 2 applications of 6 ounces of **Apogee** per 100 gallons of dilute spray according to **Table 1**. The trees are large and require 300 gallons of water per acre to spray dilute (i.e., spray to drip or to tree row volume).

$$\frac{\text{6 ounces of } \textbf{Apogee}}{\text{100 gallons of water}} \times \frac{\text{300 gallons (TRV)}}{\text{acre}} = \frac{\text{18 ounces}}{\text{acre}}$$

Apply the **Apogee® plant growth regulator** rate in dilute or concentrated sprays as long as thorough spray coverage is achieved.

Dilute spray volumes are based on the amount of solution required to thoroughly wet the tree foliage to the point of runoff. Consult your local extension agent or consultant for instructions to calculate the dilute coverage based on the tree row volume.

Aerial Application

Aerial application is not registered for use in California.

Apply **Apogee** in a minimum of 10 gallons of spray solution per broadcast acre. Aerial applications generally only provide spray coverage in the top part of the canopy and vegetative growth control will be limited to those areas that receive spray coverage.

Additives and Tank Mixing Information

Adjuvant

Use a standard tree fruit spray adjuvant, preferably a non-ionic surfactant, to improve leaf coverage and performance consistency. Follow the manufacturer's rate instructions.

Nitrogen Source (if needed)

If the water source used for spray applications contains high levels of calcium carbonate (hard water), add one pound of ammonium sulfate (AMS) for every pound of **Apogee**. Use high quality spray grade AMS to avoid plugging nozzles.

Previous experience has shown that **Apogee** use by itself does not result in phytotoxicity and that **Apogee** is compatible with many fungicides and insecticides used in apple orchards. However, all varieties and cultivars have not been tested with possible tank mix combinations. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Therefore, before using any tank mix, test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of applications.

Tank mixes with calcium or boron sprays can result in less growth control from **Apogee**.

Restrictions and Limitations

- **Maximum Annual Use Rate** - **DO NOT** apply more than 99 ozs/A (6.2 lbs) of **Apogee** per year.
- **DO NOT** apply more than 48 ozs/A (3 lbs) of **Apogee** within any 21-day interval.
- **Preharvest Interval (PHI)** - **DO NOT** apply within 45 days before harvest.
- **Restricted Entry Interval (REI)** - 12 hours
- **Rainfast Period** - **Apogee** is rainfast 8 hours after application.
- **DO NOT** apply to crops that show injury (leaf phytotoxicity) produced by prior pesticide applications, because this injury can be enhanced or prolonged. Refer to the **Additives and Tank Mixing Information** section for additional tank mixing instructions and precautions.
- **DO NOT** apply this product through any type of irrigation system.

Table 1. Application Rates for Vegetative Growth Control in Apples

Application Timing	Apogee® plant growth regulator Rate per 100 gallons of Dilute Spray* (ozs)	Apogee Rate per acre** (ozs)	Restrictions
Medium to high vigor trees • Apply at 1 to 3 inches of new shoot growth. • For best results, make subsequent applications at 1 to 4 week intervals and before or immediately after the shoots show signs of regrowth.	6 to 12	18 to 36	**DO NOT** apply more than 48 ozs/A (3 lbs) of **Apogee** within any 21-day interval. **DO NOT** apply more than 99 ozs/A (6.2 lbs) of **Apogee** per year.
Low vigor trees • Apply at 1 to 3 inches of new shoot growth. • For best results, make subsequent applications at 1 to 4 week intervals and before or immediately after the shoots show signs of regrowth.	3 to 8	9 to 24	
Long growing season • Apply at 1 to 3 inches of new shoot growth. • Make second and third applications at 7 to 14 day intervals. • Make subsequent applications as needed at 10 to 14 day intervals.	3 to 8	9 to 24	

* Refer to the **Application Instructions** section for rate calculations.
** Based on 300 gallons of dilute spray per acre.

Table 2. Application Rates for Special Cases in Apples

Application Timing	Apogee Rate per 100 gallons of Dilute Spray* (ozs)	Apogee Rate per acre** (ozs)
To decrease June drop on trees with light bloom • Apply at 1 to 3 inches of new shoot growth.	10 to 12	30 to 36
To shape the canopy • Direct the spray to the portion of the tree where growth control is desired. • Apply at 1 to 3 inches of new shoot growth.	6 to 12	Not applicable

* Refer to the **Application Instructions** section for rate calculations.
** Based on 300 gallons of dilute spray per acre.

Table 3. Application Rates for Fire Blight Infections of Shoots (Shoot Blight) for Susceptible Apple Varieties

Fire blight management is not registered for use in California on apple.

Application Timing	Apogee® plant growth regulator Rate per 100 gallons of Dilute Spray* (ozs)	Apogee Rate per acre** (ozs)	Restrictions
To reduce fire blight infections of shoot by decreasing vegetative growth • Apply at 1 to 3 inches of new shoot growth. • Make a second application if new shoot growth occurs.	6 to 12	18 to 36	**DO NOT** apply more than 48 ozs/A (3 lbs) of **Apogee** within any 21-day interval. **DO NOT** apply more than 99 ozs/A (6.2 lbs) of **Apogee** per year.

* Refer to the **Application Instructions** section for rate calculations.
** Based on 300 gallons of dilute spray per acre.

Table 4. Application Rates for Vegetative Growth Control of Apples in Idaho, Oregon, and Washington

Apple Tree Size	Apogee Rate* (ozs/A)	Application Timing	Restrictions
Small trees • 8 to 10 feet tall on dwarf rootstocks	6 to 12	Apply at 1 to 3 inches of new terminal shoot growth. For best results, make subsequent applications at 1 to 4 week intervals and when shoots show signs of regrowth. Monitor apple trees clearly for vigor. High vigor trees may require more frequent applications through the growing season.	**DO NOT** apply more than 48 ozs/A (3 lbs) of **Apogee** within any 21-day interval. **DO NOT** apply more than 99 ozs/A (6.2 lbs) of **Apogee** per year.
Medium trees • 10 to 14 feet tall on semi-dwarf rootstocks	6 to 18		
Large trees • Trees taller than 14 feet on standard non-dwarf rootstocks	18 to 24		

* Spray volumes must be a minimum of 100 gallons per acre and increase as necessary to achieve thorough canopy coverage.

Grass Grown for Seed

Not registered for use on grass grown for seed in California.

Apogee® plant growth regulator is a production management tool for producers of grass grown for seed including perennial ryegrass, Kentucky bluegrass, fine, and tall fescue. **Apogee** reduces vegetative growth (shorter internode length), which reduces the potential for lodging. Reduced lodging can lead to improved pollination, increased seed set, and improved harvest efficiency. **Apogee** does not affect vegetative growth the following year.

Mode of Action

Apogee acts within the grass plant to inhibit the biosynthesis of gibberellin resulting in a decrease in cell elongation and a reduction in vegetative growth. The performance of **Apogee** can be affected by many factors including: crop growth stage, environmental conditions, plant vigor, moisture availability, fertility level, and cultural practices that affect crop vigor.

Application Instructions

Apply **Apogee** to actively growing grass plants according to application rates and timing instructions in **Table 5**.

Spray Coverage

Apogee is a systemic growth regulator and must be absorbed into the leaves to be effective. Use enough volume of spray to thoroughly wet the leaves without runoff. **Apogee** is rainfast within 1 hour of application. **Apogee** growth regulator effects **DO NOT** occur by soil uptake.

Suppression of Annual Bluegrass in Idaho, Oregon, Utah, and Washington

In the flowering stage, thoroughly spray annual bluegrass with **Apogee**. Less suppression will result if the annual bluegrass has not reached the flowering stage when sprayed. Some annual bluegrass biotypes may not be affected by the use of **Apogee**. Perennial biotypes of annual bluegrass are not affected by the use of **Apogee**.

Vegetative Growth Suppression in Kentucky Bluegrass

Make a single application per season of 14 to 29 ozs/A of **Apogee** from flag leaf emergence up to early heading stage of growth (see **Table 5**).

Aerial and Broadcast Ground Application

Water Volume. Use a minimum of 10 gallons of spray solution per broadcast acre.

Additives

Adjuvant

For consistent performance on grass grown for seed, add a commercial spray adjuvant, preferably a non-ionic surfactant.

Nitrogen Source

A nitrogen source, such as one quart per acre of 32% urea ammonium nitrate (UAN) or one pound per acre of ammonium sulfate (AMS), can also improve performance. Use high quality spray grade AMS to avoid plugging nozzles.

Restrictions and Limitations

- **DO NOT** apply more than 29 ozs/A (0.5 lbs ai per acre) of **Apogee** per year.
- **DO NOT** apply within 35 days before harvest.
- **DO NOT** graze livestock for 49 days following application.
- **DO NOT** cut forage or hay for livestock feed for 49 days following application.
- **Rainfast Period** - **Apogee** is rainfast within 1 hour of application.
- **DO NOT** apply this product through any type of irrigation system.
- **Plantback/Rotation Restriction** - If replanting or crop rotation is necessary in treated fields, **DO NOT** plant any crop other than grass grown for seed for 30 days following the last **Apogee** application.

Table 5. Application Rates for Vegetative Growth Control in Grass Grown for Seed

Application Timing	Apogee Rate (ozs/A)
Single application • Apply from flag leaf emergence up to early heading growth stage.	14 to 29
Split applications • Apply from flag leaf emergence up to early heading stage of growth. • Make a second application 7 to 10 days later when new growth occurs.	7 to 14

Peanut

Not registered for use on peanut in California.

For use only in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Texas, and Virginia.

Apogee® plant growth regulator controls the vegetative growth of peanuts.

Mode of Action

Apogee acts within a peanut plant to inhibit the biosynthesis of gibberellin. The result is a decrease in cell elongation and a reduction in vegetative growth. Under normal use patterns, **Apogee** will not affect the number of leaves, but will decrease the distance between leaves (internode length).

Application Instructions

Apply **Apogee** to actively growing peanut plants according to the rates instructed in **Table 6**. Make the first application of 7.25 ozs/A of **Apogee** when 50% of the stems are touching in the row middle (row closure). Make a second application at 100% row closure, as needed. Under conditions that promote extremely rank growth and prior to loss of visual peanut row pattern in the field, apply an optional third application to peanut plants. **DO NOT** make more than 2 applications of **Apogee** in less than 6 weeks. Plants that are under stress due to lack of moisture, disease pressure, or other stress conditions will show little response to **Apogee** application.

Spray Coverage

Because **Apogee** is absorbed by the peanut leaves, thorough spray coverage of the foliage is necessary for adequate uptake.

Broadcast Ground Application

Water Volume. Use a minimum of 20 gallons of spray solution per broadcast acre for optimal performance.

Additives and Tank Mixing Information

Apogee uptake into the peanut plant requires the presence of a nonphytotoxic nitrogen source in the spray solution. Failure to add a nitrogen source to the spray solution will result in unsatisfactory product performance.

Nitrogen Source

- **Urea Ammonium Nitrate (UAN)** - Use one pint of UAN (commonly referred to as 28%, 30%, or 32% nitrogen solution) per acre.
- **Ammonium Sulfate (AMS)** - One pound of AMS per acre can be substituted for one pint of UAN per acre. Use high quality spray grade AMS to avoid plugging nozzles. Other sources of nitrogen are not as effective as those mentioned.

Oil Concentrate

Add one quart of a nonphytotoxic oil concentrate (referred to as crop oil concentrate or COC) per acre to the spray solution to promote consistent performance. Use COC when **Apogee** is applied without a tank mix partner. If **Apogee** is to be tank mixed with a fungicide, the adjuvant recommended on the fungicide label can be used instead of the COC.

Additive	Ground Application
Nitrogen Source	1 pint UAN
Oil Concentrate	1 quart

Apogee is compatible with many fungicides and insecticides commonly used in peanuts. To ensure mixing compatibility, perform a compatibility test (refer to the **Mixing Instructions** section).

DO NOT tank mix **Apogee** with any application of calcium, including gypsum.

Restrictions and Limitations

- **Maximum Annual Use Rate** - **DO NOT** apply more than 21.75 ozs/A (1.36 lbs) of **Apogee** per year.
- **DO NOT** make more than 2 **Apogee** applications in less than 6 weeks.
- **Preharvest Interval (PHI)** - **DO NOT** apply within 25 days before harvest.
- **Restricted Entry Interval (REI)** - 12 hours
- **DO NOT** graze or feed treated crops.
- **DO NOT** apply **Apogee** by air to peanut.
- **Rainfast Period** - **Apogee** is rainfast 8 hours after application.
- **Stress** - **DO NOT** apply to crops under stress due to lack of moisture, hail damage, flooding, herbicide injury, or mechanical injury, as reduced activity can result.
- **DO NOT** apply to crops that show injury (leaf phytotoxicity or plant stunting) produced by prior product applications, because this injury can be enhanced or prolonged. Refer to the **Additives and Tank Mixing Information** section for additional tank mixing instructions and precautions.
- **DO NOT** apply through any type of irrigation equipment.
- **Plantback/Rotation Restriction** - If replanting or crop rotation is necessary in treated fields, **DO NOT** plant any crop other than peanuts for 30 days following the last **Apogee** application.

Table 6. Application Rates for Vegetative Growth Control on Peanuts

Application Timing	Apogee® plant growth regulator Rate (ozs/A)	Additive Rate per Acre
First application • Apply to peanuts when 50% of stems are touching in row middle (row closure).	7.25	1 pint UAN
Second application • Make a second application at 100% row closure, as needed.	3.6 to 7.25	

Pear

Apogee reduces vegetative growth in pear orchards allowing a balance between canopy development and fruit production. **Apogee** provides many beneficial effects in pears including: reduced need for summer and dormant pruning, improved light penetration into the tree canopy, and reduced incidence and severity of fire blight of shoots (shoot blight).

Mode of Action

Apogee acts within pear trees to inhibit the biosynthesis of gibberellin, which is the natural plant hormone that regulates cell elongation. Inhibition of gibberellins results in reduced shoot growth. Vegetative growth suppression with **Apogee** typically lasts for 2 to 5 weeks per application during the current growing season. **Apogee** does not affect vegetative growth the following year.

Gibberellic Acids

When gibberellic acid sprays, such as **ProVide® Plant Growth Regulator**, are applied in the same season as **Apogee** to reduce cracking or reduce russetting, a loss in efficacy can occur in the **Apogee** and/or the gibberellin spray.

Thinning

Apogee application can cause a tree to retain more fruit. As a result, thinning programs may need adjustment.

Vegetative Growth and Fire Blight Management

Fire blight management is not registered for use in California on pear.

Controlling vegetative growth with **Apogee** can reduce fire blight infections of pears in two ways. First, applications of **Apogee** have been shown to reduce latent bloom. Pear trees are the most susceptible to fire blight invasion during bloom. Reducing the length of the bloom period can help manage fire blight. Second, trees treated with **Apogee** can be less susceptible to infection of shoots (refer to **Table 7** for application rates). For maximum reduction in fire blight susceptibility, apply **Apogee** at least 10 days before weather conditions favorable for shoot and leaf infections occur. Use **Apogee** as part of a total IPM strategy to control fire blight.

Effect on Fruit Set and Fruit Size

Applying **Apogee** may allow the tree to retain more fruit than untreated trees. Increasing the fruit load per tree will reduce the average fruit size. Evaluate this effect in determining whether to use **Apogee**. When using **Apogee**, growers should carefully regulate the fruit load per tree.

Tree Row Volume (TRV)

Using **Apogee** as part of a management program significantly reduces the tree row volume. Spray guides typically recommend using the tree row volume to determine the correct pesticide application rates. Growers are advised to contact their local cooperative extension service or consultant for additional information regarding tree row volume.

Application Instructions

Apply **Apogee** to actively growing trees with ground equipment at rates and timing listed in **Table 7**.

Spray Coverage

Because **Apogee** is absorbed by the leaves, thorough spray coverage of the tree foliage is necessary for adequate uptake. Direct the spray to the portion of the tree where growth control is desired. To achieve thorough coverage, use sufficient water, proper spray pressure, nozzles, nozzle spacing, spray volume per acre, and tractor speed. Consult the spray nozzle and accessory guide for information pertaining to proper equipment calibration.

Timing

For vegetative growth control, make the first **Apogee** application in the spring when trees have 1 to 3 inches of new shoot growth. **Correct timing of application is critical to success.** An early first application (i.e., 1 to 2 inches of shoot growth) is more effective than a later application (i.e., 6 to 8 inches of shoot growth). If additional vegetative growth control is needed, make a sequential application before or immediately after the shoots show signs of regrowth, typically 1 to 4 weeks after the first application. Repeat applications as needed. Refer to **Table 7** for application rates and timing.

Number of Applications

The number of applications will vary depending on the timing of the first application, tree vigor, fruit load, pruning, variety, rootstock and/or the management history of the orchard. For pear orchards in locations with long growing seasons or higher vigor trees or trees with light fruit load, 3 to 5 applications per season can be more effective. The **Apogee** treatment schedule is flexible and can be applied in a number of different schedules depending on the objectives of the individual grower (see **Table 7**). Consult with an extension specialist or consultant for your specific area.

Tree Vigor

Adjust the **Apogee® plant growth regulator** rate according to the vegetative vigor of the trees (see **Table 7**). Vegetative vigor can be influenced by many factors, including fruit load, pruning, variety, rootstock, and location. A grower's experience is the best guide in predicting tree vigor. Some trees exhibit excessive shoot growth (high vigor) every year due to a combination of variety, rootstock, and location. However, trees that normally exhibit typical shoot growth can exhibit excessive growth in some years due to crop loss or severe winter pruning.

Tree Size

Calculate the **Apogee** rate per acre based on tree size. Base the application rate on the volume of water needed to spray the trees to drip (i.e., dilute spray or tree row volume).

Application Rate

The **Apogee** application rate is based on the vegetative vigor and the size of the tree.

1. Assess if trees have low, medium, or high vigor to determine the **Apogee** rate.
2. Determine the size of the tree in terms of the amount of water needed for a dilute spray (spray to drip or according to tree row volume).
3. Multiply the **Apogee** rate per 100 gallons of dilute spray by the size of the tree in gallons per acre. The result is the number of ounces needed per acre for those trees. Once the application rate is determined in ounces per acre, it can be concentrated into the actual spray volume.

$$\frac{\text{ounces of } \textbf{Apogee}}{\text{100 gallons of water}} \times \frac{\text{TRV in gallons}}{\text{acre}} = \frac{\text{ounces}}{\text{acre}}$$

Example calculation. For a block of pear trees that typically produces 25 to 32 inches of shoot growth per year (vigorous growth), the suitable rate would be 2 applications of 6 ounces of **Apogee** per 100 gallons of dilute spray according to **Table 7**. The trees are large and require 300 gallons of water per acre to spray dilute (i.e., spray to drip or to tree row volume).

$$\frac{\text{6 ounces of } \textbf{Apogee}}{\text{100 gallons of water}} \times \frac{\text{300 gallons (TRV)}}{\text{acre}} = \frac{\text{18 ounces}}{\text{acre}}$$

Apply the **Apogee** rate in dilute or concentrated sprays as long as thorough spray coverage is achieved.

Dilute spray volumes are based on the amount of solution required to thoroughly wet the tree foliage to the point of runoff. Consult your local extension agent or consultant for instructions to calculate dilute coverage based on tree row volume.

Aerial Application

Aerial application is not registered for use in California.

Apply **Apogee** in a minimum of 10 gallons of spray solution per broadcast acre. Aerial applications generally only provide spray coverage in the top part of the canopy and vegetative growth control will be limited to those areas that receive spray coverage.

Additives and Tank Mixing Information

Adjuvant

Use a standard tree fruit spray adjuvant, preferably a non-ionic surfactant, to improve leaf coverage and performance consistency. Follow the manufacturer's rate instructions.

Nitrogen Source (if needed)

If the water source used for spray applications contains high levels of calcium carbonate (hard water), add one pound of ammonium sulfate (AMS) for every pound of **Apogee**. Use high quality spray grade AMS to avoid plugging nozzles.

Previous experience has shown that **Apogee** use by itself does not result in phytotoxicity and that **Apogee** is compatible with many fungicides and insecticides used in pear orchards. However, all varieties and cultivars have not been tested with possible tank mix combinations. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Therefore, before using any tank mix, test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of applications.

Tank mixes with calcium or boron sprays can result in less growth control from **Apogee**.

Restrictions and Limitations

- **Maximum Annual Use Rate** - **DO NOT** apply more than 99 ozs/A (6.2 lbs) of **Apogee** per year.
- **DO NOT** apply more than 48 ozs/A (3 lbs) of **Apogee** within any 21-day interval.
- **Preharvest Interval (PHI)** - **DO NOT** apply within 45 days before harvest.
- **Restricted Entry Interval (REI)** - 12 hours
- **Rainfast Period** - **Apogee** is rainfast 8 hours after application.
- **DO NOT** apply to crops that show injury (leaf phytotoxicity) produced by prior pesticide applications, because this injury can be enhanced or prolonged. Refer to the **Additives and Tank Mixing Information** section for additional tank mixing instructions and precautions.
- **DO NOT** apply this product through any type of irrigation system.

Table 7. Application Rates for Vegetative Growth Control and Fire Blight Infections of Shoots (Shoot Blight) in Pears

Application Timing	Apogee® plant growth regulator Rate per 100 gallons of Dilute Spray* (ozs)	Apogee Rate per acre** (ozs)	Restrictions
Multiple applications • Apply at 1 to 3 inches of new shoot growth. • Make a second application at 10 to 17 day intervals. • Make subsequent applications as needed at 14 to 21 day intervals.	6	18	**DO NOT** apply more than 48 ozs/A (3 lbs) of **Apogee** within any 21-day interval. **DO NOT** apply more than 99 ozs/A (6.2 lbs) of **Apogee** per year.
Vegetative growth control and reduced latent bloom (fire blight management) • Apply at 1 to 3 inches of new shoot growth. • Make a second application after 21 days.	10 to 12	30 to 36	
* Refer to the **Application Instructions** section for rate calculations. ** Based on 300 gallons of dilute spray per acre.			

Strawberry

Not registered for use on strawberry in California.

Apogee® plant growth regulator controls the vegetative growth of strawberries.

Mode of Action

Apogee acts within the strawberry plant to inhibit the biosynthesis of gibberellin, which is the natural plant hormone that regulates cell elongation. Inhibition of gibberellin reduces shoot growth. Vegetative growth suppression with **Apogee** typically lasts for 2 to 5 weeks per application during the current growing season. **Apogee** does not affect vegetative growth the following year.

Application Instructions

Apply **Apogee** to strawberry plants after establishment in the fall when 80 to 100% of the strawberry plants have 5 fully expanded leaves and before plants show the first sign of runner formation. Make subsequent applications at 14 to 21 day intervals, up to a maximum of 3 applications. Apply **Apogee** at a rate of 2.0 ozs/A using ground equipment only.

Spray Coverage

Because **Apogee** is absorbed by the leaves, thorough spray coverage of the strawberry foliage is necessary for adequate uptake. Direct the spray to the portion of the strawberry plant where growth control is desired. To achieve thorough coverage, use sufficient water, proper spray pressure, nozzles, nozzle spacing, spray volume per acre, and tractor speed.

Broadcast Ground Application

Water Volume. Use a minimum of 10 gallons of spray solution per broadcast acre. The maximum spray volume per application is 30 gallons per broadcast acre.

DO NOT apply with airblast equipment or by airplane.

Additives and Tank Mixing Information

Adjuvant

Use a standard spray adjuvant, preferably a non-ionic surfactant, to improve leaf coverage and performance consistency. Follow the manufacturer's rate instructions.

Nitrogen Source (if needed)

If the water source used for spray applications contains high levels of calcium carbonate (hard water), add one pound of ammonium sulfate (AMS) for every pound of **Apogee**. Use high quality spray grade AMS to avoid plugging nozzles.

DO NOT apply **Apogee** to strawberries as a tank mix with any other pesticide products not listed in this section. **DO NOT** tank mix with fungicides, insecticides, herbicides or other plant growth regulators, adjuvants (other than those listed), liquid fertilizers, nutrients, or any other additives not listed on this label. Previous experience has shown that **Apogee** use by itself does not result in phytotoxicity. However, all varieties and cultivars have not been tested with possible tank mix combinations.

Restrictions and Limitations

- **Maximum Annual Use Rate** - **DO NOT** apply more than 6 ozs/A of **Apogee** per year.
- **Preharvest Interval (PHI)** - **DO NOT** apply within 21 days before harvest.
- **Restricted Entry Interval (REI)** - 12 hours
- **Rainfast Period** - **Apogee** is rainfast 8 hours after application.
- **DO NOT** apply to strawberries that show injury (leaf phytotoxicity) produced by any other prior pesticide applications because this injury can be enhanced or prolonged. Refer to the **Additives and Tank Mixing Information** section for additional tank mixing instructions and precautions.
- **DO NOT** tank mix or apply **Apogee** with calcium or boron sprays because research has shown the added calcium will reduce the product's effectiveness.
- **DO NOT** use in greenhouses.
- **DO NOT** apply this product through any type of irrigation system.

Sweet Cherry

Apogee reduces vegetative growth in sweet cherry orchards and can reduce or delay the need for tree pruning.

Mode of Action

Apogee acts within sweet cherry trees to inhibit the biosynthesis of gibberellins, which is the natural plant hormone that regulates cell elongation. Inhibition of gibberellins results in reduced shoot growth.

Vegetative Control Use Rates and Tree Vigor

Adjust the **Apogee** rate according to the vegetative vigor of the trees (refer to **Table 8**). Vegetative vigor can be influenced by many factors, including fruit load, pruning, variety, rootstock, and location. A grower's experience is the best guide in predicting tree vigor. Some trees exhibit excessive shoot growth (high vigor) every year due to a combination of variety, rootstock, and location. Trees that normally exhibit typical shoot growth can exhibit excessive growth in some years due to crop loss or severe winter pruning.

Application Instructions

Apply **Apogee** to actively growing trees with ground equipment at rates and stages listed in **Table 8**.

Spray Coverage

Because **Apogee® plant growth regulator** is absorbed by the leaves, thorough spray coverage of the tree foliage is necessary for adequate uptake. Direct the spray to the portion of the tree where growth control is desired. To achieve thorough coverage, use sufficient water, proper spray pressure, nozzles, nozzle spacing, spray volume per acre, and tractor speed.

Timing

For vegetative growth control, make the first **Apogee** application in the spring when 1 to 3 inches of new shoot growth has occurred. **Correct timing of application is critical to success.** An early first application (i.e., 1 to 2 inches of shoot growth) is more effective than a later application (i.e., 4 to 8 inches of shoot growth). If additional vegetative growth control is needed, make a sequential application before or immediately after the shoots show signs of regrowth, typically 2 to 4 weeks after first application. Repeat applications as needed. Refer to **Table 8** for application rates and timing.

Number of Applications

The number of applications will vary depending on the timing of the first application, tree vigor, fruit load, pruning, variety, rootstock and/or the management history of the orchard. For cherry orchards in locations with long growing seasons or higher vigor trees or trees with light fruit load, 3 to 5 applications per season can be more effective. The **Apogee** treatment schedule is flexible and can be applied in a number of different schedules depending on the objectives of the individual grower. Consult with an extension specialist or consultant for your specific area.

Aerial Application

Aerial application is not registered for use in California.

Apply **Apogee** in a minimum of 10 gallons of spray solution per broadcast acre. Aerial applications generally only provide spray coverage in the top part of the canopy and vegetative growth control will be limited to those areas that receive spray coverage.

Additives and Tank Mixing Information

Adjuvant

Use a standard spray adjuvant, preferably a non-ionic surfactant, to improve leaf coverage and performance consistency. Follow the manufacturer's rate instructions.

Nitrogen Source (if needed)

If the water source used for spray applications contains high levels of calcium carbonate (hard water), add one pound of ammonium sulfate (AMS) for every pound of **Apogee**. Use high quality spray grade AMS to avoid plugging nozzles.

Previous experience has shown that **Apogee** use by itself does not result in phytotoxicity and that **Apogee** is compatible with many fungicides and insecticides used in cherry orchards. However, all varieties and cultivars have not been tested with possible tank mix combinations. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Therefore, before using any tank mix, test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of applications.

Tank mixes with calcium or boron sprays can result in less growth control from **Apogee**.

Restrictions and Limitations

- **Maximum Annual Use Rate** - **DO NOT** apply more than a total amount of **Apogee** per acre, per year as outlined in **Table 8**.
- **DO NOT** apply more than 20 ozs/A (1.25 lbs) of **Apogee** within any 14-day interval.
- **Preharvest Interval (PHI)** - **DO NOT** apply within 20 days before harvest.
- **Restricted Entry Interval (REI)** - 12 hours
- **Rainfast Period** - **Apogee** is rainfast 8 hours after application.
- **DO NOT** apply to crops that show injury (leaf phytotoxicity) produced by prior pesticide applications because this injury may be enhanced or prolonged. Refer to the **Additives and Tank Mixing Information** section for additional tank mixing instructions and precautions.
- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** use **Apogee** on tart cherries.

Table 8. Application Rates for Vegetative Growth Control in Sweet Cherries

Application Timing	Product Rate per Application (ozs/A)	Restrictions
High vigor trees	8 to 20	**DO NOT** apply more than 20 ozs/A of **Apogee** within any 14-day interval. **DO NOT** apply more than 40 ozs/A (2.5 lbs) of **Apogee** per year.
Medium vigor trees	8 to 12 in California 6 to 12 in all other states	**DO NOT** apply more than 12 ozs/A of **Apogee** within any 14-day interval. **DO NOT** apply more than 30 ozs/A (1.875 lbs) of **Apogee** per year.
Low vigor trees	**DO NOT** apply **Apogee** to low vigor trees	Not applicable

Watercress

Not registered for use on watercress in California.

Apogee® plant growth regulator reduces vegetative growth and produces a larger stem diameter in watercress.

Mode of Action

Apogee acts within the watercress plant to inhibit the biosynthesis of gibberellin, which is the natural plant hormone that regulates cell elongation. Inhibition of gibberellin reduces shoot growth. Vegetative growth suppression with **Apogee** typically lasts for 2 to 5 weeks per application, depending on the growing conditions. Watercress will exhibit growth reduction after 4 days. Depending upon growing conditions, **Apogee** may suppress growth for up to 14 days.

Application Instructions

Apply **Apogee** to established watercress plants which have leafed up from the stubble of the previous harvest. Timing of the first application may range from 5 to 10 days depending upon growing conditions. A second application of **Apogee** may be made if necessary. Refer to **Table 9** for application rates.

Apogee can be applied using properly calibrated ground sprayers or through properly designed, sprinkler-type chemigation equipment (Refer to the **Directions For Use Through Sprinkler Irrigation Systems** section). Use sufficient spray volume, based on size and density of target foliage, to allow for thorough coverage without runoff.

Apply ground applications through properly calibrated airblast equipment using an application volume of 100 gallons per acre.

Chemigation applications must be made as concentrated as possible. For best results apply at 0.1 inch up to 0.15 inch (2,716 to 4,073 gallons) of water per acre.

Spray Coverage

Because **Apogee** is absorbed by the leaves, thorough spray coverage of the watercress foliage is necessary for adequate uptake. Direct the spray to the portion of the watercress plant where growth control is desired. To achieve thorough coverage, use sufficient water, proper spray pressure, nozzles, nozzle spacing, spray volume per acre, and tractor speed.

Directions For Use Through Sprinkler Irrigation Systems

Sprayer Preparation

Chemical tank and injector system should be thoroughly cleaned. Flush system with clean water.

Application Instructions

Apply **Apogee** at rates and timings as required in this label.

Sprinkler Irrigation Applications Use Directions

- Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system.
- Add this product to the pesticide supply tank containing sufficient water to maintain a continuous flow by the injection equipment. In continuous moving systems, inject this product/water mixture continuously, applying the labeled rate per acre for that crop. **DO NOT** use more than 1/2 inch (13,577 gallons) per acre. In stationary or noncontinuous moving systems, inject the product/water mixture in the last 15 to 30 minutes of each set allowing sufficient time for all of the required pesticide to be applied by all the sprinkler heads and applying the labeled rate per acre for that crop. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. Thorough coverage of foliage is required for adequate control. Maintain agitation throughout application.
- If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers or other experts.
- The system must contain a functional check valve, vacuum-relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide-injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation, or under supervision of the

responsible person, shall shut the system down and make necessary adjustments should the need arise.

- **DO NOT** connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

Specific Instructions for Public Water Systems:

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Tank Mixing Information

DO NOT apply **Apogee® plant growth regulator** to watercress as a tank mix with any other pesticide products (including fungicides, insecticides, herbicides or other plant growth regulators), adjuvants, liquid fertilizers, nutrients, any other additives or anything other than water. Mix **Apogee** with water only for applications to watercress.

Restrictions and Limitations

- **Maximum Annual Use Rate** - **DO NOT** apply more than 16 ozs/A of **Apogee** per year.
- **Preharvest Interval (PHI)** - **DO NOT** apply within 3 days before harvest.
- **Retreatment Interval (RTI)** - 7 days
- **Rainfast Period** - **Apogee** is rainfast 8 hours after application.
- **DO NOT** apply to watercress that shows injury (leaf phytotoxicity) produced by any other prior pesticide applications because this injury can be enhanced or prolonged.
- **DO NOT** tank mix with any other pesticide products (including fungicides, insecticides, herbicides or other plant growth regulators), adjuvants, liquid fertilizers, nutrients, any other additives or anything other than water.
- **DO NOT** use in greenhouses.

Table 9. Application Rates for Vegetative Growth Control on Watercress

Application Timing	Product Rate per Application (ozs/A)
Apply when the watercress has leafed up from the previous harvest (5 to 10 days).	8
Make a subsequent application after 7 days if needed, depending upon growing conditions.	8

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

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