



# Magna-Bon®

AGRICULTURAL CONTROL SOLUTIONS

## CS 2005

Our copper, sulfate pentahydrate in-solution formula is OMRI-listed with systemic capabilities that has proven results combating disease in copper resistant strains . We're environmentally friendly by using less than an 1/8 lb to 1/4 lb per acre of metallic copper to combat agricultural diseases for a variety of specialty fruits, vegetables, citrus and tree nuts.

***Less Copper, More Power!***

**(800) 845-1357**

**[www.MagnaBon.com](http://www.MagnaBon.com)**



# When Applied to Growing Fruits, Vegetables, Citrus, Row Crops and Tree Nuts the Following Diseases Are Controlled By:

## CS 2005

|                             |                              |                                   |
|-----------------------------|------------------------------|-----------------------------------|
| Alternaria Blight           | Coffee Berry Disease         | Pseudomonas Blight                |
| Alternaria Leaf Spot        | Collar Rot                   | Pseudomonas flourescens           |
| Angular Leaf Spot           | Common Blight                | Pseudomonas syringae              |
| Anthracnose                 | Coryneum Blight (Shot Hole)  | Purple Blotch                     |
| Apple Scab                  | Crown Rot                    | Raceme Blight                     |
| Bacterial Blast             | Downy Mildew                 | Red Algae                         |
| Bacterial Blight            | Early Blight                 | Red Leaf Spot                     |
| Bacterial Canker            | Erwinia herbicola            | Rhizoctonia Foliage Blight        |
| Bacterial Leaf Spot         | European Canker              | Rose Bloom                        |
| Bacterial Speck             | Fire Blight                  | Scab                              |
| Bacterial Spot              | Fruit Rot                    | Septoria Leaf Blight              |
| Bacterial Stalk Rot         | Gray Leaf Mold               | Septoria Leaf Blotch              |
| Bacterial Stem Canker       | Greasy Spot                  | Septoria Leaf Spot                |
| Ball Moss                   | Gummy Stem Blight            | Septoria Late Blight              |
| Black Leaf Spot             | Halo Blight                  | Shoot Blast                       |
| Black Knot                  | Helminthosporium Spot Blotch | Shoot Blight                      |
| Black Pitting               | Iron Spot                    | Shuck Rot                         |
| Black Pod                   | Kernel Rot                   | Sigatoka (Black and Yellow)       |
| Black Rot                   | Late Blight                  | Spanish Moss                      |
| Blossom Blast               | Leaf Blight                  | Stem Blight                       |
| Blossom Brown Rot           | Leaf Rust                    | Tip Blight                        |
| Blotch                      | Leaf Scorch                  | Walnut Blight                     |
| Blue Mold                   | Leaf Spot                    | Watermelon Bacterial Fruit Blotch |
| Botryosphaeria Panicle      | Leptosphaerulina Leaf Spot   | (suppression)                     |
| Botytris Blight             | Melanose                     | White Rust                        |
| Brown Rot                   | Phoma Leaf Spot              | Yellow Rust                       |
| Brown Spot                  | Phomopsis                    | Zonate Leaf Spot                  |
| Cane Spot                   | Phomopsis Twig Blight        |                                   |
| Cherry Leaf Spot            | Phyophthora Blight           |                                   |
| Citrus Canker (suppression) | Pink Disease                 |                                   |
| Cercospora                  | Pink Pitting                 |                                   |
| Cercospora Early Blight     | Pod Spot                     |                                   |
| Cercospora Leaf Spot        | Powdery Mildew               |                                   |



## CS 2005

For Use To Control Bacteria And Fungi That Cause Spoilage On Agricultural Commodities

### Ingredients

|                                                        |        |
|--------------------------------------------------------|--------|
| Copper Sulfate Pentahydrate*...(CAS No.7758-99-8)..... | 19.8%  |
| Other Ingredients .....                                | 80.2%  |
| Total .....                                            | 100.0% |

\*Equivalent to 5.0% metallic copper

A Chelated Copper Product

Keep Out of Reach of Children

## DANGER PELIGRO

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

|                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IF IN EYES</b>                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>                                                |
| <b>IF SWALLOWED</b>                                                                                                                                                                                          | <ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have a person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul> |
| <b>IF ON SKIN or CLOTHING</b>                                                                                                                                                                                | <ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>                                                                                                                  |
| <b>IF INHALED</b>                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>Move a person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>                                              |
| <b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may contraindicate the use of gastric lavage.                                                                                                              |                                                                                                                                                                                                                                                                                                                                                  |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact CHEMTREC at 1-800-424-9300 for emergency medical treatment advice. |                                                                                                                                                                                                                                                                                                                                                  |

EPA REG. NO. 66675-3

EPA EST. NO. 66675-FL-001

LOT NO. \_\_\_\_\_

Net Contents: 1 U.S. Gallon (3.78 Liters) - 9.9 lbs per U.S. Gallon (1.188 kg/l)

Manufactured by:

MAGNA-BON II, LLC  
1531 NW 25th Drive  
Okeechobee, FL 34972  
863-357-0400

**For Emergency Assistance Call  
CHEMTREC 1-800-424-9300**

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**DANGER. Corrosive** Causes irreversible eye damage. Harmful if swallowed. Do not get in eyes or on clothing.

### Personal Protective Equipment

Personal Protective Equipment: Some materials that are chemical-resistant to this product are listed below. Applicators and other handlers must wear:

- Long sleeved shirt and long pants;
- Chemical resistant gloves made out of: barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils;
- Protective eyewear; and
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### User Safety Requirements

Follow 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. Discard clothing and other absorbent material that have been drenched or heavily contaminated with product's concentrate. Do not re-use them.

### 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 product. As soon as possible, wash thoroughly and change into clean clothing.
- Wash the outside of gloves before removing.
- As soon as possible wash thoroughly and change into clean clothing.



## ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates and may contaminate water through runoff. This product has potential for runoff for several months or more after application. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**Fish Advisory Statement:** This copper product is toxic to fish and aquatic organisms. Unlike most organic pesticides, copper is an element and will not break down in the environment and will therefore accumulate in sediment with repeated applications. Copper is a micronutrient, but its pesticidal application rate exceeds the amount of copper needed as a nutrient.

**For Terrestrial Uses:** This pesticide is toxic to fish and aquatic vertebrates and may contaminate water through runoff. Do not apply directly to water or areas where surface water is present or to intertidal areas below the mean high mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.

## PESTICIDE RESISTANCE MANAGEMENT

For resistance management, please note that CS 2005 contains a Group M1 fungicide/bactericide. Any fungal/bacterial population may contain individuals naturally resistant to CS 2005 and other Group M1 fungicides/bactericides. A gradual or total loss of pest control may occur over time if these fungicides/bactericides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide/bactericide resistance, take one or more of the following steps:

- Rotate the use of CS 2005 or other M1 fungicides/bactericides within a growing season sequence with different groups that control the same pathogens.

- Use tank mixtures with fungicides/bactericides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.

- Adopt an integrated disease management program for fungicide/bactericide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.

- Where possible, make use of predictive disease models to effectively time fungicide/bactericide applications. Note that using predictive models alone is not sufficient to manage resistance.

- Monitor treated fungal/bacterial populations for resistance development.

- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens. Report any incidence of non-performance of this product against a particular pathogen to your MAGNA-BON II, LLC retailer, representative or call 863-357-0400. If resistance is suspected, treat pathogens with a fungicide/bactericide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further reproduction.

## PRODUCT INFORMATION

CS 2005 is a copper sulfate pentahydrate formulation used control bacteria and fungi that cause spoilage on agricultural commodities.

Using water containing moderate to high amounts of sulfur may cause CS 2005 to neutralize. Whenever possible, use a compatibility jar test before mixing a whole tank.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

### USE RESTRICTIONS

- **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.

- Pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides [40 CFR 170.305].

- For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**FOR USE TO CONTROL BACTERIA AND FUNGI THAT CAUSE SPOILAGE ON AGRICULTURAL COMMODITIES:** To use CS 2005 as a systemic formulation to control bacteria and fungi that cause spoilage on agricultural commodities, the following direction apply.

CS 2005 may be applied with any type of application equipment that gives uniform coverage of all foliage, including ground, aerial and low volume sprayers as specified on this label. Equipment used for application should be PVC or 316L stainless steel. CS 2005 is compatible with most fungal and insecticidal biopesticides when applied at least two (2) days before or after application of the biopesticide.

## Phytotoxicity

Although CS 2005 has been tested on a wide variety of fruits, vegetables and nuts without phytotoxicity, there could be some varieties and cultivars that because of environmental factors and stages of growth could possibly foster systems. The per acre use rate of CS 2005 is applicable for dilute spraying. Depending on the equipment used and the specific crop, the spray volume applied per acre will differ. Refer to the Minimum Recommended Spray Volume Table. Complete spray coverage is essential to assure optimum performance from CS 2005. When treating by aerial application or with low volume application equipment, unless you have had specific previous experience, it is advisable to test for compatibility and tolerance to crop injury prior to full scale commercial utilization.

Consult CS 2005 label for specific rates and timing of application by crop. Where application rates and intervals are provided in a range (e.g., 2-4 fluid ounces and 7 to 10 days) the higher rates and shorter spray time intervals are recommended when rainfall is heavy and/or disease pressure is high. Use the higher rates for large mature tree crops. The use of a surfactant, such as Cell-U-Wett™ is acceptable for plants having waxy or hairy surfaces. CS 2005 works via surface contact with the plants and materials being treated. It is important to ensure that all surfaces are thoroughly wetted. CS 2005 does not produce any visible residue or have a distinct odor. It does have a residual, especially if applied with a surfactant.

### Product Use Precautions

- This product may be reactive on masonry and metal surfaces such as galvanized roofing. Avoid contact with metal surfaces. Do not spray on cars, houses, lawn furniture, etc.
- Environmental conditions such as extended periods of wet weather, acid rain, etc., which alter the pH of the leaf surface may affect the performance of CS 2005 resulting in possible phytotoxicity or loss of effectiveness.
- It must be determined in the selection process if proper application equipment is available and if the waste associated with its use can be properly handled. Materials used on the construction of application equipment is also an important factor as agricultural chemicals are often reactive with soft metals such as aluminum and even some synthetic materials such as plastics, rubbers, etc.. Therefore it is necessary when working with equipment containing these materials, that they are thoroughly flushed with clean water after each days use.

### Product Use Restrictions

- **Do not** mix with acidic compounds such as Alliette™ within 14 days before or after application of same.
- **Do not** mix with pot ash.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Workers Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, 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), notification to workers, and restricted-entry intervals. The requirements in this box only apply to uses of this product that are covered by the Workers Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours. The PHI is 0 unless noted.

Do not enter or allow others to enter until sprays have dried.

PPE required for early entry to treated areas that is permitted under Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, water, is: coveralls, protective eyewear, chemical resistant gloves, and shoes plus socks.

## ENGINEERING CONTROLS

Pilots must use an enclosed cab that meets the definition listed in the WPS for agricultural pesticides [40 CFR 170.305.]

## CHEMIGATION INSTRUCTIONS

Apply this product only through one or more of the following types of systems: Sprinkler including center pivot, lateral move, end row, side (wheel) roll, traveler, big gun, solid set or hand move: flood (basin); furrow; border or drip (trickle) irrigation and system(s). Do not apply this product through any other type of irrigation systems.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety device for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Posting areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds or other public facilities not including public roads, or 2) when chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive area. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters of at least 2 ½ inches tall, and all letters and the symbol shall be in a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER. This sign is in addition to any sign posted to comply with the Workers Protection Standard.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

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. 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 break (air gap) between the flow outlet end of the fill pipe and the top of the overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of liquid back toward the injection. 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. 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 the pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (i.e. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment. When mixing, agitation is not necessary. Adjust the pH of the water to 7 or below. If using stickers, spreaders, insecticides, nutrients, etc., add CS 2005 first. If compatibility is in question, use a compatibility jar test before mixing a whole tank. Because of a wide variety of possible combinations which can be encountered, observe all cautions and limitations on the label of all products used in the mixtures. CS 2005 may be added through a traveling system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. CS 2005 readily disperses and needs no agitation.

SPRINKLER CHEMIGATION

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 back flow. 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 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 which 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 pump (i.e., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment. When mixing, agitation is not necessary. Adjust the pH of the carrier water to 7 or below. If using stickers, spreaders, insecticides, nutrients, etc., add the CS 2005 first. If compatibility is in question, use a compatibility jar test before mixing a whole tank. Because of a wide variety of possible combinations which can be encountered, observe all cautions and limitations on the label of all products used in the mixtures. CS 2005 may be added through a traveling irrigation system or at the last 30 minutes of solid set or hand moved irrigation systems. CS 2005 readily disperses and needs no agitation.

FLOOR (BASIN), FURROW AND BORDER CHEMIGATION

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from back flow if water flow stops. Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- a. 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 back flow.
  - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of liquid back toward the injection pump.
  - c. 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.
  - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
  - e. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
  - f. Systems must use a metering pump, such as a positive displacement pump (i.e. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- When mixing, agitation is not necessary. Adjust the pH of the carrier water to 7 or below. If using stickers, spreaders, insecticides, nutrients, etc., add the CS 2005 first. If compatibility is in question, use a compatibility jar test before mixing a whole tank. Because of a wide variety of possible combinations which can be encountered, observe all cautions and limitations on the labels of all products used on the mixtures. CS 2005 may be added through a traveling irrigation system continuously or at the last 30 minutes of solid set or hand moved irrigation systems. CS 2005 readily disperses and needs no agitation.

DRIP (TRICKLE) CHEMIGATION

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 back flow. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of liquid 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 pump stops. The irrigation line or water pump must include a functional pressure switch which 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 (i.e. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. When mixing, agitation is not necessary. Adjust the pH of the carrier water to 7 or below. If using stickers, spreaders, insecticides, nutrients, etc., add the CS 2005 first. If compatibility is in question, use a compatibility jar test before mixing a whole tank. Because of a wide variety of possible combinations which can be encountered, observe all cautions and limitations on the label of all products used in the mixtures. CS 2005 may be added through a traveling irrigation system continuously or at the last 30 of solid set or hand moved irrigation systems. CS 2005 readily disperses and needs no agitation.

TANK MIXING

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involving tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture

FOR SPRAY AND SOIL DRENCH APPLICATIONS

Always spray for total foliage coverage. When re-spraying the rates and severity of the disease vary with unforeseen conditions. However, in the event of severe disease, spraying intervals can be shortened to 3 to 5 days. At times, lower rates can be as effective as higher rates and should be tried first. Usually, preventive programs may be maintained at lower rates. Use of low volume spraying is effective against Botrytis and not effective against established powdery mildew and Xanthomonas infections. Also, applications on actively growing tissue may be more effective than applications on dormant tissue.

MINIMUM RECOMMENDED SPRAY VOLUME (GALLONS) PER ACRE WHEN APPLYING CS 2005

|              |        | GROUND |              |
|--------------|--------|--------|--------------|
| CROP         | AERIAL | DILUTE | CONCENTRATE* |
| Vegetables   | 3      | 20     | 30           |
| Field Crops  | 3      | 20     | 30           |
| Small Fruits | 5      | 150    | 30           |
| Vines        | 5      | 150    | 30           |
| Tree Crops   | 10     | 400    | 50           |
| Citrus       | 10     | 125    | 30           |

\*Pesticide application equipment such as Curtec® or other similar sprayers which are capable of obtaining coverage at low volumes may be used at as low as 20 gpa of spray volume. The following specific instructions are based on general application procedures. The recommendations of the State Extension Service should be closely followed as to timing, frequency and numbers of sprays per season.

## SPRAY DRIFT

For Aerial Application:

1. Do not release spray at a height greater than 10 ft above the vegetative canopy, unless a greater application height is necessary for pilot safety.
2. Applicators are required to use a medium or coarse droplet size (ASABE S575.1).
3. Do not apply when wind speed exceeds 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
4. Applicators must use ½ swath displacement upwind at the downwind edge of the application area.
5. Do not apply during temperature inversions.

For Ground Boom Application:

1. Apply with the spray release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
2. Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
3. Do not apply when wind speeds exceed 15 miles per hour at the application site.
4. Do not apply during temperature inversions.

## 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:

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 Boom

- 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 manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

### Boom Height – Ground Boom:

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

### Release Height – Aircraft:

Higher release heights increase the potential for spray drift. When applying aerially to crops, do not release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.

### Shielded Sprayers:

Shielding the boom or 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.

### 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.

## FROST INJURY PROTECTION BACTERIAL ICE NUCLEATION INHIBITOR

Application of CS 2005 made to all crops listed on this label at rates and stages of growth indicated on this label, at least 24 hours prior to anticipated frost conditions, will afford control of ice nucleating bacteria (*Pseudomonas syringae*, *Erwinia herbicola* and *Pseudomonas fluorescens*) and may therefore provide some protection against light frost. Not recommended for those geographical areas where weather conditions favor severe frost.

The chart below is used to calculate correct ppm\* of active ingredient (A.I.) per volume of carrier water. These volumes can be used for either conventional or concentrated sprays.

## AMOUNT OF CS 2005 PER VOLUME OF WATER FOR PROPER PPM\* OF APPLIED ACTIVE INGREDIENT (AS COPPER)

| ppm* of A.I. | 30 gallons per acre | 50 gallons per Acre | 100 gallons per Acre | 125 gallons per Acre | 250 gallons per Acre | 500 gallons per Acre |
|--------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| 50           | 3.85 oz.            | 6.4 oz.             | 12.8 oz.             | 16 oz.               | 32 oz.               | 64 oz.               |
| 75           | 5.78 oz.            | 9.6 oz.             | 19.2 oz.             | 24 oz.               | 48 oz.               | 96 oz.               |
| 100          | 7.70 oz.            | 12.8 oz.            | 25.6 oz.             | 32 oz.               | 64 oz.               | 1 gal.               |
| 125          | 9.6 oz.             | 16 oz.              | 32 oz.               | 40 oz.               | 80 oz.               | 1.25 gal.            |
| 150          | 11.5 oz.            | 19.2 oz.            | 38.4 oz.             | 48 oz.               | 96 oz.               | 1.5 gal.             |
| 200          | 15.4 oz.            | 25.6 oz.            | 51.2 oz.             | 64 oz.               | 1 gal.               | 2 gal.               |
| 250          | 19.2 oz.            | 32 oz.              | 64 oz.               | 80 oz.               | 1.25 gal.            | 2.5 gal.             |

\* ppm = parts per million (as copper)

## CITRUS Grapefruit, Kumquat, Lemon, Lime, Orange, Tangelo, Tangerine

| Disease                                                                                                                                                                                               | Rate per Acre per 100 gal. of water | ppm copper per 100 gallons of water | Instructions                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brown Rot                                                                                                                                                                                             | 30-70 oz.                           | 120-275 ppm                         | Apply at first indication of rain or first appearance of Brown Rot. Re-apply as needed during wet weather.                                                                                                                                                                                                                                                                      |
| Greasy Spot, Pink Pitting                                                                                                                                                                             | 25.6-64 oz.                         | 100-250 ppm                         | Apply during mid-summer.                                                                                                                                                                                                                                                                                                                                                        |
| Scab                                                                                                                                                                                                  | 25.6-64 oz.                         | 100-250 ppm                         | Apply shortly before trees begin to flush. Re-apply at 2/3 petal fall. Re-apply 4 weeks later, if necessary.                                                                                                                                                                                                                                                                    |
| Melanose                                                                                                                                                                                              | 25.6-64 oz.                         | 100-250 ppm                         | Apply 2 times per year before the onset of spring and autumn rains.                                                                                                                                                                                                                                                                                                             |
| Canker ( <i>Suppression</i> )                                                                                                                                                                         | 12.8-64 oz.                         | 50-250 ppm                          | Spray flushes 7 to 14 days after shoots begin to grow. Young fruit may require additional applications. Number and timing of applications will be dependent on disease pressure. Under heavy pressure, each new flush of growth should be sprayed. Heavily infected trees should be sprayed with a minimum dosage of 250 ppm with a follow up spray after 7-14 days at 200 ppm. |
| Do not apply more than 3.15 lbs Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 12.6 lbs Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart. |                                     |                                     |                                                                                                                                                                                                                                                                                                                                                                                 |

## FIELD CROPS

| Crop                                         | Disease                                                                                                                                                                                                | Rate/Acre per 100 gallons of water | ppm copper per 100 gallons of water | Instructions                                                                                                                                                                                                                                       |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alfalfa                                      | Cercospora Leaf Spot,<br>Leptosphaerulina Leaf Spot                                                                                                                                                    | 19.2-32 oz.                        | 75-125 ppm                          | Apply 10 to 14 days before each harvest or earlier if disease threatens.<br><br>IMPORTANT: Spray injury may occur with sensitive varieties such as Lahontan.                                                                                       |
| Corn<br>(Field Corn, Popcorn,<br>Sweet corn) | Bacterial Stalk Rot                                                                                                                                                                                    | 19.2-32 oz.                        | 75-125 ppm                          | Begin treatment when disease first appears and repeat every 7 to 10 days or as needed. Use the higher rates and shorter spray intervals when conditions favor disease.                                                                             |
|                                              | Do not apply more than 0.53 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 1.12 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 30 days apart. |                                    |                                     |                                                                                                                                                                                                                                                    |
| Peanut                                       | Cercospora leaf                                                                                                                                                                                        | 19.2-25.6 oz.                      | 75-100 ppm                          | Begin spraying at 35 to 40 days after planting or when disease symptoms first appear and repeat at 10 to 14 day intervals or as needed. Reduce sprays to 7 day intervals during humid weather. Use the higher rates when conditions favor disease. |
|                                              | Do not apply more than 0.79 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 4.74 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.  |                                    |                                     |                                                                                                                                                                                                                                                    |
| Potato                                       | Early Blight, Late Blight                                                                                                                                                                              | 19.2-32 oz.                        | 75-125 ppm                          | Apply 75 to 125 ppm at 7 to 10 day intervals or as needed starting when plants are 2 to 6 inches high in locations where disease is light. Add up to 32 oz. per acre when disease is more severe.                                                  |
|                                              | Do not apply more than 2.5 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 25 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 5 days apart.     |                                    |                                     |                                                                                                                                                                                                                                                    |
| Sugar Beets                                  | Cercospora Leaf Spot                                                                                                                                                                                   | 19.2-38.4 oz.                      | 75-150 ppm                          | Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals or as needed. Use higher rates when conditions favor disease. Addition of a sticker/spreader is recommended.                               |
|                                              | Do not apply more than 1.31 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 7.86 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 10 days apart. |                                    |                                     |                                                                                                                                                                                                                                                    |
| Wheat, Barley, Oats                          | Helminthosporium Spot Blotch,<br>Septoria Leaf Blotch                                                                                                                                                  | 19.2-25.6 oz.                      | 75-100 ppm                          | Make first application at early heading and follow with second spray 10 days later. Use the higher rates when conditions favor disease.                                                                                                            |
|                                              | Do not apply more than 0.53 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 1.06 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 10 days apart. |                                    |                                     |                                                                                                                                                                                                                                                    |

## SMALL FRUITS

| Crop                                                                                                     | Disease                                                                                                                                                                                                                               | Rate/Acre per 100 gallons, of water | ppm copper per 100 gallons of water | Instructions                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Blackberry<br>(Aurora, Boysen,<br>Cascade, Chehalem,<br>Logan, Marion, Santiam,<br>Thornless, Evergreen) | Anthraxnose, Cane Spot, Leaf Spot,<br>Pseudomonas Blight, Purple Blotch,<br>Yellow Rust                                                                                                                                               | High 32 oz.                         | 125 ppm                             | Make fall application after harvest. Apply delayed dormant spray after pruning/training in the spring. If needed, agricultural-type spray oil may be added.                                    |
|                                                                                                          | Anthraxnose, Cane Spot, Leaf Spot,<br>Purple Blotch, Yellow Rust                                                                                                                                                                      | Low 19.2 oz.                        | 75 ppm                              | Apply when leaf buds begin to open and repeat when flower buds show white. If needed, agricultural-type spray oil may be added.                                                                |
|                                                                                                          | Do not apply more than 2.9 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 10.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                  |                                     |                                     | IMPORTANT: Crop injury may occur if applied to foliage under certain environmental conditions such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear. |
| Blueberry                                                                                                | Bacterial Canker                                                                                                                                                                                                                      | 32-51.2 oz.                         | 125-200 ppm                         | Make application before fall rains and a second application 4 weeks later. Use the higher rates when conditions favor disease.*                                                                |
|                                                                                                          | Fruit Rot, Phomopsis Twig Blight                                                                                                                                                                                                      | 25.6-51.2 oz.                       | 100-200 ppm                         | Dormant Application: Begin applications when bloom buds begin to swell. Make additional applications at 10 to 14 day intervals or as needed before blooms open.                                |
|                                                                                                          | Do not apply more than 2.1 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 8.4 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                   |                                     |                                     |                                                                                                                                                                                                |
| Cranberry*                                                                                               | Fruit Rot                                                                                                                                                                                                                             | 51.2 oz.                            | 200 ppm                             | Make application in late bloom. Apply one or two additional applications at 10 to 14 day intervals or as needed depending on disease severity.                                                 |
|                                                                                                          | Rose Bloom                                                                                                                                                                                                                            | 51.2 oz.                            | 200 ppm                             | Apply three sprays on 10 to 14 day schedule or as needed as soon as symptoms are observed.                                                                                                     |
|                                                                                                          | Bacterial Stem Canker                                                                                                                                                                                                                 | 51.2 oz.                            | 200 ppm                             | Apply to vines after harvest and again in spring at bud swell. Apply one or two additional applications at 10 to 14 intervals or as needed depending on disease severity.                      |
|                                                                                                          | Leaf Blight, Red Leaf Spot, Stem Blight,<br>Tip Blight ( <i>Monilinia</i> )                                                                                                                                                           | 51.2 oz.                            | 200 ppm                             | Apply delayed dormant spray in the spring. Repeat at 10 to 14 day intervals or as needed through pre-bloom.                                                                                    |
|                                                                                                          | Do not apply more than 2.1 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 6.3 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.<br>(*Not Permitted in California) |                                     |                                     |                                                                                                                                                                                                |
| Currant*, Gooseberry                                                                                     | Anthraxnose, Leaf Spot                                                                                                                                                                                                                | 64 oz.                              | 250 ppm                             | Make Initial application after first leaves have expanded. Continue on a 10 to 14 day schedule or as needed during wet conditions in the spring. Make an additional application after harvest. |
|                                                                                                          | Do not apply more than 2.5 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 10.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 10 days apart. (*Not Permitted in California)  |                                     |                                     |                                                                                                                                                                                                |
| Raspberry                                                                                                | Anthraxnose, Cane Spot, Leaf Spot,<br>Pseudomonas Blight, Purple Blotch,<br>Yellow Rust                                                                                                                                               | High 32 oz.                         | 125 ppm                             | Make fall application after harvest. Apply delayed dormant spray after training in the spring. If needed, agricultural-type spray oil may be added.                                            |
|                                                                                                          | Anthraxnose, Cane Spot, Leaf Spot,<br>Purple Blotch, Yellow Rust                                                                                                                                                                      | Low 19.2 oz.                        | 75 ppm                              | Apply when leaf buds begin to open and repeat when flower buds show white. If needed, agricultural-type spray oil may be added.                                                                |
|                                                                                                          | Do not apply more than 2.0 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 10.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                  |                                     |                                     | IMPORTANT: Crop injury may occur if applied to foliage under certain environmental conditions such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear. |

## SMALL FRUITS CONTINUED

|            |                                                                                                                                                                                                                                                                             |               |            |                                                                                                                                                                                                                                                                              |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Strawberry | Angular Leaf Spot ( <i>Xanthomonas</i> ), Leaf Blight, Leaf Scorch, Leaf Spot                                                                                                                                                                                               | 19.2-25.6 oz. | 75-100 ppm | Begin application when plants are established and continue on a weekly schedule throughout the season. Apply in at least 20 gallons of water. Use the higher rates when conditions favor disease.<br><br>IMPORTANT: Discontinue applications if signs of crop injury appear. |
|            | Do not apply more than 1.0 lb. Cu <sup>2+</sup> per acre per application or 1.5 lb. Cu <sup>2+</sup> per acre per application for severe disease.<br>Do not apply more than 6.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart. |               |            |                                                                                                                                                                                                                                                                              |

## TREE CROPS

| Crop                                | Disease                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Rate/Acre per 100 gallons of water           | ppm copper per 100 gallons of water | Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Almond, Apricot, Cherry, Plum Prune | Bacterial Blast ( <i>Pseudomonas</i> ), Bacterial Canker, Coryneum Blight (Shot Hole)                                                                                                                                                                                                                                                                                                                                                                         | 32- 64 oz.                                   | 200-250 ppm                         | Make first application before fall rains and a second at late dormant. Use the higher rates when conditions favor disease. If needed, agricultural-type spray oil may be added.<br><br>For Cherries: Where disease is severe, an additional application shortly after harvest may be required.<br><br>IMPORTANT: Foliar injury may occur from post-bloom sprays on almonds, especially on NePlus varieties.                                                                                                                                                             |
|                                     | Blossom Brown Rot, Coryneum Blight (Shot Hole)                                                                                                                                                                                                                                                                                                                                                                                                                | Almond: 51.2-64 oz.<br>All others: 60-90 oz. | 200-250 ppm                         | Apply during early bloom. Do not apply after full bloom or injury may occur. Use the higher rates when rainfall is heavy and disease pressure is high.                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                     | Black Knot* (Plum)                                                                                                                                                                                                                                                                                                                                                                                                                                            | 32-64 oz.                                    | 125-250 ppm                         | Make application at bud swell up to early bloom for early disease suppression. Apply before full bloom. Use the higher rates when rainfall is heavy and disease pressure is high.<br><br>IMPORTANT: To avoid plant injury, do not use after full bloom.                                                                                                                                                                                                                                                                                                                 |
|                                     | Cherry Leaf Spot* (Sour Cherries Only)                                                                                                                                                                                                                                                                                                                                                                                                                        | 38.4-64 oz.                                  | 150-250 ppm                         | Apply at petal fall as well as 1 to 2 times after petal fall. Use the lower rates where disease infection is light and use the higher rates for a dormant application or where disease infection is moderate to heavy. Do not apply to sweet cherry or the English Morello variety as severe injury will result.<br><br>IMPORTANT: Moderate to severe injury such as leaf spotting and defoliation may occur from post bloom applications.                                                                                                                              |
|                                     | Do not apply more than 1.5 lb. Cu <sup>2+</sup> per acre per application during the bloom/growing season.<br>Do not apply more than 8.0 lb. Cu <sup>2+</sup> per acre per application during the dormant/late dormant season.<br>Do not apply more than 18.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart during the dormant/late dormant season and no less than 5 days apart during the bloom/growing season. |                                              |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Apple                               | Anthraxnose, Blossom Blast, European Canker ( <i>Necria</i> ), Shoot Blast ( <i>Pseudomonas</i> )                                                                                                                                                                                                                                                                                                                                                             | 51.2-64 oz.                                  | 200-250 ppm                         | Apply before fall rains. Use the higher rates when conditions favor disease.<br><br>IMPORTANT: Use on yellow varieties may cause discoloration. To avoid discoloration, pick before spraying.                                                                                                                                                                                                                                                                                                                                                                           |
|                                     | Apple Scab, Fire Blight                                                                                                                                                                                                                                                                                                                                                                                                                                       | 51.2-64 oz.                                  | 200-250 ppm                         | Make application between silver-tip and green-tip. Apply as a full cover spray for early season disease suppression.<br><br>Extend spray schedule where fruit finish is not a concern: Continued applications may be made at 5 to 7 day intervals or as needed.<br><br>IMPORTANT: Moderate to severe crop injury may occur from late application.<br><br>Moderate to severe crop injury may result from an extended spray schedule. It is not intended for fresh market apples or for apples where fruit finish is a concern as it is likely to cause fruit russetting. |
|                                     | Collar Rot, Crown Rot                                                                                                                                                                                                                                                                                                                                                                                                                                         | 32 oz.                                       | 125 ppm                             | Mix 100 gallons of water. Apply 4 gallons of solution as a drench on the lower trunk area of each tree. Apply in early spring or in fall after harvest for best results. Do not apply to foliage or fruit.                                                                                                                                                                                                                                                                                                                                                              |
|                                     | Do not apply more than 0.5 lb. Cu <sup>2+</sup> per acre per application during the bloom/growing season.<br>Do not apply more than 6.0 lb. Cu <sup>2+</sup> per acre per application during the Fall/ dormant season.<br>Do not apply more than 16.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 5 days apart during the bloom/growing season.<br>Only one application is permitted during the Fall/ dormant season.       |                                              |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Avocado                             | Anthraxnose, Blotch, Scab                                                                                                                                                                                                                                                                                                                                                                                                                                     | 51.2-64 oz.                                  | 200-250 ppm                         | Apply when bloom buds begin to swell and continue application at monthly intervals for five to six applications. Use the higher rates when conditions favor disease.                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                     | Do not apply more than 3.15 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 18.9 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 14 days apart.                                                                                                                                                                                                                                                        |                                              |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Banana*                             | Sigatoka (Black and Yellow)                                                                                                                                                                                                                                                                                                                                                                                                                                   | 19.2 oz.                                     | 75 ppm                              | Apply by air in 3 gallons of water. If needed, agricultural-type spray oil may be added. Apply on a 14 day schedule or as needed throughout the wet season. Apply at 21 day intervals or as needed during dry periods.                                                                                                                                                                                                                                                                                                                                                  |
|                                     | Black Pitting                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 32 oz.                                       | 125 ppm                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                     | Do not apply more than 1.05 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 18.9 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.<br>(*Not Permitted in California)                                                                                                                                                                                                                       |                                              |                                     | Mix 100 gallons of water. Apply to the fruit stem and the basal portion of the leaf crown. Apply during the first and second weeks after fruit emergence.                                                                                                                                                                                                                                                                                                                                                                                                               |



## TREE CROPS CONTINUED

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |             |                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cacao*            | Black Pod                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 19.2-64 oz.   | 75-250 ppm  | Begin applications at the start of the rainy season and continue while infection conditions persist.                                                                                                                                                                                                                                                                |
|                   | Do not apply more than 3.15 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 15.75 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 14 days apart. (*Not Permitted in California)                                                                                                                                                                                                                                                            |               |             |                                                                                                                                                                                                                                                                                                                                                                     |
| Coffee            | Coffee Berry Disease ( <i>Collectotrichum coffeanum</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                         | 38.4-64 oz.   | 150-250 ppm | Apply first spray after flowering and before onset of long rains and then at 21 to 28 day intervals or as needed until picking. Use the higher rates when conditions favor disease.                                                                                                                                                                                 |
|                   | Bacterial Blight ( <i>Pseudomonas syringae</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 38.4-64 oz.   | 150-250 ppm | Begin spray program before the onset of long rainy periods and continue throughout the rainy season at 14 to 21 day intervals or as needed. The critical time for spraying to control disease is just before, during and after flowering(s), especially when coinciding with wet weather. Use the higher rates when rainfall is heavy and disease pressure is high. |
|                   | Leaf Rust ( <i>Hemileia</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 19.2-32 oz.   | 75 ppm      | Apply before the onset of rain and then at 21 day intervals or as needed while the rains continue. Use the higher rates when rainfall is heavy and disease pressure is high.                                                                                                                                                                                        |
|                   | Iron Spot. ( <i>Cercospora coffeicola</i> ), Pink Disease ( <i>Cortium salmonicolor</i> )                                                                                                                                                                                                                                                                                                                                                                                                         | 19.2 oz.      | 75 ppm      | Use concentrate or dilute spray. Begin treatment at the start of wet season and continue at monthly intervals for three applications.                                                                                                                                                                                                                               |
|                   | Do not apply more than 2.1 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 12.6 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 14 days apart.                                                                                                                                                                                                                                                                                             |               |             |                                                                                                                                                                                                                                                                                                                                                                     |
| Filbert*          | Bacterial Blight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 64-115.2 oz.  | 250-450 ppm | Apply as a spray to trees after harvest. In seasons of heavy rainfall, apply a second spray when three fourths of the leaves have dropped. Use the higher rates when rainfall is heavy and disease pressure is high. If needed, agricultural-type spray oil may be added. (Permitted only in Washington State and Oregon)                                           |
|                   | Eastern Filbert Blight                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 64-115.2 oz.  | 250-450 ppm | Apply as a dilute spray in adequate water for thorough coverage. Make applications starting at bud swell to bud break and continue at 2 week intervals or as needed until early May. Thorough coverage is essential. Use the higher rates when rainfall is heavy and disease pressure is high. If needed, agricultural-type spray oil may be added.                 |
|                   | Do not apply more than 6.0 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 18.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 14 days apart.<br>(*Not Permitted in California)                                                                                                                                                                                                                                                           |               |             |                                                                                                                                                                                                                                                                                                                                                                     |
| Mango*            | Anthraxnose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 38.4-64 oz.   | 150-250 ppm | Apply monthly after fruit set until harvest. Use the higher rates when rainfall is heavy and disease pressure is high.                                                                                                                                                                                                                                              |
|                   | Do not apply more than 2.6 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 18.2 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 30 days apart.<br>(*Not Permitted in California)                                                                                                                                                                                                                                                           |               |             |                                                                                                                                                                                                                                                                                                                                                                     |
| Olive             | Olive Knot, Peacock Spot                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 64-76.8 oz.   | 250-300 ppm | Make first application before winter rains begin. A second application in early spring should be made if disease is severe. Apply the higher rates for heavy disease pressure or when conditions favor disease development.                                                                                                                                         |
|                   | Do not apply more than 3.15 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 6.3 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 30 days apart.                                                                                                                                                                                                                                                                                             |               |             |                                                                                                                                                                                                                                                                                                                                                                     |
| Peach*, Nectarine | Bacterial Blast ( <i>Pseudomonas</i> ), Bacterial Canker, Bacterial Spot ( <i>Xanthomonas</i> ), Coryneum Blight (Shot Hole), Leaf Curl                                                                                                                                                                                                                                                                                                                                                           | 51.2-76.8 oz. | 200-300 ppm | Make first application before fall rains and a second at late dormant. For peach leaf curl, late dormant application must be made before leaf buds swell. Use the higher rates when rainfall and disease pressure is high. If needed, agricultural-type spray oil may be added.                                                                                     |
|                   | Blossom Brown Rot, Coryneum Blight (Shot Hole), Leaf Curl                                                                                                                                                                                                                                                                                                                                                                                                                                         | 51.2-76.8 oz. | 200-300 ppm | Full cover spray at pink bud. Use the higher rates when conditions favor disease.                                                                                                                                                                                                                                                                                   |
|                   | Bacterial Spot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 19.2 oz.      | 75 ppm      | Post-bloom application applied at first and second cover sprays.<br><br>RESTRICTION: do not spray 3 weeks prior to harvest. Use only recommended rates. Spotting of leaves and defoliation may occur from use in cover sprays.                                                                                                                                      |
|                   | Do not apply more than 8.0 lb. Cu <sup>2+</sup> per acre per application during the dormant/late dormant season.<br>Do not apply more than 1.5 lb. Cu <sup>2+</sup> per acre per application during the bloom/ growing season.<br>Do not apply more than 18.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart during the dormant/late dormant season and no less than 5 days apart during the bloom/ growing season.<br>(*Not Permitted in California) |               |             |                                                                                                                                                                                                                                                                                                                                                                     |
| Pear*             | Fire Blight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 19.2 oz.      | 75 ppm      | Apply 5 day intervals or as needed throughout the bloom period.<br>IMPORTANT: Russetting may occur in copper sensitive varieties. Excessive dosages may cause fruit russet on any variety.                                                                                                                                                                          |
|                   | Blossom Blast ( <i>Pseudomonas</i> )                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 51.2-76.8 oz. | 200-300 ppm |                                                                                                                                                                                                                                                                                                                                                                     |
|                   | Do not apply more than 0.8 lb. Cu <sup>2+</sup> per acre per application during the Fall.<br>Do not apply more than 0.5 lb. Cu <sup>2+</sup> per acre per application during the bloom/ growing season.<br>Do not apply more than 16.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 5 days apart during the bloom/growing season.<br>Only 1 application per season may be made in the Fall. (*Not Permitted in California)                                       |               |             | Apply before fall rains and again during dormancy before spring growth starts. Use the higher rates when disease pressure is high or when conditions favor disease development.                                                                                                                                                                                     |
| Pecan*            | Kernel Rot, Shuck Rot ( <i>Phytophthora cactorum</i> ), Zonate Leaf Spot ( <i>Cristulariella pyramidalis</i> )                                                                                                                                                                                                                                                                                                                                                                                    | 19.2-32 oz.   | 75-125 ppm  | For suppression, apply in sufficient water to ensure complete spray coverage at 2 to 4 week intervals or as needed, starting at kernel growth and continue until shucks open. Use the higher rates and shorter spray intervals if frequent rainfall occurs.                                                                                                         |
|                   | Ball Moss, Spanish Moss                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 38.4-64 oz.   | 150-250 ppm | Apply in 100 gallons of water in the spring when ball moss is actively growing, using 1 ½ gallons of spray per foot of tree height. Make sure to wet ball moss tufts thoroughly. The addition of a non-ionic surfactant will improve control. A second application may be required after 12 months.                                                                 |
|                   | Do not apply more than 2.1 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 6.3 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 14 days apart. (*Not Permitted in California)                                                                                                                                                                                                                                                               |               |             |                                                                                                                                                                                                                                                                                                                                                                     |

## TREE CROPS CONTINUED

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |             |                                                                                                                                                                                                                                                                                                                           |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pistachio | Botryosphaeria Panicle and Shoot Blight, Botrytis Blight, Late Blight ( <i>Alternaria alternata</i> ), Septoria Leaf Blight                                                                                                                                                                                                                                                                                                                                    | 32-64 oz.  | 125-250 ppm | Make initial application at bud swell and repeat on a 14 to 28 day schedule or as needed. If disease conditions are severe, use the higher rates and shorter spray intervals.                                                                                                                                             |
|           | Do not apply more than 2.1 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 8.4 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 14 days apart.                                                                                                                                                                                                                                                           |            |             |                                                                                                                                                                                                                                                                                                                           |
| Quince*   | Fire Blight                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 19.2 oz.   | 75 ppm      | Apply at 5 day intervals or as needed throughout the bloom period. Apply in adequate water for thorough coverage.<br>(Permitted only in Washington State and Oregon)                                                                                                                                                      |
|           | Do not apply more than 0.5 lb. Cu <sup>2+</sup> per acre per application during the bloom/ growing season.<br>Do not apply more than 8.0 lb. Cu <sup>2+</sup> per acre per application during the Fall.<br>Do not apply more than 16.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 5 days apart during the bloom/growing season.<br>Only 1 application per season may be made in the Fall.<br>(*Not Permitted in California) |            |             |                                                                                                                                                                                                                                                                                                                           |
| Walnut    | Walnut Blight                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 32-51 oz.. | 125-200 ppm | Apply at first spray at early pre-bloom prior to or when catkins are partially expanded. Make additional applications during bloom and early nutlet stage or as needed when frequent rainfall or extended periods of moisture occur. Thorough coverage of catkins, leaves and nutlets is essential for effective control. |
|           | Do not apply more than 3.15 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 25.2 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                                                                                                                                                                                                                                          |            |             | IMPORTANT: Adequate control may not be obtained when copper tolerant species of <i>Xanthomonas</i> bacteria are present.                                                                                                                                                                                                  |

## VEGETABLES

| Crop                                                                                                       | Disease                                                                                                                                                                                                                                  | Rate/Acre per 100 gallons of water | ppm copper per 100 gallons of water | Instructions                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bean (Dry, Green)*                                                                                         | Brown Spot, Common Blight, Halo Blight                                                                                                                                                                                                   | 19.2-25.6 oz.                      | 75-100 ppm                          | For protective sprays, make first application when plants are 6 inches high; repeat on a 7 to 14 day schedule or as needed depending on environmental conditions. Use the higher rates for more severe disease.                                                                                                                                                                |
|                                                                                                            | Do not apply more than 2.0 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 4.74 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.<br>(*Not Permitted in California)   |                                    |                                     |                                                                                                                                                                                                                                                                                                                                                                                |
| Beet (Table Beet, Beet Greens)*                                                                            | Cercospora Leaf Spot                                                                                                                                                                                                                     | 19.2-32 oz.                        | 75-125 ppm                          | Begin applications when conditions first favor disease development and repeat at 10 to 14 day intervals or as needed. Use the higher rates when conditions favor disease.                                                                                                                                                                                                      |
|                                                                                                            | Do not apply more than 1.31 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 7.86 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 10 days apart.<br>(*Not Permitted in California) |                                    |                                     |                                                                                                                                                                                                                                                                                                                                                                                |
| Carrot                                                                                                     | Alternaria Leaf Spot, Cercospora Leaf Spot                                                                                                                                                                                               | 19.2 oz.                           | 75 ppm                              | Begin applications when disease first threatens and repeat at 7 to 14 day intervals or as needed depending on disease severity.                                                                                                                                                                                                                                                |
|                                                                                                            | Do not apply more than 1.0 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 5.0 lb. Cu <sup>2+</sup> per acre per year.<br>The minimum retreatment interval is 7 days.                                           |                                    |                                     |                                                                                                                                                                                                                                                                                                                                                                                |
| Celery, Celeriac                                                                                           | Bacterial Blight, Cercospora Early Blight, Septoria Late Blight                                                                                                                                                                          | 19.2 oz.                           | 75 ppm                              | Begin applications as soon as plants are first established in the field, repeating at 5 to 7 day intervals or as needed depending on disease severity and environmental conditions.                                                                                                                                                                                            |
|                                                                                                            | Do not apply more than 1.0 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 5.3 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                      |                                    |                                     |                                                                                                                                                                                                                                                                                                                                                                                |
| Crucifers (Broccoli, Brussels Sprout, Cabbage, Cauliflower, Collard Greens, Mustard Greens, Turnip Greens) | Black Leaf Spot ( <i>Alternaria</i> ), Black Rot ( <i>Xanthomonas</i> ), Downy Mildew                                                                                                                                                    | 19.2-25.6 oz.                      | 75-100 ppm                          | Begin application after transplants are set in the field, or shortly after emergence of field seeded crops or when conditions favor disease development. Apply at 7 to 10 day intervals or as needed. Use the higher rates when conditions favor disease.<br>IMPORTANT: Reddening of older leaves may occur on broccoli and a flecking of wrapper leaves may occur on cabbage. |
|                                                                                                            | Do not apply more than 0.53 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 2.65 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                    |                                    |                                     |                                                                                                                                                                                                                                                                                                                                                                                |
| Cucurbits (Cantaloupe, Cucumber, Honeydew, Muskmelon, Pumpkin, Squash, Watermelon)                         | Alternaria Leaf Spot, Angular Leaf Spot, Anthracnose, Downy Mildew, Gummy Stem Blight, Powdery Mildew, Watermelon Bacterial Fruit Blotch (suppression)                                                                                   | 19.2-25.6 oz.                      | 75-100 ppm                          | Begin applications prior to disease development and continue while conditions are favorable for disease development. Repeat at 5 to 7 day intervals or as needed. Use the higher rates when conditions favor disease.<br>IMPORTANT: Crop injury may occur from application at higher rates and shorter intervals. Discontinue use if injury occurs.                            |
|                                                                                                            | Do not apply more than 1.05 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 5.25 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 5 days apart.                                    |                                    |                                     |                                                                                                                                                                                                                                                                                                                                                                                |
| Eggplant                                                                                                   | Alternaria Blight, Anthracnose, Phomopsis                                                                                                                                                                                                | 19.2 oz.                           | 75 ppm                              | Begin applications prior to development of disease symptoms. Repeat sprays at 7 to 10 day intervals or as needed depending on disease severity.                                                                                                                                                                                                                                |
|                                                                                                            | Do not apply more than 0.79 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 7.9 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                     |                                    |                                     |                                                                                                                                                                                                                                                                                                                                                                                |
| Okra*                                                                                                      | Anthracnose, Bacterial Leaf Spot, Leaf Spots, Pod Spot, Powdery Mildew                                                                                                                                                                   | 19.2-32 oz.                        | 75 ppm                              | Begin treatment when disease first threatens and repeat every 5 to 10 days or as needed depending on disease severity. Use the higher rates and shorter spray intervals when conditions favor disease.                                                                                                                                                                         |
|                                                                                                            | Do not apply more than 1.05 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 5.25 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.<br>(*Not Permitted in California)  |                                    |                                     |                                                                                                                                                                                                                                                                                                                                                                                |

## VEGETABLES CONTINUED

|               |                                                                                                                                                                                                                                                                                       |                |            |                                                                                                                                                                                                                                                                                                                 |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Onion, Garlic | Bacterial Blight, Downy Mildew, Purple Blotch                                                                                                                                                                                                                                         | 19.2 oz.       | 75 ppm     | Begin when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals or as needed depending on disease severity. Can cause phytotoxicity to leaves.                                                                                                                                                     |
|               | Do not apply more than 1.0 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 6.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                                                                   |                |            |                                                                                                                                                                                                                                                                                                                 |
| Pea           | Powdery Mildew                                                                                                                                                                                                                                                                        | 19.2-25.6 oz.  | 75-100 ppm | Begin applications when disease symptoms first appear and repeat weekly intervals or as needed. Use the higher rates when conditions favor disease.                                                                                                                                                             |
|               | Do not apply more than 0.79 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 3.95 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                                                                 |                |            |                                                                                                                                                                                                                                                                                                                 |
| Pepper        | Anthrachnose, Bacterial Spot, Cercospora Leaf Spot                                                                                                                                                                                                                                    | 19.2- 25.6 oz. | 75-100 ppm | Begin applications when conditions first favor disease development and repeat at 7 to 10 day intervals or as needed depending on disease severity. Use the higher rates when conditions favor disease.                                                                                                          |
|               | Do not apply more than 0.79 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 11.85 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 9 days apart.                                                                                |                |            |                                                                                                                                                                                                                                                                                                                 |
| Spinach       | Anthrachnose, Blue Mold, Cercospora Leaf Spot, White Rust                                                                                                                                                                                                                             | 19-25.6 oz.    | 75-100 ppm | Begin application when disease first appears or when conditions favor disease development. Repeat at 7 to 10 day intervals or as needed. Use the higher rates when conditions favor disease. IMPORTANT: Flecking may occur on spinach leaves.                                                                   |
|               | Do not apply more than 0.79 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 3.95 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                                                                 |                |            |                                                                                                                                                                                                                                                                                                                 |
| Tomato        | Anthrachnose, Bacterial Speck, Bacterial Spot, Early Blight, Gray Leaf Mold, Late Blight, Septoria Leaf Spot                                                                                                                                                                          | 19.2-32 oz.    | 75-125 ppm | Begin applications when disease first threatens and repeat at 5 to 10 day intervals or as needed depending on disease severity. Use the higher rates when conditions favor disease.                                                                                                                             |
|               | Do not apply more than 0.53 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 17.4 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 3 days apart.                                                                                 |                |            |                                                                                                                                                                                                                                                                                                                 |
| Watercress    | Cercospora, Leaf Spot                                                                                                                                                                                                                                                                 | 19.2 oz.       | 75 ppm     | For applications made to watercress, production fields must be drained of water at least 24 hours prior to each application and water must not be reapplied to the field for a minimum of 24 hours following each application.<br>Copper must not be applied to watercress during the aquatic production phase. |
|               | Do not apply more than 0.53 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 2.12 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                                                                 |                |            |                                                                                                                                                                                                                                                                                                                 |
|               | Begin applications when plants are first established in the field, repeating at 7 to 14 day intervals or as needed depending on disease severity. Do not exceed four applications per crop. Apply using ground spray equipment at no less than 50 gallons of spray solution per acre. |                |            |                                                                                                                                                                                                                                                                                                                 |

## VINES

| Crop  | Disease                                                                                                                                                                                                                                  | Rate/Acre per 100 gallons of water | ppm copper per 100 gallons of water | Instructions                                                                                                                                                                                                                                                                                   |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grape | Black Rot, Downy Mildew, Phomopsis, Powdery Mildew                                                                                                                                                                                       | 19.2-32 oz.                        | 75-125 ppm                          | Begin applications at bud break with subsequent applications throughout the season depending on disease severity. Use the higher rates when conditions favor disease.<br><br>IMPORTANT: Foliage injury may occur on copper sensitive varieties such as Concord, Delaware, Niagara and Rosette. |
|       | Do not apply more than 3.0 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 20.0 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 3 days apart.                                     |                                    |                                     |                                                                                                                                                                                                                                                                                                |
| Hops* | Downy Mildew                                                                                                                                                                                                                             | 19.2 oz.                           | 75 ppm                              | For table grapes, spraying up until harvest is acceptable, for all others discontinue spray 15 days before harvest.                                                                                                                                                                            |
|       | Do not apply more than 0.53 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 2.65 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 10 days apart.<br>(*Not Permitted in California) |                                    |                                     | Make crown treatments after pruning, but before training. After Training, additional treatments are needed at about 10 day intervals.                                                                                                                                                          |
| Kiwi* | <i>Erwinia herbicola</i> , <i>Pseudomonas fluorescens</i> , <i>Pseudomonas syringae</i>                                                                                                                                                  | 38.4 oz.                           | 150 ppm                             | RESTRICTION: Discontinue use two weeks before harvest.                                                                                                                                                                                                                                         |
|       | Do not apply more than 2.1 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 6.3 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 30 days apart.<br>(*Not Permitted in California)   |                                    |                                     | Apply in 200 gallons of water per acre. Make applications on a monthly basis. A maximum of three applications may be made.                                                                                                                                                                     |

## MISCELLANEOUS

| Crop       | Disease                                                                                                                                                                                                                              | Rate/Acre per 100 gallons of water | ppm copper per 100 gallons of water | Instructions                                                                                                                                                                                                         |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Atemoya*   | Anthrachnose                                                                                                                                                                                                                         | 25.6-38.4 oz.                      | 100-150 ppm                         | Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.                  |
|            | Do not apply more than 3.15 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 12.6 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart. (*Not Permitted in California) |                                    |                                     |                                                                                                                                                                                                                      |
| Carambola* | Anthrachnose                                                                                                                                                                                                                         | 38.4-51.2 oz.                      | 150-200 ppm                         | Make initial application before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.                       |
|            | Do not apply more than 2.1 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 10.5 lb. Cu <sup>2+</sup> per acre per year.<br>The minimum retreatment interval is 7 days. (*Not Permitted in California)       |                                    |                                     |                                                                                                                                                                                                                      |
| Chives     | Downy Mildew                                                                                                                                                                                                                         | 19.2 oz.                           | 75 ppm                              | Begin application when plants are established in the field. Repeat every 7 to 10 days or as needed depending on disease conditions.                                                                                  |
|            | Do not apply more than 0.53 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 2.65 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                |                                    |                                     |                                                                                                                                                                                                                      |
| Dill       | Phoma Leaf Spot, Rhizoctonia Foliage Blight                                                                                                                                                                                          | 19.2-25.6 oz                       | 75-100 ppm                          | Begin applications when plants are first established in the field and repeat at 7-10 day intervals or as needed depending on disease severity and environmental conditions. Use the higher rates for severe disease. |
|            | Do not apply more than 0.79 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 3.95 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart.                                |                                    |                                     |                                                                                                                                                                                                                      |

## MISCELLANEOUS CONTINUED

|                          |                                                                                                                                                                                                                                      |               |             |                                                                                                                                                                                                           |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Guava*                   | Anthracnose, Red Algae                                                                                                                                                                                                               | 25.6-38.4 oz. | 100-150 ppm | Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.       |
|                          | Do not apply more than 1.23 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 4.92 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart. (*Not Permitted in California) |               |             |                                                                                                                                                                                                           |
| Litchi*                  | Anthracnose                                                                                                                                                                                                                          | 25.6-38.4 oz. | 100-150 ppm | Make initial application just before flowering and repeat on a weekly schedule until just before harvest. Use the higher rates for severe disease.                                                        |
|                          | Do not apply more than 1.23 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 4.92 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart. (*Not Permitted in California) |               |             |                                                                                                                                                                                                           |
| Macadamia*               | Anthracnose                                                                                                                                                                                                                          | 38.4-64 oz.   | 150-250 ppm | Initiate sprays at first sign of flowering and repeat on a weekly schedule until just before harvest. Apply in sufficient water for thorough coverage. Use the higher rates for severe disease.           |
|                          | Phytophthora Blight ( <i>P. capsici</i> ),<br>Raceme Blight ( <i>Botrytis cinerea</i> )                                                                                                                                              | 38.4-64 oz.   | 150-250 ppm | Apply during raceme development and bloom periods. Apply in sufficient water for thorough coverage. Use the higher rates when conditions favor disease.                                                   |
|                          | Do not apply more than 2.36 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 9.44 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart. (*Not Permitted in California) |               |             |                                                                                                                                                                                                           |
| Mamey Sapote*            | Algal Leaf Spot                                                                                                                                                                                                                      | 38.4-64 oz.   | 150-250 ppm | Apply when conditions favor disease development. Repeat on a 14 to 30 schedule or as needed as disease severity and environmental conditions dictate. Use the higher rates when conditions favor disease. |
|                          | Do not apply more than 2.1 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 8.4 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 14 days apart. (*Not Permitted in California)  |               |             |                                                                                                                                                                                                           |
| Pitahaya (Dragon fruit)* | <i>Xanthomonas campestris</i> ,<br><i>Dothiorella</i>                                                                                                                                                                                | 32-51 oz.     | 125-200 ppm | Begin applications at the start of the rainy season and continue while infection conditions persist.                                                                                                      |
|                          | Do not apply more than 1.23 lb. Cu <sup>2+</sup> per acre per application.<br>Do not apply more than 4.92 lb. Cu <sup>2+</sup> per acre per year.<br>Do not make applications less than 7 days apart. (*Not Permitted in California) |               |             |                                                                                                                                                                                                           |

## GREENHOUSE and SHADEHOUSE CROPS

Notice to Users: CS 2005 may be used in greenhouses and shade houses to control diseases on crops which appear on this label, and specific instructions have been developed for crops listed. The grower should bear in mind the sensitivity of crops grown in greenhouses and shadehouses differs greatly from crops grown under field conditions. Neither the manufacturer nor the seller has determined whether or not CS 2005 can be used safely on all green house and shadehouse grown crops. Consequently, injury arising from the use of CS 2005 on these types of greenhouse and shadehouse crops is the responsibility of the user. The user should determine whether CS 2005 can be used safely prior to commercial use. In a small area, apply the specified rates to the plants in question, i.e. foliage, fruit etc., and observe for 7 to 10 days for symptoms of phytotoxicity prior to commercial use.

Apply 100 gallons of CS 2005 per acre. Apply CS 2005 according to specific rates given for those crops in ounces (mL) per 100 gallons per acre. CS 2005 should be applied in adequate water for thorough coverage of plant parts. Begin application at first sign of disease and repeat at 7 to 14 day intervals or as needed; use shorter spray intervals during periods when severe disease conditions persist.

**NOTE:** Phytotoxicity may occur on young tender flush when CS 2005 is applied to citrus seedlings grown in greenhouses or shadehouses.

**One fluid ounce = 29.5 milliliters = 6 teaspoons.**

| Crop                         | Disease                                                                                                     | Application Rate per 1 gallon water:      | ppm copper per 1 gallon water | Instructions                                                                                                                                                                             |
|------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Citrus (Non-Bearing Nursery) | Brown Rot, Citrus Canker, Greasy Spot, Melanose, Pink Pitting, Scab                                         | 0.14-0.27 oz<br>(4-8 mL) per gallon water | 50 -100 ppm                   | Begin applications when disease first threatens. Repeat at 30 day intervals or as needed depending on disease severity.                                                                  |
| Cucumber                     | Angular Leaf Spot, Downy Mildew                                                                             | 0.20-0.27 oz<br>(6-8 mL)                  | 75-100 ppm                    | Apply weekly when plants begin to vine. Use the higher rates when conditions favor disease.                                                                                              |
| Eggplant                     | Alternaria Blight, Anthracnose, Phomopsis                                                                   | 0.20 oz.<br>(6 mL)                        | 75 ppm                        | Begin applications prior to development of disease symptoms. Repeat at 7 to 10 day intervals or as needed depending on disease pressure.                                                 |
| Pepper                       | Bacterial Spot                                                                                              | 0.20-0.27 oz<br>(6-8 mL)                  | 75-100 ppm                    | Begin applications when conditions favor disease development and repeat at 5 to 10 day intervals or as needed depending on severity. Use the higher rates when conditions favor disease. |
| Tomato                       | Anthracnose, Bacterial Speck, Bacterial Spot, Early Blight, Gray Leaf Mold, Late Blight, Septoria Leaf Spot | 0.20-0.27 oz<br>(6-8 mL)                  | 75-100 ppm                    | Begin applications when disease first threatens and repeat at 5 to 10 day intervals or as needed depending on disease severity. Use the higher rates when conditions favor disease.      |

### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Pesticide Storage:** Store in a safe place away from PETS AND KEEP OUT OF THE REACH OF CHILDREN. Store away from excessive heat. CS 2005 will freeze. Always keep container closed. Store CS 2005 in its original container only. Bulk CS 2005 shall be stored and handled in 316L stainless steel, fiberglass, PVC's, polypropylenes or plastic equipment. Keep away from galvanized pipe and any nylon storage handling equipment.

**Pesticide Disposal:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Open dumping is prohibited. In the event of a spill, neutralize with limestone or baking soda before disposal. Concentrate may deteriorate concrete.

**Container Handling: Non-refillable containers:** Do not reuse or refill this container. Offer for recycling,

if available. Do not reuse the container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. **For containers 5 gallons or less:** Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain 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 flow begins to drip. Repeat two more times. **For containers of more than 5 gallons, i.e. drums:** Triple rinse as follows: Empty the remaining contents into the application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand container on end and tip back and forth several times. Turn the container over on its other end and tip back and forth several times. Empty rinsate into application equipment or mix tank or store rinsate for later use or disposal. Repeat procedure two more times. **For large containers, i.e. IBC's or totes:** Pressure washing may be an alternative. Pressure rinsing is as follows: Empty remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after flow begins to drip. 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 flow begins to drip. Rinsing and reuse of totes is permissible.

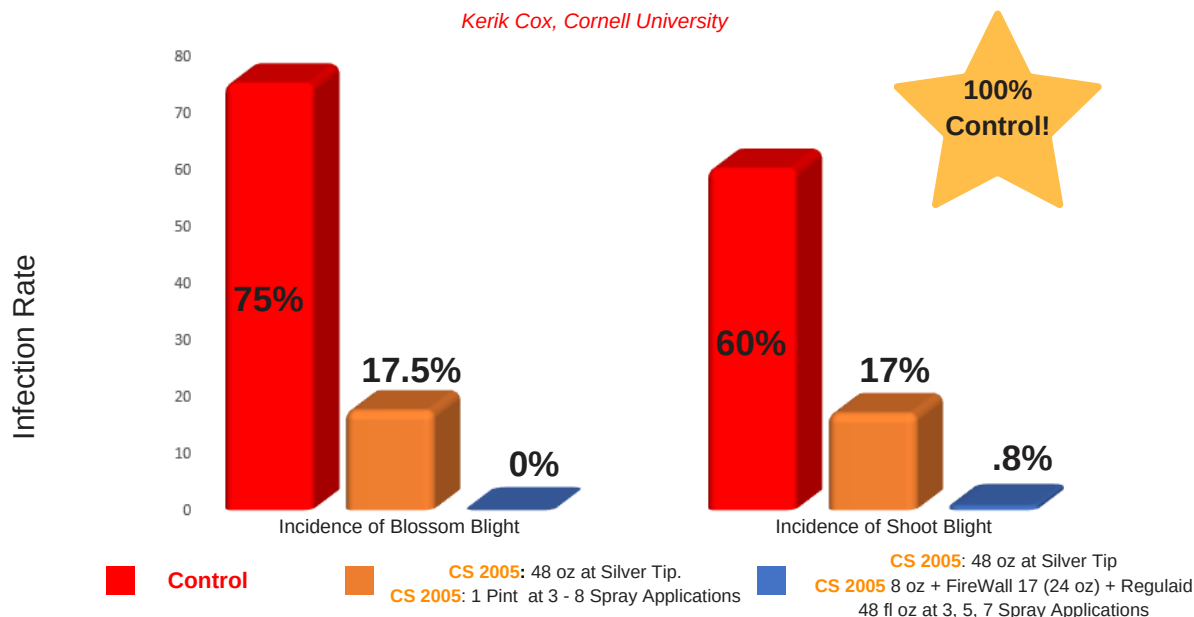
## LIMITED WARRANTY AND LIMITATION OF REMEDIES

The directions for use of this product are believed to be reliable and must be followed carefully. Timing and method of application, weather and crop conditions, mixture with other chemicals not specifically directed and other influencing factors in the use of this product are beyond the Seller's control. To the extent consistent with applicable laws, Buyer assumes all risks of use, handling, application, storage, or disposal of this product not in strict accordance with the use directions. To the extent consistent with applicable laws, in no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with the use directions. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.



# Fire Blight Research Trials

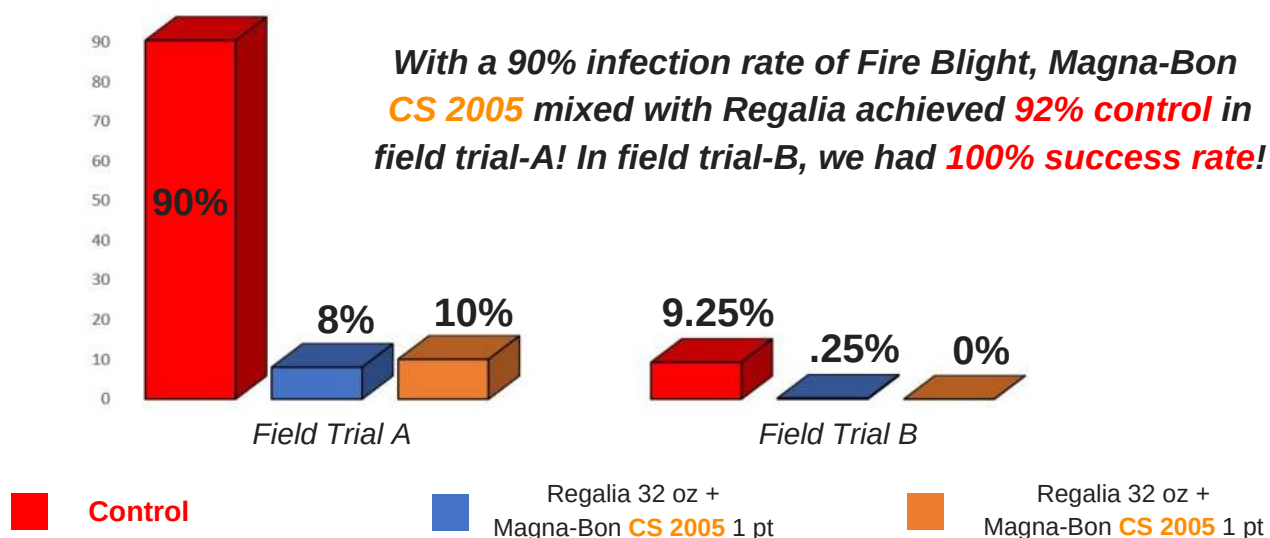
## Evaluation of Bactericide Programs for the Management of Fire Blight on 'Idared' Apples in NY, 2021.



A trial was conducted at Cornell AgriTech in Geneva, NY to evaluate the effectiveness of bactericide programs for the management of blossom blight and shoot blight on apple. The orchard site is a planting of 18-yr-old 'Idared' trees on B.9 rootstocks.

\*Treatment timings were: April 10 "silver tip" (app. St); April 24 "tight cluster" (app. 1); April 27 "pink" (app. 2); May 2 - 20% bloom (app. 3); May 4 - 40% bloom (app. 4); May 6 - 80% bloom (app. 5); May 8 - 100% bloom/petal fall (app. 6); May 11 - petal fall/early terminal shoot growth (app. 7); May 17 - terminal shoot growth (app. 8). Rates are in amount per acre except where otherwise noted (see text above). \*0% of Russet in trials.

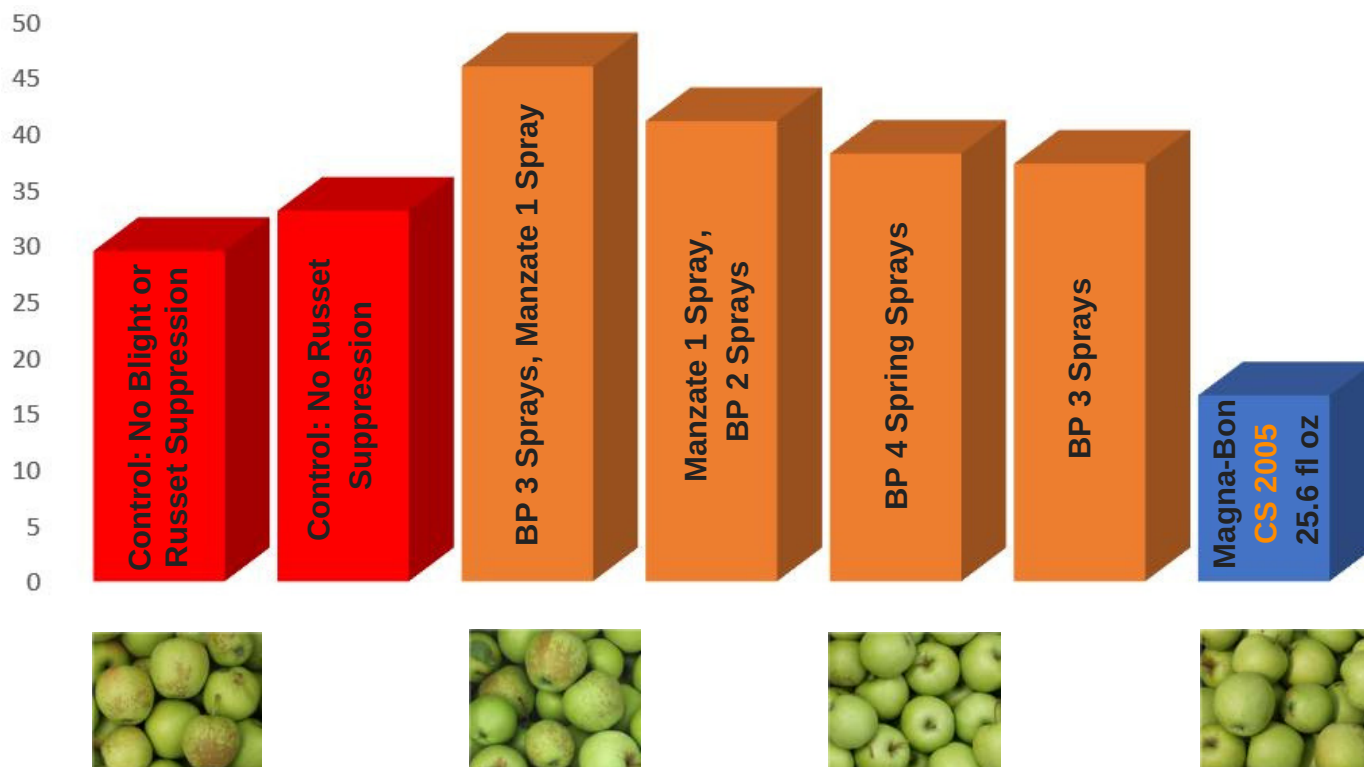
## Evaluation of bactericide and chemical regulator programs for the management of Fire Blight on 12-yr-old 'Idared' trees on B.9 rootstocks.



A trial was conducted at the New York State Agricultural Experiment Station in Geneva, NY by Dr. Kerik Cox to evaluate the effectiveness of bactericide programs for the management of blossom blight in an apple orchard. The orchard site is a young planting of 12-yr-old 'Idared' trees on B.9 rootstock. Treatments were applied dilute to runoff using a gas powered backpack sprayer (200 PSI). Most treatments were made at 20% bloom, 50% bloom, 80% bloom, full bloom/petal fall and during terminal shoot growth.

# Impact of blossom sprays on fruit russet evident on Golden Delicious Apples

Evaluation on August 8, 2013 by Cornell University - Hudson Valley Laboratory

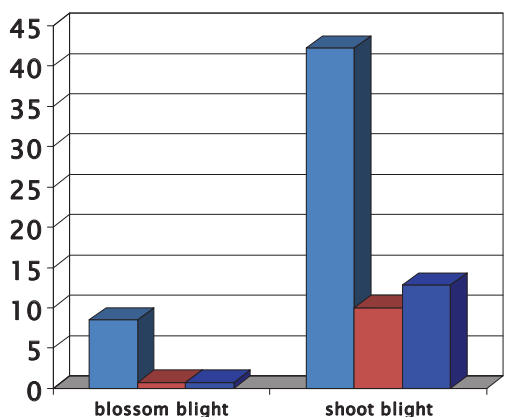


\*Pictures shown are correlated with the spray programs directly above.

Research conducted by Jeff Alicandro of [agr.assistance](http://agr.assistance.com)

## Dormant Program Followed by Streptomycin

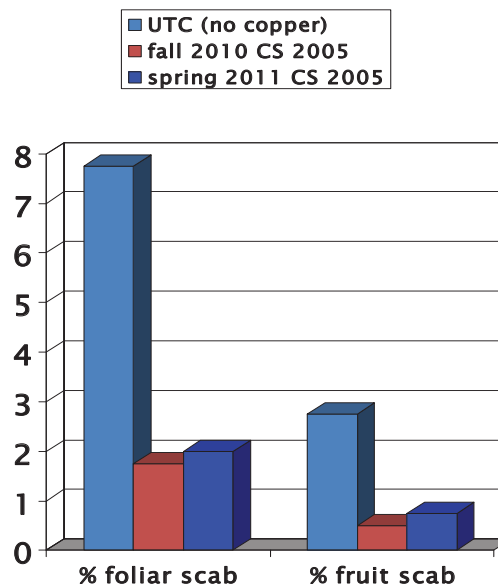
CS2005 Looks **VERY EFFECTIVE** as a dormant copper **Fireblight** control program on **Apples**



2010-2011

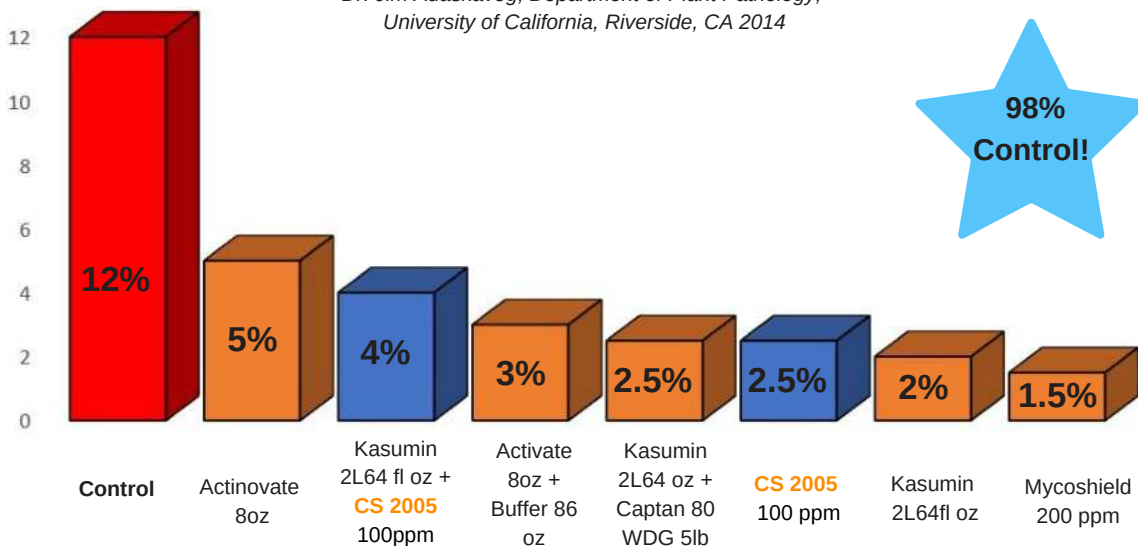
CS2005

## Post-Harvest Apple Scab Control



# Evaluation of Antibacterial Treatments for Protection of cv. Coral Cherry Fruit from Bacterial Blast

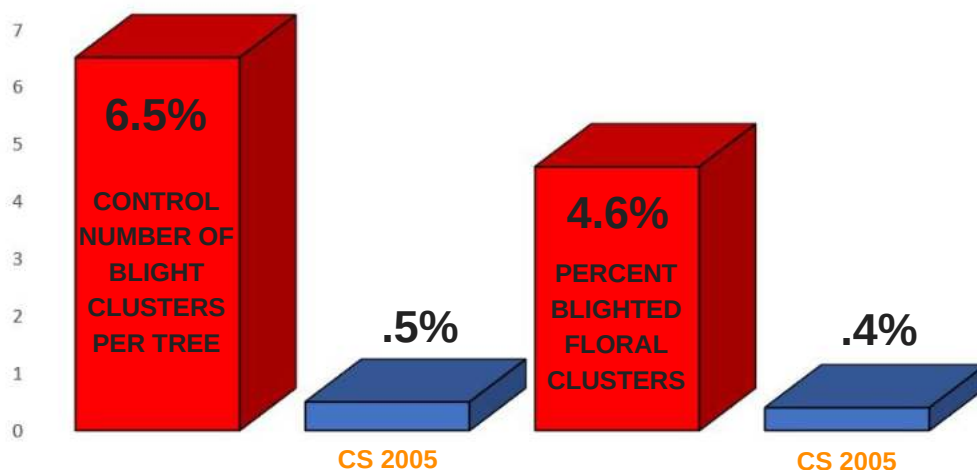
Dr. Jim Adaskaveg, Department of Plant Pathology,  
University of California, Riverside, CA 2014



Applications were done on 3-11-14 at 50% bloom using an airblast backpack sprayer at a rate of 100 gal/A. Inoculated with copper-resistant strain fruit were evaluated for the presence of blast symptoms in mid-April.

## Control of Fire Blight in Pears

Pear ('Bartlett') Blight: *Erwinia Amylovora*



Ken Johnson and T.N. Tempel

Non-antibiotic materials were evaluated for fire blight control in a 17-yr-old 'Bartlett' pear orchard located at the OSU Botany and Plant Pathology Field Laboratory near Corvallis, OR.



# Blueberry Pre-Harvest Spray

60 Days Later

Control  
Y18/2012

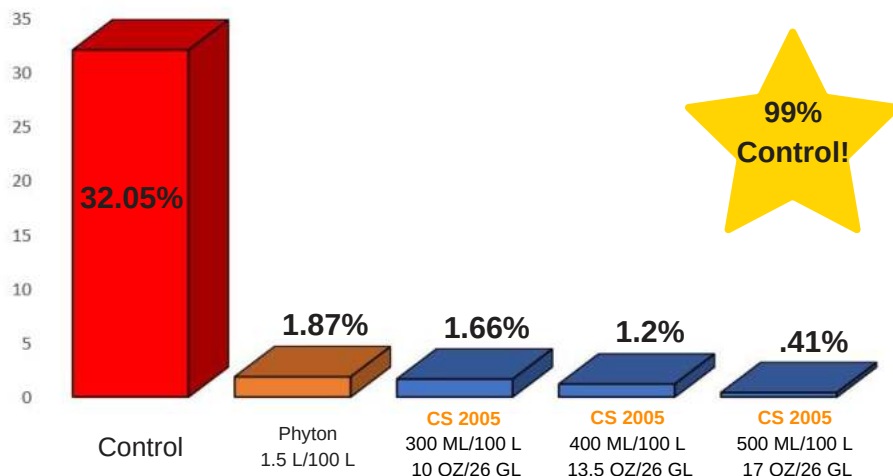
WASH  
Only

WASH  
50 PPM



## Evaluation of the Biological Effectiveness of Magna-Bon CS 2005 for the Control of Anthracnose in Avocado Evaluated Pathogen

University of Puebla, Science Institute. Dr. Manuel de Huerta Lara



### CONCLUSIONS

CS 2005 at dosages of 300, 400 and 500 mL / 100 L of water, successfully controlled anthracnose after 3 consecutive applications at 7 day intervals, achieving levels of efficacy of 94% to 99% and maintaining good control during the last assessment conducted.

Note: US label rate is equal to 1 to 2 Quarts per 100 Gallons of water per acre.



# Grape Powdery Mildew Fungicide Efficacy Trials

Dr. Akif Eskalen, UC Davis

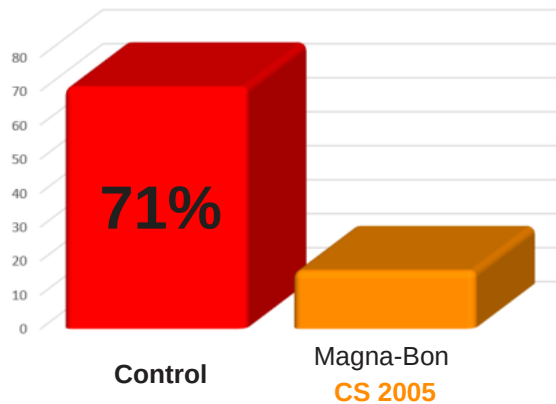


Table 1

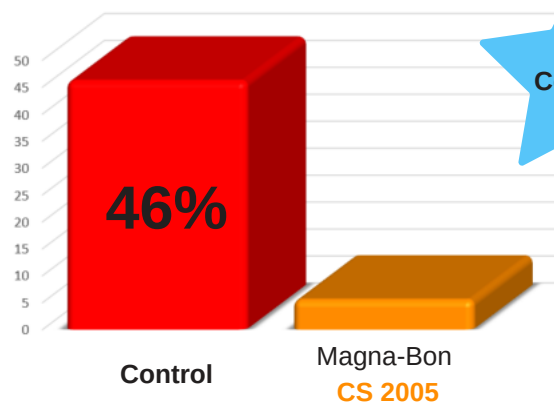
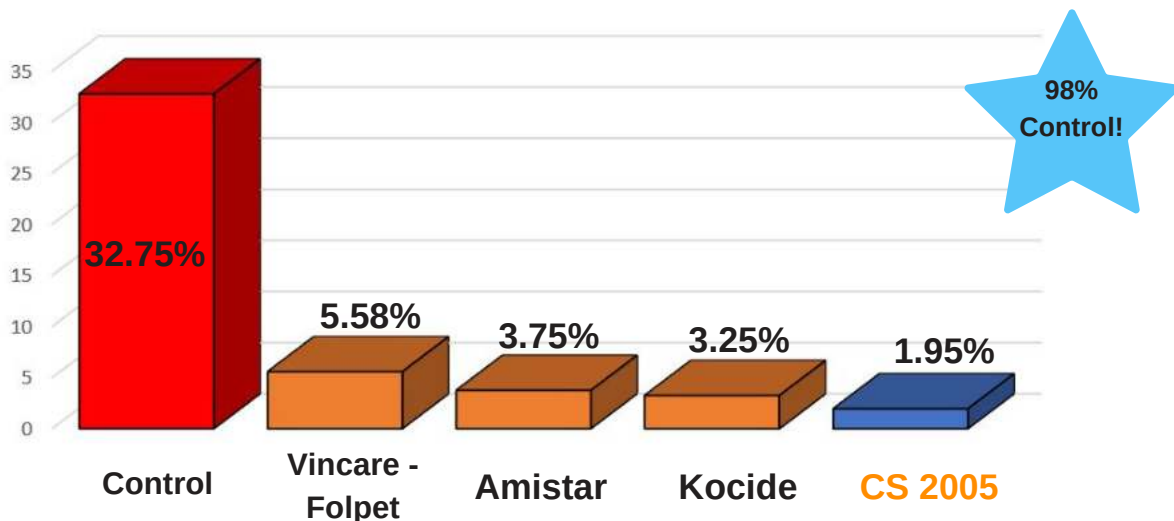


Table 2

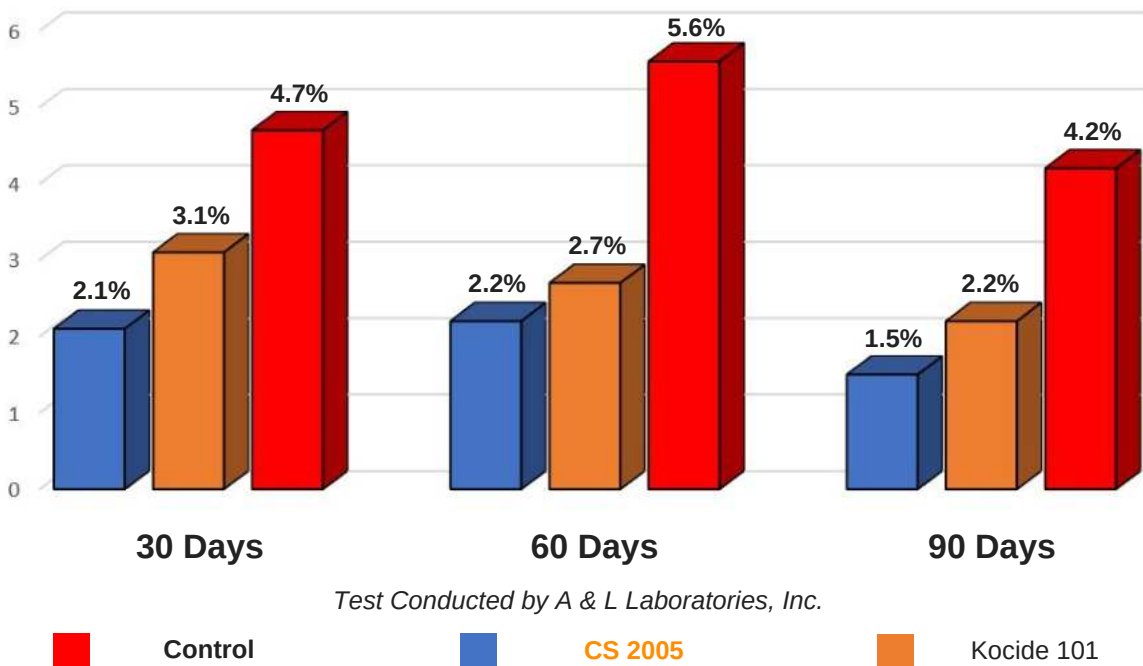
Magna-Bon **CS 2005** achieved outstanding results in the 2021 UC - Davis Grape Powdery Mildew Fungicide Efficacy Trials! As shown in Table 1 with an infection rate of 71%, **CS 2005** had 83% control of Powdery Mildew! In Table 2 with an infection rate of 46%, **CS 2005** had **95% control of Powdery Mildew!**  
*Application rates of Magna-Bon CS 2005 = 20oz per 100 gallons of water per acre, 14 day intervals*

## Grape Research - Leaf Coverage of Downy Mildew

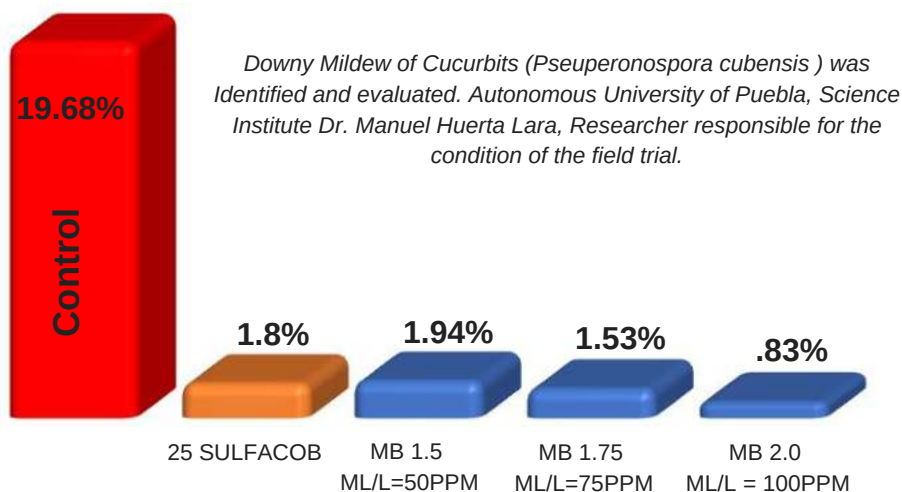


With an infection rate of 33%, Magna-Bon **CS 2005** had **98% Control of Downy Mildew** in grapes!

# Bell Peppers Inoculated with Bacterial Leaf Spot Research



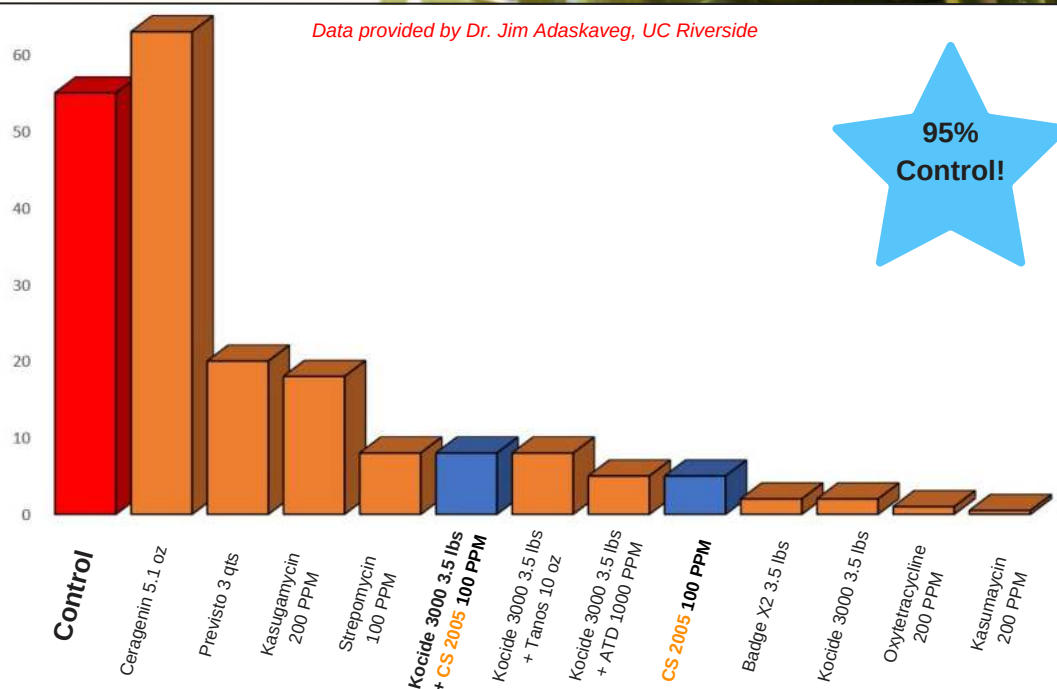
## Evaluation of the Biological effectiveness of Magna-Bon CS 2005 for the control of Downy Mildew on cucurbits in cucumber evaluated pathogen



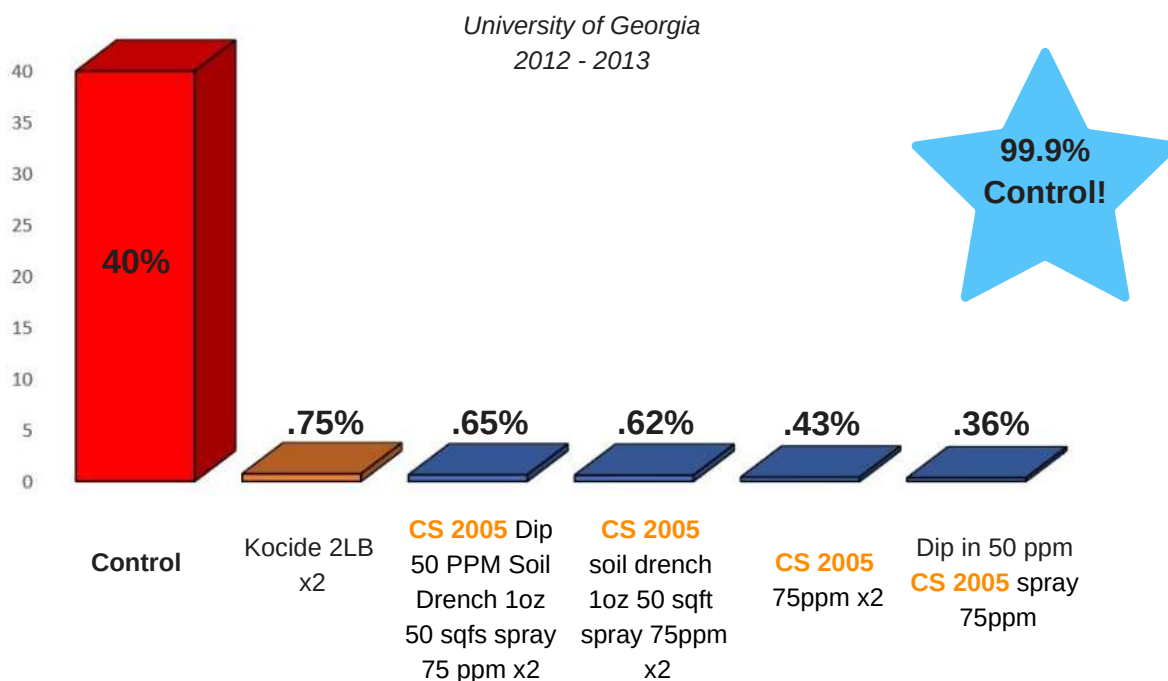
With dosages of 1.5, 1.75 and 2.0 mL/L of water, CS 2005 achieved outstanding control of Downy Mildew of Cucurbits (*Pseudoperonospora cubensis*), after three consecutive applications. At 7 day intervals, reaching levels of efficacy of 90 to 96% and maintaining outstanding control.



# Management of Olive Knot caused by *Pseudomonas savastanoi* pv. *savastanoi*



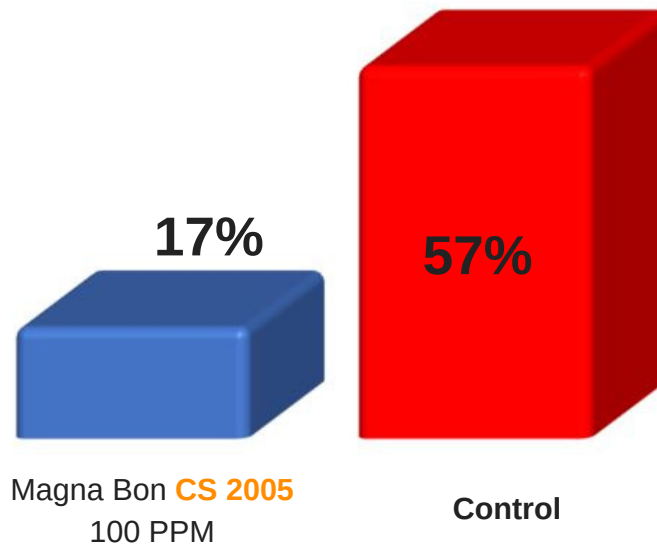
## Vidalia Sweet Onions Research on Center Rot & Botrytis







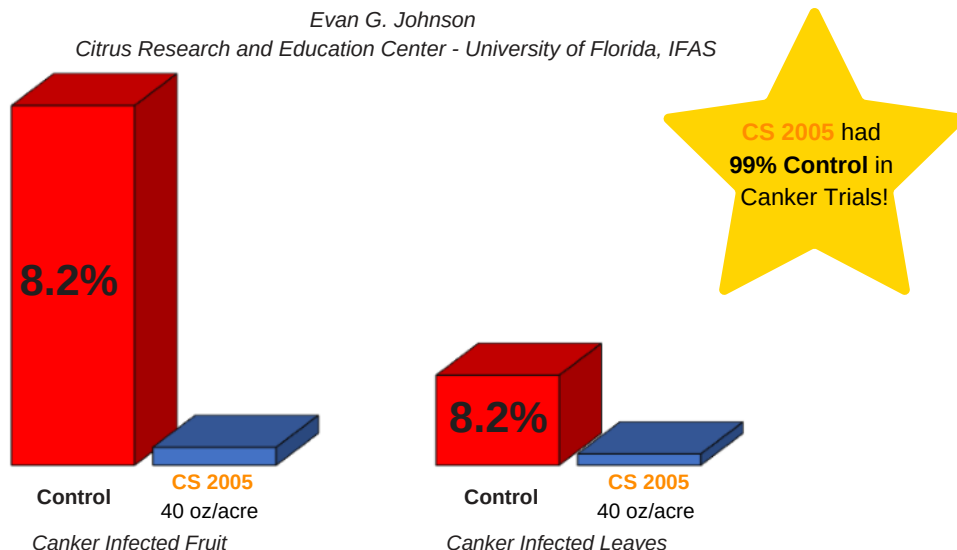
# Canker Control Trails in Grapefruit & Hamlin Oranges



*Citrus Research & Education Center: University of Florida 2009  
Dr. Jim Graham*

## Citrus Canker Trials in Florida for Grapefruit

*Evan G. Johnson  
Citrus Research and Education Center - University of Florida, IFAS*



### **Spray Volume and Application:**

One gallon of spray per tree applied with a handgun (to incipient run-off from foliage) equivalent to 145 gal/acre  
Spray dates: April 2, April 23, May 13, June 3, June 24, July 15, August 5, August 26, September 16, October 7, October 28

## MAGNA-BON PROGRAM

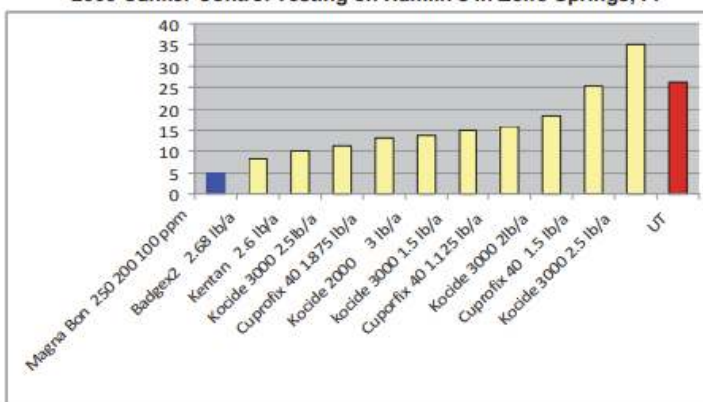
The Magna-Bon program was used in the test block for Hamlin's in 2009 showing the **Lowest** % of Fruit w/Canker.

Six (6) sprays applied on a 21 day spray program:

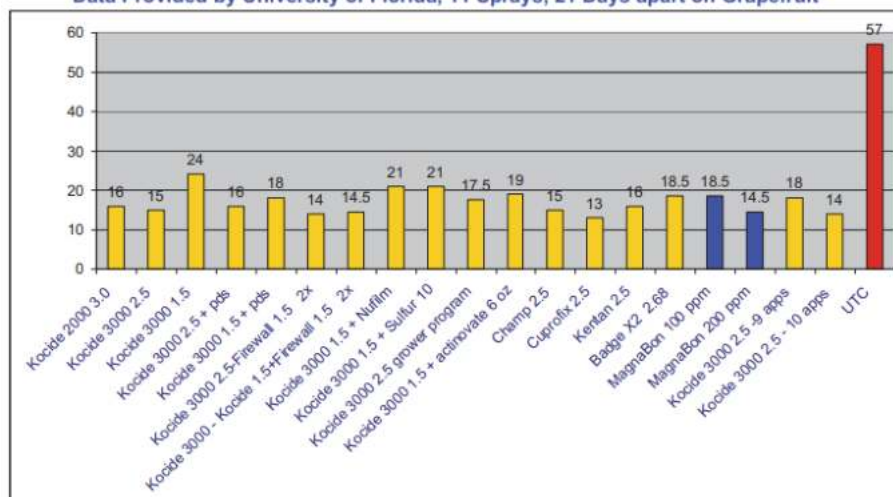
- 1<sup>st</sup> Spray 4/8 @ 250ppm
- 2<sup>nd</sup> Spray 4/29 @ 200ppm
- 3<sup>rd</sup> Spray 5/25 @ 100ppm
- 4<sup>th</sup> Spray 6/9 @ 100ppm
- 5<sup>th</sup> Spray 7/1 @ 100ppm
- 6<sup>th</sup> Spray 7/22 @ 100ppm

## LOWEST % FRUIT WITH CANKER

2009 Canker Control Testing on Hamlin's in Zolfo Springs, FL



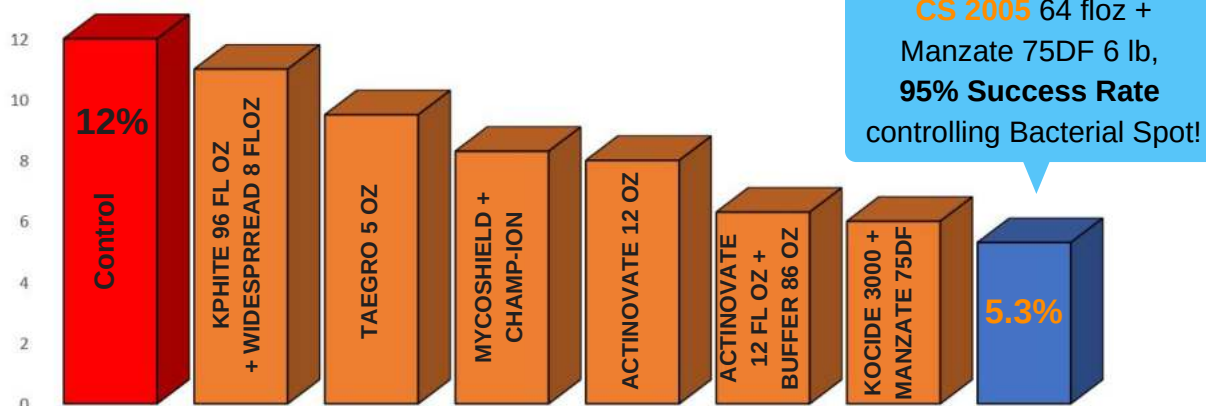
Data Provided by University of Florida, 11 Sprays, 21 Days apart on Grapefruit\*



# Bacterial Spot in Almonds

## Research Trials by Dr. Jim Adaskaveg

Efficacy of In-Season Bactericide Treatments for Management of Bacterial Spot of cv. Fritz Almonds in San Joaquin County, 2014



### Spray Program for Season

Full bloom 2/18: 64 floz + 6 lb Manzate 75DF  
 Petal fall 3/5: 27 floz + 4 lb Manzate 75DF  
 2 Weeks APF: 3/20 27 floz + 4 lb Manzate 75DF  
 4 Weeks APF: 4/3 27 floz + 4 lb Manzate 75DF

Using  $\frac{3}{4}$  of a Pound of Metallic Copper Per Acre for the Whole Growing Season!

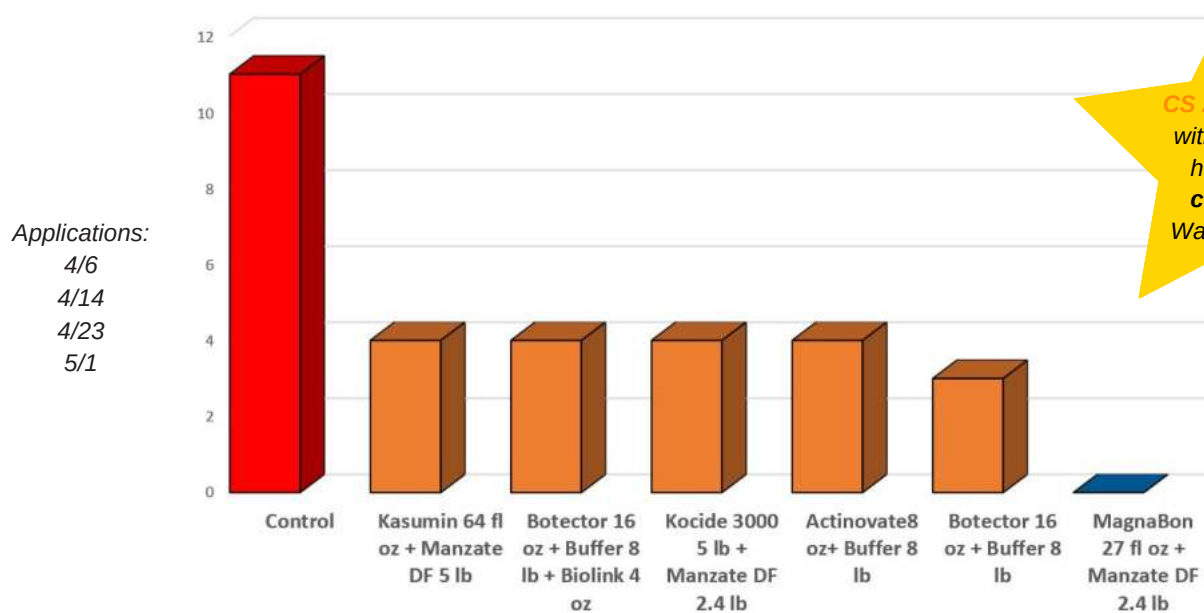
\*\*Treatments were applied at a rate of 100 gal/A using an air-blast sprayer\*\*



# Walnut Blight Research Trials

## Evaluation of New Antimicrobial and Biological Products for Management of Walnut Blight on cv.Chandler

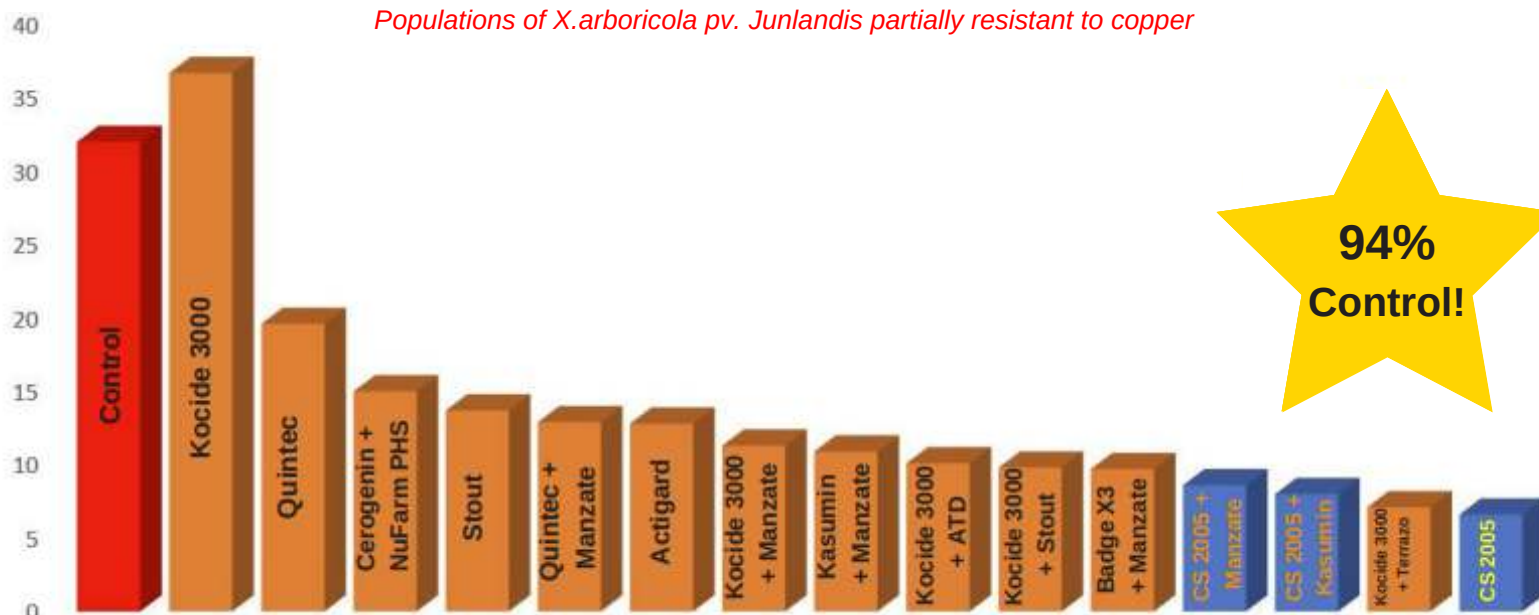
Research performed by Dr. Jim Adaskeveg - UC Riverside,  
inoculated walnut trees with *copper resistant strains* of *X. arboricola* pv. *juglandis*



## Efficacy of New Copper and Non-Copper Based Treatments for Managing Walnut Blight on cv. Tulare under natural rainfall conditions.

Solano County 2014 conducted by Dr. Jim Adaskaveg - UC Riverside

*Populations of X.arboricola* pv. *Junlandis* partially resistant to copper



CS 2005 advanced copper formula offers an alternative to antibiotics with its systemic capabilities! With low metallic copper, it helps preserve the environment by using 1/8 to 1/4 lb. of copper per acre and 94% control in this trial!



### LIMITED WARRANTY AND LIMITATION OF REMEDIES

Seller warrants that the product conforms to the chemical description and is reasonably fit for the purpose stated on the label for use under normal conditions, but makes no other warranties of fitness or merchantability expressed or implied, or any other warranty if the product is used contrary to the label instructions or under abnormal conditions not foreseeable to the seller. In no case shall the seller be liable for more than the cost of the product to the buyer, and will in no event be liable for any consequential, special or indirect damages connected with the use or hanging of this product. This product is offered and the buyer or user accepts it's subject to the foregoing terms which may not be varied.

**For more information, please call (800) 845-1357 or visit [www.MagnaBon.com](http://www.MagnaBon.com)**

### Amount of CS 2005 per Volume of Water for Proper ppms\* of Applied Active Ingredient

| ppms* of A.I. | 30 gallons per acre | 50 gallons per acre | 100 gallons per acre | 125 gallons per acre | 250 gallons per acre | 500 gallons per acre |
|---------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| 50            | 3.85 oz.            | 6.4 oz.             | 12.8 oz.             | 16 oz.               | 32 oz.               | 64 oz.               |
| 75            | 5.78 oz.            | 9.6 oz.             | 19.2 oz.             | 24 oz.               | 48 oz.               | 96 oz.               |
| 100           | 7.70 oz.            | 12.8 oz.            | 25.6 oz.             | 32 oz.               | 64 Oz.               | 1 gal.               |
| 125           | 9.6 oz.             | 16 oz.              | 32 oz.               | 40 oz.               | 80 oz.               | 1.25 gal.            |
| 150           | 11.5 oz.            | 19.2 oz.            | 38.4 oz.             | 48.oz                | 96 oz.               | 1.5 gal.             |
| 200           | 15.4 oz.            | 25.6 oz.            | 51.2 oz.             | 64 oz.               | 1 gal.               | 2 gal.               |
| 250           | 19.2 oz.            | 32 oz.              | 64 oz.               | 80 oz.               | 1.25 gal.            | 2.5 gal.             |

\*ppms=parts per million

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AGRICULTURAL CONTROL SOLUTIONS