

PM 22 55146-64

7/7/99

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**CHAMP®**  
**FORMULA 2 FLOWABLE**  
**AGRICULTURAL FUNGICIDE/BACTERICIDE**

**ACTIVE INGREDIENT:**

COPPER HYDROXIDE\* .....37.5%

**INERT INGREDIENTS:** .....62.5%

**TOTAL:** .....100.0%

\*(Metallic Copper Equivalent 24.4%)

Contains 4.6 lbs. Copper Hydroxide per gallon.

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

**STATEMENT OF PRACTICAL TREATMENT**

**IF SWALLOWED:** Call a physician or Poison Control Center. Drink 1 to 2 glasses of water and induce vomiting by touching the back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

**IF ON SKIN:** Wash with plenty of soap and water. Get medical attention.

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

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

See label for additional precautions and Directions for Use.

AGTROL INTERNATIONAL  
Houston, Texas 77074

EPA Reg. No. 55146-64  
EPA Est. No.

**ACCEPTED**

**JUL 7 1999**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 55146-64

## DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours provided the following instructions are followed:

For at least 7 days following application an eye-flush container, designed specifically for flushing eyes, must be available at the WPS decontamination site for workers entering the area treated with copper hydroxide.

Notify workers of the application by warning them orally that residues in the treated areas may be highly irritating to their eyes and to take precautions such as refraining from rubbing their eyes and if they get residues in their eyes they should immediately flush their eyes using the eye-flush container.

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

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides 40 CFR part 170. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep unprotected persons out of treated area until sprays have dried.

**FROST INJURY PROTECTION:** Bacterial Ice Nucleation Inhibitor: Application of CHAMP FORMULA 2 made to all crops listed on this label at rates and stages of growth indicated below just prior to anticipated frost conditions will afford control of ice nucleating bacteria (*Pseudomonas Syringae*, *Erwinia Herbicola* and *Pseudomonas Fluorescens*) and may therefore provide protection against light frost. Use higher rates when bacterial infection is severe. Not recommended in those geographical areas where weather conditions favor severe frost.

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## GENERAL INSTRUCTIONS

CHAMP FORMULA 2 can be used with all types of spraying equipment. The volume per acre will differ depending on the specific crop and the equipment used. Use CHAMP FORMULA 2 as per instructions on this label.

**APPLYING SPRAY MIXTURE:** The directions given under each crop are for applying dilute spray mixture unless otherwise shown. The amount of CHAMP FORMULA 2 applied per acre in concentrate and aerial sprays should be the same as the amount applied per acre in dilute sprays. The required amount should be mixed with enough water to thoroughly cover the crop with spray mixture and is to be applied to the point of "runoff". The volume of water needed will depend upon the spray equipment used and the size of the crop being sprayed. Read the information below about applying dilute, concentrate, and aerial sprays.

**APPLYING DILUTE HIGH-VOLUME SPRAYS:** On vegetable crops use 25 to 100 gallons of spray mixture per acre; on fruit and nut trees use 250 to 800 gallons per acre. As much as 1,500 gallons per acre may be needed for large trees.

**APPLYING CONCENTRATE GROUND SPRAYS:** On vegetable crops use 5 to 20 gallons of spray mixture per acre; on fruit and nut trees use 25 to 250 gallons per acre.

**APPLYING AERIAL SPRAYS:** Use 3 to 30 gallons per acre.

**NOTE:** This product may be reactive on metal and masonry surfaces such as galvanized roofing. Avoid contact with metal surfaces. Do not spray on cars, houses, lawn furniture, etc.

**NOTE:** Do not tank mix CHAMP FORMULA 2 with Aliette® fungicide unless appropriate precautions have been taken to buffer the spray solution or severe phytotoxicity may result.

**NOTE:** CHAMP FORMULA 2 should not be applied in a spray solution having a pH of less than 6.5 as phytotoxicity may occur.

**NOTE:** 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 CHAMP FORMULA 2 resulting in possible phytotoxicity or loss of effectiveness.

**NOTE:** Reduced effect on pests or crop injury may result from tank mixing this product especially where several products are involved. Unless recommended on this label or by state/local expert, or the user has small scale direct experience, tank mixing should not be undertaken.

**NOTE:** This product may be reactive with soft metals and some synthetic materials such as plastics, rubbers, etc. When working with equipment containing these materials the equipment must be thoroughly flushed with clean water after each day's use.

**CHEMIGATION:** Apply this product only through center pivot, motorized lateral move, end tow, traveler, big gun, plastic solid set, or plastic hand move sprinkler irrigation systems that do not contain aluminum components. Do not apply this product through any other type of irrigation system unless specifically set forth above or as may be specified in the future as additional systems not containing aluminum components come into use. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. 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. 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 devices for public water systems are in place. 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 physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. For nonpublic water sprinkler chemigation systems, the system must contain a functional checkvalve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, nominally 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 shutdown. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. For non-public water sprinkler chemigation systems, 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 (e.g., 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 windspeed favors drift beyond the area intended for treatment.

It is recommended that the pesticide supply tank be equipped with a means for continuous agitation either by recirculation or a mechanical agitator. Charge the supply tank with the appropriate amount of water and add the pesticide slowly followed by any sticker-spreaders, insecticides, nutrients, etc. Observe all cautions and limitations on the label of all products used in the mixtures. For fixed position irrigation systems such as center pivot, big gun, etc., the pesticide should be applied towards the end of the irrigation period. Exact timing will depend on the desired pesticide application rate and calibration of the system. For moving systems, the pesticide should be applied continuously. In all cases, thorough coverage of the crop should be achieved.

"Posting of 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 inpatient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not

including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses."

**NOTE:** IRRIGATION SYSTEMS AND ASSOCIATED PIPING SHOULD BE THOROUGHLY FLUSHED WITH CLEAN WATER FOLLOWING APPLICATION OF COPPER BASED FUNGICIDES. FLUSHING MUST BE DONE IN A MANNER WHICH WILL NOT WASH THE PRODUCT FROM THE FOLIAGE AND REDUCE DISEASE CONTROL.

No additional surfactants are needed unless specified for an individual crop. Add CHAMP FORMULA 2 to the spray tank followed by any stickerspreaders, insecticides, nutrients etc. Observe all cautions and limitations on the label of all products used in mixtures. The specific instructions given on this label are based on general applications and circumstances. The recommendations of the State Agricultural Extension Service should be closely followed as to timing, frequency and number of sprays per season.

**NOTE:** APPLICATION TO PLANT SURFACES SPRAYED WITH AND WHICH HAVE LOW pH CHEMICAL RESIDUE MAY ALSO RESULT IN CROP INJURY.

## BERRIES, VINES AND HOPS

**BLACKBERRY**, (Santiam, Logans, Boysen, Marion, Aurora, Cascade, Chehalem and Thornless Evergreen), *Leaf Spot, Cane Spot, Purple Blotch, Anthracnose, Yellow Rust, and Pseudomonas Blight*. Apply delayed dormant spray after training in spring at 2 2/3 pints per acre. Make fall spray application after harvest. Add 1 quart of crop oil per acre. *Leaf Spot, Cane Spot, Purple Blotch, Anthracnose, and Yellow Rust*, apply when leaf buds begin to open and repeat when flower buds show white at 1 1/3 pints per acre. Add 1 quart of crop oil per acre.

**NOTE:** Crop injury may occur if applied to foliage under certain conditions such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear.

**BLUEBERRY**, *Bacterial Canker*. Apply at 3 3/4 to 4 2/3 pints per acre. Make first application before the fall rains, preferably the first week in October and a second application four weeks later. (EXCEPT CALIFORNIA)

**CRANBERRY**, *Fruit Rot*. Apply at 5 1/3 pints per acre beginning in late bloom. One or two additional applications made at 10 to 14 day intervals may be required, depending on disease pressure. *Rose Bloom*. Apply three sprays of 5 1/3 pints per acre CHAMP FORMULA 2 at 10 to 14 day intervals as soon as symptoms are observed. *Bacterial Stem Canker*. Apply 5 1/3 pints per acre post harvest and again in the spring before bud burst. One or two additional applications at 10 to 14 day intervals may be required depending on disease severity. *Tip Blight (Monilinia), Stem Blight, Leaf Blight, Red Leaf Spot*. Apply at 5 1/3 pints per acre as a delayed dormant spray in the spring. Repeat at 10 to 14 day intervals as needed through pre-bloom. *Upright Dieback*. Apply at 5 1/3 pints per acre as a prebloom application. A second application can be made 10 to 14 days later if required.

**CURRENT & GOOSEBERRY**, *Anthracnose, Leaf Spot*. Make three applications at 6 2/3 pints per acre, starting after harvest, before bloom and after petal fall. Continue on a 10 to 14 day schedule during wet conditions in the spring.

**GRAPE**, *Black Rot, Phomopsis, Powdery Mildew and Downy Mildew*. Apply 1 1/3 to 2 2/3 pints per acre. Begin application at bud break with additional applications made throughout the season depending upon disease severity. (NOTE: Slight to severe foliage injury may occur in copper-sensitive varieties such as Concord, Delaware, Niagara and Rosette. Either test for sensitivity or add 1/2 to 1 pounds of hydrated lime per 1 1/3 pints of CHAMP FORMULA 2.)

**HOPS**, *Downy Mildew*. Apply 1 1/3 pints per acre as a fungicide crown treatment after pruning, but before training. After training, additional fungicide treatments are needed at about 10 day intervals.

**NOTE:** Discontinue use 2 weeks before harvest.

**RASPBERRY**, *Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust, Pseudomonas Blight*. Apply at 2 2/3 pints per acre as a delayed dormant spray after training in the spring. Make a fall application after harvest. Add one quart of crop oil per acre. *Leaf and Cane Spot, Purple Blotch, Anthracnose, Yellow Rust*. Apply at 1 1/3 pints per acre when leaf buds begin to open and repeat when flower buds show white. Add one quart of crop oil per acre. (EXCEPT CALIFORNIA)

**NOTE:** Crop injury may occur if applied to foliage under certain conditions such as hot or prolonged moist periods. Discontinue applications if signs of crop injury appear.

**STRAWBERRY**, *Leaf Spot & Leaf Blight*. Apply 1 1/3 to 2.0 pints per acre. Begin application when plants are established and continue on a weekly schedule throughout season.

**NOTE:** Discontinue applications if signs of phytotoxicity appear.

## FIELD CROPS

**ALFALFA**, *Cercospora & Leptosphaerulina Leaf Spots*. Apply 1 1/3 pints per acre 10 to 14 days before each harvest or earlier if disease threatens.

**NOTE:** Spray injury may occur with sensitive varieties such as Lahontan.

**PEANUT**, *Cercospora Leaf Spot*. Begin spraying 35 to 40 days after planting or when disease symptoms first appear. Apply at 1 to 2 pints per acre. Continue applications at 10 to 14 day intervals. One to two quarts of six pounds per gallon flowable sulfur may be added. Reduce spray interval to 7 days during humid weather. Use higher rates when conditions favor disease.

**POTATO**, *Early & Late Blight*. Apply at 3 to 10 day intervals starting when plants are 6 inches high. Apply 2/3 to 1 pint per acre in those locations where disease is light and up to 2 to 2 2/3 pints per acre where disease is severe. Colorado Potato Beetle, (SUPPRESSION ONLY) Application of CHAMP FORMULA 2 at rates and timing recommended for control of early and late blight may provide suppression of the Colorado Potato Beetle.

**SUGAR BEET**, *Cercospora Leaf Spot*. Start spray when disease threatens and continue for 4 to 5 applications. Spray every 10 to 14 days depending on weather conditions at 1 1/3 to 3 1/3 pints per acre depending on disease severity.

**WHEAT, BARLEY, OATS**, *Septoria Leaf Blotch & Helminthosporum Spot Blotch*. Apply 1 to 1 1/3 pints per acre. Make first application at early heading and follow with second application 10 days later or as necessary. Use higher rates when conditions favor disease.

## ORNAMENTALS

**PECAN, LIVE OAK**, *Ball Moss* (Texas and Florida). Apply at 5 1/2 pints per 100 gallons of water, in spring after heavy rain, using 1.5 gallons of spray per foot of tree height. Make sure to wet tufts thoroughly. A second application may be required after 12 months.

**NOTE:** CHAMP FORMULA 2 maybe injurious to ornamentals grown under live oaks.

**PHILODENDRON**, *Bacterial Leaf Spot*. Apply weekly before disease appears at 1 pint of CHAMP FORMULA 2 per 100 gallons of water.

**SYCAMORE**, *Anthrachnose*. Make two applications using 1 1/3 to 2 pints per 100 gallons as a full cover spray. Make first application at bud crack and second application 7 to 14 days later at 10% leaf expansion.

For control of bacterial and fungal diseases on foliage, flowers, and stems of ornamentals grown in **Greenhouses, Shadehouses, Fields and Nurseries** (container, bench or bed-grown), apply CHAMP FORMULA 2 at 2/3 pint per 100 gallons as a full cover spray beginning at first sign of disease. Repeat at intervals of 7 to 14 days (or shorter) depending on rainfall and disease severity. Due to the large number of species, widely varying growth conditions, and varieties of ornamentals and nursery plants it is impossible to test every one for sensitivity to CHAMP FORMULA 2. The user should apply the recommended rate of CHAMP FORMULA 2 in a small area and check for any symptoms of phytotoxicity in 7 to 10 days prior to large-scale application.

Do not tank mix with Aliette® fungicide without buffering the spray solution.

One half tablespoon of CHAMP FORMULA 2 per gallon of water is equivalent to 1 pint per 100 gallons.

**AGLAONEMA**, *Bacterial Leaf Spot*

**ALTHEA** (Rose of Sharon), *Bacterial Leaf Spot*

**ARALIA**, *Xanthomonas & Cercospora Leaf Spots, Alternaria*

**ARBORVITAE**, *Alternaria Twig Blight, Cercospora Leaf Spot*

**AZALEA**, (a) *Cercospora Leaf Spot, Botrytis Blight, Phytophthora Dieback, Powdery Mildew*

**BEGONIA**, *Bacterial Leaf Spot (Xanthomonas sp., Erwinia sp., Pseudomonas sp.)*

**BOSTON FERN**, *Bacterial Leaf Spot*

**BOUGAINVILLEA**, *Anthrachnose, Bacterial Leaf Spot*

**BULBS** (EASTER LILY (b), TULIP), *Botrytis Blight, Anthrachnose*

**CAMELIA**, *Anthracnose, Bacterial Leaf Spot*

**CAMPHOR TREE**, *Pseudomonas Leaf Spot*

**CANNA**, *Pseudomonas Leaf Spot*

**CARNATION**, (a) *Alternaria Blight, Pseudomonas Leaf Spot & Botrytis Blight.*

**CHINESE TALLOW TREE**, *Bacterial Leaf Spot (Xanthomonas sp., Pseudomonas sp.)*

**CHRYSANTHEMUM**, (a) *Septoria Leaf Spot, Botrytis Blight*

**COTONEASTER**, *Botrytis Blight*

**DAHLIA**, *Alternaria Leaf Spot, Cercospora Leaf Spot, Botrytis Grey Mold*

**DATE PALM**, *Pestalotia Leaf Spot*

**DIANTHUS**, *Bacterial Spot, Bacterial Soft Rot*

**DOGWOOD**, *Anthracnose*

**DRACAENA**, *Bacterial Leaf Spot*

**DUMB CANE**, *Bacterial Leaf Spot*

**DUSTY MILLER**, *Bacterial Leaf Spot (Pseudomonas cichorii)*

**ECHINACEA**, *Botrytis Blight*

**ELM (Drake)**, *Xanthomonas Leaf Spot*

**EUONYMUS**, *Botrytis Blight, Anthracnose*

**EUROPEAN FAN PALM**, *Pestalotia Leaf Spot*

**GARDENIA**, *Alternaria Leaf Spot, Cercospora Leaf Spot, Botrytis Bud Rot*

**GERANIUM**, *Alternaria Leaf Spot, Cercospora Leaf Spot, Botrytis Grey Mold*

**GLADIOLUS**, *Alternaria Leaf Spot, Botrytis Grey Mold, Bacterial Leaf Blight, Botrytis Blight, Anthracnose*

**GOLDEN RAIN TREE**, *Alternaria Leaf Spot, Botrytis Grey Mold, Bacterial Leaf Blight*

**GRAPE IVY**, *Bacterial Leaf Spot*



**HIBISCUS (d),** *Bacterial Leaf Spot*

**HOLLY FERN,** *Pseudomonas Leaf Spot*

**HONEY LOCUST,** *Bacterial Leaf Spot*

**IMPATIENS,** *Bacterial Leaf Spot*

**INDIA HAWTHORN ( c ),** *Anthracnose, Entomosporium Leaf Spot*

**IRIS,** *Bacterial Leaf Spot*

**IVY (English, Algerian) (a)** *Xanthomonas Leaf Spot*

**IXORA,** *Xanthomonas Leaf Spot*

**JUNIPER (Eastern Red Cedar),** *Anthracnose*

**LANTANA,** *Bacterial Leaf Spot*

**LILAC,** *Cercospora Leaf Spot*

**LOBLOLLY BAY,** *Anthracnose*

**LOQUAT,** *Entomosporium maculata, colletotrichum sp.*

**MAGNOLIA (Southern),** *Anthracnose, Bacterial Leaf Spot, Algal Leaf Spot*

**MAGNOLIA (Sweet Bay),** *Anthracnose*

**MAGNOLIA,** *Bacterial Leaf Spot*

**MANDEVILLAS,** *Anthracnose*

**MARIGOLD,** *Alternaria Leaf Spot, Botrytis Leaf Rot, Flower Rot, Cercospora Leaf Spot*

**MULBERRY CONTORTED,** *Bacterial Leaf Spot*

**MULBERRY, WEEPING,** *Bacterial Leaf Spot*

**NEPHTHYTIS,** *Bacterial Leaf Spot*

**OLEANDER,** *Bacterial Leaf Spot, Fungal Leaf Spot*

**OAK, LAUREL,** *Algal Leaf Spot (Cephaleuros virescens)*

**PACHYSANDRA**, *Volutella Leaf Blight*

**PANSY**, *Downey Mildew*

**PARLOR PALM**, *Bacterial Leaf Spot*

**PEAR (flowering)**, *Fire Blight, Leaf Spot*

**PENTAS (Egyptian Star)**, *Bacterial Leaf Spot (Xanthomonas sp.)*

**PEONY**, *Botrytis Blight*

**PERIWINKLE**, *Phomopsis Stem Blight*

**PHLOX**, *Alternaria Leaf Spot*

**PHOTINIA (Red Tip, Red Leaf)**, *Anthracnose, Entomosporium*

**PISTACHIO**, *Anthracnose*

**PLANTAIN LILY**, *Bacterial Leaf Spot*

**POTHOS**, *Bacterial Leaf Spot*

**POWDER PUFF PLANT**, *Bacterial Leaf Spot*

**Purple Osier Willow**, *Anthracnose*

**PYRACANTHA**, *Fireblight, Scab*

**QUEEN PALM**, *Exosporium Leaf Spot, Phytophthora Bud Rot*

**RHODODENDRON**, *Alternaria Flower Spot*

**ROSE, (a)** *Powdery Mildew, Black Spot*

**SNAPDRAGON**, *Anthracnose, Dieback, Downey Mildew*

**SPATHE FLOWER**, *Bacterial Leaf Spot*

**TATARIAN HONEYSUCKLE**, *Bacterial Leaf Spot*

**UMBRELLA TREE**, *Bacterial Leaf Spot*

**VERBENA**, *Xanthomonas Leaf Spot*

**VIBURNUM**, *Anthracnose*

**WASHINGTON PALM**, *Pestalotia Leaf Spot*

**WEeping FIG**, *Bacterial Leaf Spot*

**WEeping WILLOW**, *Anthrachnose*

**YUCCA (ADAMS NEEDLE)**, *Cercospora & Septoria Leaf Spots*

- (a) On some varieties a discoloration may occur on foliage or blooms. To prevent residues on commercial plants, do not spray just before selling season.
- (b) Apply 2.0 to 3 1/5 pints of CHAMP FORMULA 2 in 20 to 100 gallons of water per acre.
- (c) For India Hawthorn use 1 1/3 to 2 3/4 pints per 100 gallons or 0.75 to 1.5 tablespoons per gallon.
- (d) Hibiscus – Do not apply to plants in flower.

## TREE CROPS

**ALMOND, APRICOT, CHERRY, PLUM, PRUNE**, *Coryneum Blight* (*Stigmina carpophila*) [Shot Hole], *Bacterial Canker*, *Blossom Brown Rot*, *Dead Bud* (*Pseudomonas syringae*), *Bacterial Blast* (*Pseudomonas*). Use 5 1/3 to 8 pints CHAMP FORMULA 2 per acre as a dormant application before foliage buds swell. For **CHERRIES**, where disease is severe, an additional application at leaf fall may be required. **ALMOND ONLY:** For bacterial blast control in sprinkler irrigated orchards or where disease is severe, apply 3/4 pint per acre post-bloom, at two week intervals or just prior to sprinkling. *Coryneum Blight* (*Stigmina carpophila*) [Shot Hole], *Blossom Brown Rot*, Early bloom (popcorn) application prior to full bloom apply at 4 to 5 1/2 pints per acre.

**NOTE:** To avoid plant injury, do not use above rate after full bloom. For blast control in sprinkler irrigated orchards or where disease is severe, apply 2 to 4 CHAMP FORMULA 2 sprays or as many as required, at 1 to 2 pints per acre at 2 week post bloom intervals or just before sprinkling.

**NOTE:** In sensitive varieties of **ALMONDS**, such as Peerless, Mission, and Neplus slight leaf injury may occur from post bloom spray.

**APPLE**, *Anthrachnose*, *European Canker*, *Blossom Blast*, *Shoot Blast* (*Pseudomonas*). Apply before fall rains at 1 to 1 1/2 gallons per acre. **NOTE:** Use on yellow varieties may cause discoloration. To avoid, pick before spraying. *Fireblight*, *Scab*. Apply at 5 1/2 to 10 1/2 pints per acre. Make application as a full cover spray between silver-tip and green-tip. **NOTE:** Phytotoxicity may occur from late application. After green-tip apply at 2/3 pint per acre. *Crown or Collar Rot*. Mix 2 3/4 pints in 100 gallons of water. Apply 4 gallons of suspension as a drench on the lower trunk area of each tree. Apply either in early spring or in fall after harvest each year.

**NOTE:** Do not use if soil pH is below 5.5 or copper toxicity may result.

**AVOCADO**, *Anthracnose, Blotch, Scab*. Apply when bloom buds begin to swell at 5 1/3 to 8 pints per acre. Continue application at monthly intervals for 5 to 6 applications. Use higher rate when conditions favor disease.

**CITRUS**, *Melanose, Scab, Algal Spot*. Apply 2 2/3 to 8 pints per acre, depending on disease severity, as a pre-bloom and post-bloom spray. *Greasy Spot, Pink Pitting*. Apply 1 1/3 to 4 pints per acre using higher rates when conditions favor disease. *Brown Rot*. Apply 2 2/3 to 5 1/3 pints per acre beginning in fall and continuing as needed. Apply to skirts of trees to a height of at least 4 feet. Use higher rates when conditions favor disease. **NOTE:** In California, in areas subject to copper injury, add 1/3 to 1 pound of high quality lime per pound of CHAMP FORMULA 2. *Citrus Canker*. (SUPPRESSION ONLY). Apply 8 pints per acre, spraying flushes 7 to 14 days after shoots begin to grow. Young fruit may require an additional application. Number and timing of applications will be dependent on disease pressure. Under heavy disease pressure, each flush of new growth should be sprayed. *Alternaria Brown Spot* (SUPPRESSION ONLY) Apply 5 1/3 to 6 2/3 pints per acre to susceptible varieties on the first flush in the spring and every additional flush. Application to fruit should start after two thirds of the petals have fallen and be repeated at 21-day intervals. *Phytophthora Foot Rot*. Mix 2/3 pint of CHAMP FORMULA 2 with 1 gallon of water and paint trunks of trees from the soil surface to the lowest scaffold limbs. Apply in May prior to summer rains and/or in the fall prior to wrapping trees for freeze protection. Treatment serves as protection for up to one year, but does not cure existing infections. *Phytophthora Brown Rot, Septoria Spot*, apply 2 2/3 to 5 1/3 pints per acre to the entire tree in the fall before or just after the first rain and continue as needed. **NOTE:** In California in areas subject to copper injury, add one third to one pound of high quality lime per pound of CHAMP FORMULA 2.

**NOTE:** DO not use CHAMP FORMULA 2 on Citrus seedlings grown in greenhouses or shadehouses.

**CITRUS FIELD NURSERY GROWN**, *Melanose, Scab, Greasy Spot, Pink Pitting, Brown Rot and Citrus Canker*. (SUPPRESSION ONLY). Apply 1 1/3 of CHAMP FORMULA 2 in 100 gallons of water (2.2/3 to 5 1/3 pints per acre) at 28-day intervals.

**FILBERT**, *Bacterial Blight*. Apply 1 1/2 to 2 gallons per acre as a post-harvest spray. In seasons of heavy rainfall, apply another spray when three-fourths of the leaves have dropped. Add 1 pint of superior type oil per 100 gallons of water. *Eastern Filbert Blight*. Apply 1 1/2 to 2 gallons per acre in sufficient water to obtain thorough coverage. Make initial application at budswell to budbreak. Additional sprays should be made on a 10 to 14 day interval depending on disease severity or when conditions are conducive for disease development. Add 1 pint of superior type oil per 100 gallons of water.

**KIWIFRUIT**, *Blossom Blight (Bud Rot), Leaf Spot (Phomopsis), Erwinia herbicola, Pseudomonas syringae, Pseudomonas fluorescens*. Make two to three applications at 1 1/3 to 2 pints per acre during dormant season. Do not apply at time of or after leaf emergence.

**MACADAMIA**, *Blossom Blight & Raceme Blight, Anthracnose*. Apply 3 to 6 pints per acre depending on disease pressure in 50 to 300 gallons of water during peak raceme development and bloom periods. For aerial application apply 3 to 6 pints per acre in 10 to 30 gallons of water. (EXCEPT CALIFORNIA)

**OLIVE** (California), *Peacock Spot, Olive Knot*. Make first application at 5 1/3 to 8 pints per acre before winter rains fall. A second application in early spring should be made if disease is severe.

**PEACH, NECTARINE, Leaf Curl, Coryneum Blight (Shot Hole), Bacterial Canker, Bacterial Blast (*Pseudomonas*), Bacterial Blight (*Xanthomonas*).** Apply 5 1/3 to 10 2/3 pints per acre after leaf fall as a dormant application. Use the higher rate when rainfall is very heavy and disease pressure is high. May be used with an agricultural spray oil. **Blossom Brown Rot, Leaf Curl, Coryneum Blight (Shot Hole).** Apply 5 1/3 to 8 pints per acre as a full cover spray at pink bud. Application at this time affords some control of Leaf Curl and Coryneum Blight. **Bacterial Spot.** Apply 5 1/3 pints per acre as a dormant spray. As a post-bloom spray, apply 1 pint per acre at first and second cover sprays.

**NOTE:** Do not apply three weeks prior to harvest. Use only recommended rates. Spotting of leaves and defoliation may occur from use in cover sprays.

**PEAR, Fireblight.** Apply at 2/3 pint per acre at 5 day intervals throughout bloom period. *Pseudomonas Blight.* Apply before fall rains at a rate of 8 to 10 2/3 pints per acre and again at dormant before spring growth starts.

**NOTE:** Excessive dosages may cause fruit russet.

**PECAN, Shuck Rot, Kernel Rot (*Phytophthora cactorum*), Zonate Leaf Spot (*Cristulariella pyramidalis*) SUPPRESSION ONLY.** Apply 1 1/3 to 2 2/3 pints per acre at 2 to 4 week intervals when kernel growth begins through shuck opening. Apply in sufficient water to ensure thorough coverage.

**PISTACHIO, Botrytis Blight, Botryosphaeria Panicle and Shoot Blight, Septoria Leaf Blight, Late Blight (*Alternaria alternata*).** Apply 2 2/3 to 5 1/3 pints per acre beginning at budswell. Repeat at 14 to 28 day intervals depending on disease conditions. If disease conditions are severe, use the high rate and the short spray interval.

**QUINCE, Fire Blight.** Apply 2/3 pint per acre at 5-day intervals throughout the bloom period. Apply in sufficient water to provide thorough coverage.

**WALNUT, Walnut Blight.** Apply 5 1/3 to 8 pints per acre. Apply first spray at early pre-bloom prior to or when catkins are partially expanded. Make additional applications during bloom and early nutlet stage as needed. Additional applications may be necessary when frequent rainfall occurs.

**NOTE:** When applied as a dilute spray, 1 pint of summer oil emulsion may be added per 100 gallons of spray. Adequate control may not be obtained when copper tolerant species of *Xanthomonas* bacteria are present.

## TROPICAL CROPS

**BANANA, Sigatoka.** Apply by air at 1 1/3 pints per acre in 3 gallons of water containing 0.5-gallon agricultural oil. Apply on a 14 day schedule throughout the wet season. Apply at 21 day intervals during dry periods. **Black Pitting.** Apply at 2 2/3 pints per 100 gallons directly to the fruit stem and include the basal portion of the leaf crown. Apply during the first and second weeks after fruit emergence.

**CACAO, Black Pod.** Begin applications at the start of the rainy season and continue while infection conditions persist. Sprays should be made as often as 14 to 21 days in high rainfall areas at varying rates from 1 1/3 to 5 1/3 pints per acre depending on disease severity. For drier areas, where 2 to 4 applications are recommended

during critical infection periods and at long intervals, use 4 to 5  $\frac{2}{3}$  pints per acre, according to disease pressure incidence and planting density.

**COFFEE**, *Coffee Berry Disease* (*Collectotrichum coffeanum*). Apply first spray at 4 to 5  $\frac{1}{3}$  pints per acre after flowering and before onset of long rains and then at 21 to 28 days interval until picking. Use higher rates when rainfall is heavy and disease pressure is high. *Bacterial Blight* (*Pseudomonas syringae*). Apply 4 to 5  $\frac{1}{3}$  pints per acre. Begin spray program before onset of the long rains and continue throughout the rainy season at 14 to 21 day intervals. The critical time of spraying to control this 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* (*Hemileia vastatrix*). Apply 1  $\frac{1}{3}$  to 2  $\frac{2}{3}$  pints per acre before the onset of rain and then at 21-day intervals while the rains continue. Use higher rates when rainfall is heavy and disease pressure is high. *Iron Spot* (*Cercospora coffeicola*) and *Pink Disease* (*Corticium salmonicolor*). Apply 1  $\frac{1}{3}$  pints per acre as a concentrate or dilute spray. Begin treatment at the start of wet season and continue at monthly intervals for three applications.

**GUAVA**, *Anthraxnose*, *Red Algae*. Apply 2 pints per acre beginning just prior to flowering and repeat weekly until just prior to harvest.

**LITCHI**, *Anthraxnose*. Apply 2 pints per acre beginning just prior to flowering and repeat weekly until just prior to harvest.

**MAMEY SAPOTE**, *Anthraxnose*, *Algal Leaf Spot*. Apply 4 to 5 pints per acre when conditions favor disease development. Repeat at 14 to 30 day intervals as needed.

**MANGO** (Florida), *Anthraxnose*. Apply monthly after fruit set until harvest at 5  $\frac{1}{3}$  to 6  $\frac{2}{3}$  pints per acre.

**PAPAYA**, *Anthraxnose*. Apply 2 to 6  $\frac{2}{3}$  pints per acre beginning before disease is expected to appear. Repeat at 10 to 14 day intervals or at 5 to 7 day intervals during periods of heavy rainfall. Use the higher rates when conditions favor disease. The addition of a suitable spreader-sticker may be desirable especially during periods of heavy rains.

**PASSION FRUIT**, *Anthraxnose*. Apply 4 pints per acre beginning just prior to flowering and repeat weekly.

**SUGAR APPLE** (*Annona*), *Anthraxnose*. Apply 8 pints per acre beginning just prior to flowering and repeat weekly.

## VEGETABLE CROPS

**BEAN** (dry, green), *Brown Spot* *Bacterial Blight* (Halo & Common). For protective sprays, apply first application when plants are six inches high. Apply on 7 to 14 day schedule depending on local conditions. Use  $\frac{2}{3}$  to 2 pints per acre depending on disease severity.

**CRUCIFERS**, Broccoli, Brussels Sprout, Cabbage, Cauliflower, Kale, (Collard, Mustard and Turnip greens), *Black Rot* (*Xanthomonas*), *Black Leaf Spot* (*Alternaria*), *Downy Mildew*. Apply  $\frac{1}{3}$  to  $\frac{2}{3}$  pint per acre at 7-day intervals after transplants are set in the field. Use higher rate when conditions favor disease.

**NOTE:** Reddening of older leaves may occur on Broccoli at the higher rate and flecking of wrapper leaves may occur on cabbage.

**CUCURBITS, Cantaloupe, Cucumber, Honeydew, Muskmelon, Pumpkin, Squash, and Watermelon** *Alternaria Leaf Spot, Angular Leaf Spot, Anthracnose, Downy Mildew, Powdery Mildew, Gummy Stem Blight, Watermelon Bacterial Fruit Blotch (SUPPRESSION).* Apply at 1 1/3 pints per acre beginning when conditions are favorable for disease development and repeat at 5 to 7 day intervals, as needed depending on disease severity.

**NOTE:** Crop injury may occur from application at shorter intervals. Discontinue use if injury occurs.

**CARROT, Alternaria Leaf Spot, Carrot Blight (Cercospora).** When disease threatens apply 1 1/3 pints per acre at 7 to 14 day intervals depending on disease severity.

**CELERY & CELERIAC, Cercospora Early, Septoria Late & Bacterial Blights.** Apply as soon as plants are first established in the field at 1 1/3 pints per acre, then every 5 to 7 days depending on disease severity and weather.

**EGGPLANT, Alternaria Blight, Anthracnose, Phomopsis.** Use 1 1/3 pints per acre before disease appears. Repeat at 7 to 10 day intervals. (EXCEPT CALIFORNIA)

**ENDIVE, ESCAROLE, Downy Mildew.** Apply 2/3 to 1 1/3 pints per acre. Begin treatment when disease first appears and repeat every 7 to 10 days as needed to suppress disease.

**GARLIC, LEEK, ONION, Purple Blotch & Downy Mildew.** Apply at 1 1/3 pints per acre when plants are 4 to 6 inches high and repeat at 7 to 10 day intervals. *Bacterial Blight*, apply 2/3 to 1 pint per acre.

**LETTUCE, Downy Mildew.** Apply 2/3 to 1 1/3 pints per acre. Begin treatment when disease first appears and repeat every 7 to 10 days as needed to suppress disease.

**PEA, Powdery Mildew.** Begin spray treatment when disease symptoms first appear. Use 1 to 2 pints per acre according to disease severity. Repeat applications at weekly intervals.

**PEPPER, Bacterial Spot.** When disease threatens, apply 1 1/3 to 2 pints per acre in sufficient water for adequate coverage at 5 to 10 day intervals depending on disease severity.

**SPINACH, Anthracnose, Cercospora Leaf Spot, Downy Mildew, White Rust, Blue Mold.** Apply 1 1/3 to 2 2/3 pints per acre. Begin treatment when disease first appears and repeat every 7 to 10 days as needed to suppress disease.

**NOTE:** Flecking may occur on spinach leaves.

**TABLE BEET, BEET GREENS, Cercospora Leaf Spot.** Apply 1.33 to 2 2/3 pints per acre when condition favor disease. Repeat treatment at 10 to 14 day intervals as needed. The addition of an agricultural spray oil is recommended.

**TOMATO**, *Early Blight*, *Late Blight*. When disease threatens, apply 1 1/3 to 2 pints per acre at 7 to 10 day intervals, or as necessary. *Bacterial Speck*. Apply at 1 1/3 pints per acre at 10 to 30 day intervals beginning when the disease threatens. Use more frequent applications when disease pressure is high. *Bacterial Spot*, *Anthrachnose*, *Gray Leaf Mold* & *Septoria Leaf Spot*. When disease threatens, apply 1 1/3 to 2 2/3 pints per acre at 7 to 10 day intervals, more frequently when disease is severe.

**WATERCRESS**, *Cercospora Leaf Spot*. Apply 1 1/3 pints per acre when plants are established in the field. Repeat at 7 to 14 day intervals up to four applications per crop in at least 50 gallons of water per acre.

## SEED DRESSING

### RICE

*Water Mold & Seed Rot (Achlya spp., Pythium spp.)*. Use at a rate of 2 to 4 fluid ounces for each 100 pounds of rice seed. For ease of handling and when using a seed treating machine, dilute with an equal amount of water. Maintain continuous agitation of the mixture throughout the operation. Consult State Agricultural Experiment Station regarding specific recommendations for your area.

### WHEAT & BARLEY

*Bacterial Leaf Blight (Pseudomonas syringae)*, *Bacterial Leaf Streak (Xanthomonas translucens)*, *Common Bunt (Tilletia caries)*. Apply at the rate of 2 fluid ounces of formulated product per 100 pounds of seed. It should be diluted with equal parts of water before applying.

## MISCELLANEOUS

**ATEMOYA**, *Anthrachnose*. Apply 2 pints per acre just prior to flowering and repeat weekly until just prior to harvest.

**CARAMBOLA**, *Anthrachnose*. Apply 4 pints per acre just prior to flowering and repeat weekly until just prior to harvest.

**CHIVES**, *Downey Mildew*. Apply 1 1/3 pints per acre when plants are established in the field. Repeat at 7 to 10 day intervals as needed.

**DILL**, *Phoma Leaf Spot*, *Rhizoctonia Foliage Blight*. Apply 1 3/4 pints per acre when plants are established in the field. Repeat at 7 to 10 day intervals as needed.

**DOUGLAS FIR**, *Rhabodocline Needlecast*. Apply 1 1/3 pints per acre at bud break and repeat at 3 to 4 week intervals. Apply in a tank mix with other registered pesticide if disease pressure is moderate to severe.

**GINSENG**, *Alternaria Leaf & Stem Blight*. CHAMP FORMULA 2 may be applied at 1 3/4 pints per acre as a tankmix with two pounds Iprodione 50WP in 100 gallons of water per acre. Begin Iprodione 50WP-CHAMP FORMULA 2 applications as soon as plants have emerged in spring. Applications should be repeated every seven days until plants become dormant in fall. Apply fungicides at least eight hours before rain, giving the fungicides time to dry on the plants. Use of a spreader-sticker is advised.



**NOTE:** Alternaria Leaf & Stem Blight is most severe in humid conditions such as those found in the dense canopies of two-, three- and four-year old ginseng. Complete and thorough spray coverage is required for control.

**PARSLEY**, *Bacterial Blight (Pseudomonas spp.)* Apply 2 pints per acre when plants are first established in the field and repeat at 5 to 7 day intervals.

**PERSIMMON**, *Cercospora Leaf Spot*. Apply 1 1/3 pints per acre beginning in May/June, during leaf flush, and repeat at 14 day intervals throughout the season depending on disease severity.

## TURFGRASS

Apply 1 pint of CHAMP FORMULA 2 per 1,000 square feet in 5 gallons of water to control algae. CHAMP FORMULA 2 may be used alone or in combination with other registered fungicides as a maintenance spray.

**NOTE:** Phytotoxicity may occur depending upon varietal differences. If injury occurs discontinue use. Do not apply in spray solutions with a pH of less than 6.5.

## GREENHOUSE AND SHADEHOUSE CROPS

CHAMP FORMULA 2 may be used in greenhouses and shadehouses to control diseases on crops listed on this label. Specific directions are provided below for certain crops and the grower should be aware that the sensitivity of crops grown under such conditions differ greatly from field conditions. The user must determine if CHAMP FORMULA 2 can be used safely prior to commercial application by testing a small area and observing the results for 7 to 10 days.

One tablespoon of CHAMP FORMULA 2 per 1,000 square feet is equivalent to 1 pint per acre. Begin application at first sign of disease and repeat at 7 to 14 day intervals as needed.

**CUCUMBER**, *Angular Leaf Spot, Downey Mildew*. Apply 1 1/4 to 1 1/2 tablespoons weekly when plants begin to vine.

**EGGPLANT**, *Alternaria Blight, Anthracnose, Phomopsis*. Apply 1 1/2 tablespoons at first sign of disease and repeat at 7 to 14 day intervals as needed.

**PEPPER**, *Bacterial Spot*. Apply 1 1/2 to 2 1/4 tablespoons when conditions first favor disease and at 5 to 10 day intervals as needed.

**TOMATO**, *Anthracnose, Bacterial Speck, Bacterial Spot, Early Blight, Grey Leaf Mold, Late Blight, Septoria Leaf Spot*. Apply 1 1/2 to 2 1/4 tablespoons when conditions first favor disease and at 7 to 10 day intervals as needed.

**NOTE:** Do not use CHAMP FORMULA 2 on Citrus seedlings grown in greenhouses or shadehouses.

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

Causes moderate eye injury. Avoid breathing vapor or spray mist. Harmful if swallowed or absorbed through the skin. Avoid contact with eyes, skin and clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- a) long-sleeved shirt and long pants
- b) waterproof gloves
- c) shoes plus socks
- d) protective eyewear

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

**ENGINEERING CONTROLS STATEMENT**

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

**USER SAFETY RECOMMENDATIONS**

Users should:

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

**ENVIRONMENTAL HAZARDS**

For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites.

## STORAGE AND DISPOSAL

**STORAGE:** Do not contaminate water, food, or feed by storage or disposal. Store in a cool, dry place.

**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 Environmental Protection Agency regional office for guidance.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerator, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### WARRANTY STATEMENT

AGTROL INTERNATIONAL warrants that the product conforms to the chemical description on the label and is reasonably fit for the purposes set forth on the label when used according to directions under normal use conditions. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. This warranty does not extend to the handling or use of this product contrary to label instructions or under abnormal conditions or under conditions not reasonably foreseeable to seller and buyer assumes all risk of any such use.

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