

# LIME SULFUR ULTRA

Fungicide - Insecticide - Miticide for Listed Fruits, Nuts, Ornamentals, Roses and Livestock  
Not for residential use or application to residential sites.

## ACTIVE INGREDIENT:

Calcium Polysulfide ..... 27%

OTHER INGREDIENTS ..... 73%

TOTAL ..... 100%

CONTAINS 2.86 LBS. ACTIVE INGREDIENT  
PER GALLON

EPA REGISTRATION NO. 71096-11

EPA ESTABLISHMENT NO. 52251-OR-005

ALL APPLICABLE DIRECTIONS, RESTRICTIONS AND  
PRECAUTIONS ON THE LABEL ARE TO BE FOLLOWED. SEE  
DIRECTIONS FOR USE IN BOOKLET.

## NET CONTENTS

- 2.5 Gallons
- 30 Gallons
- 110 Gallons
- 220 Gallons
- 250 Gallons



**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.)

SEE ADDITIONAL PRECAUTIONARY STATEMENTS BEGINNING  
ON NEXT PAGE.

## FIRST AID

**If in Eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

**If On Skin Or Clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**If Swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person.

**HOT LINE NUMBER:** Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Pesticide Information Center at: 1-800-858-7378 for information about this product (including health concerns or pesticide incidents.)



Manufactured by:  
**OR-CAL, Inc.**  
29454 MEADOWVIEW RD.  
JUNCTION CITY, OR 97448  
(541) 689-4413

71096-11/1-3-18

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

Corrosive. Causes irreversible eye damage. Harmful if absorbed through the skin. Harmful if swallowed. Do not get in eyes, on clothing, or on skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Mixers, loaders, applicators and other handlers must wear:**

Coveralls over long-sleeved shirt and long pants,  
Chemical resistant gloves (such as Natural Rubber),  
Protective eyewear (goggles, face shield, or safety glasses),  
Chemical-resistant footwear plus socks,  
Chemical-resistant apron when mixing, loading or cleaning equipment, and  
Chemical-resistant headgear for overhead exposure.

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 for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS**

**Users should:**

Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish. Drift may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not mix Lime Sulfur ULTRA with acids or phosphate fertilizer products. Deadly and potentially extremely flammable hydrogen sulfide gas may be emitted.

**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 green houses 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 interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) or 48 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, including plants, soil, or water, is:

- Coveralls over long-sleeved shirt and long pants,
- Chemical resistant gloves (such as Natural Rubber),
- Protective eyewear (goggles, face shield, or safety glasses),
- Chemical-resistant footwear plus socks,
- Chemical-resistant apron when mixing, loading or cleaning equipment,
- Chemical-resistant headgear for overhead exposure.

## STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store product in a secure locked place, inaccessible to children, pets, and livestock. Store it in a cool, dry place. Keep container closed when not in use. Do not store near fertilizers.

**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.

**Container Handling:** Non-refillable container. Do not reuse this 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. Triple rinse the container (or equivalent) promptly after emptying. Use rinsate for basal application to labeled trees, vines, canes or crops for additional protection from pathogen spores. Offer for recycling, if available or offer for reconditioning, if appropriate or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**-For 5 gal. or 50 lbs. container or less,** triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**-For over 5 gallon or 50 lbs. container;** triple rinse as follows: Empty the remaining contents into application equipment or a

mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**-For Refillable, plastic container, greater than 5 gallons:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Use rinsate for basal application to labeled trees, vines, canes or crops for additional protection from pathogen spores.

When empty, return container to point of sale, then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

**-SpaceKraft Composite Intermediate Bulk Containers:** The inner liner is a nonrefillable container that is recyclable or disposable. The outer box is recyclable or disposable. The pallet is reusable, recyclable or disposable. Empty the contents into application equipment or a mix tank. To rinse the inner liner: replace the liner's dispense plug, remove the inner liner from the box, remove the fill plug, fill with 1 to 2 gallons of water, replace the fill plug, firmly grasp liner with both hands then agitate for 10 seconds. Pour rinsate into application equipment or use as a drench treatment at base of trees or crops that are being treated. Repeat this procedure two more times.

## **ALL APPLICABLE DIRECTIONS, RESTRICTIONS AND PRECAUTIONS ON THE LABEL ARE TO BE FOLLOWED**

Faulty spray equipment, highly concentrated materials, or extremes of weather during or following spraying may lead to fruit or foliage injury. The risk of spray injury is greater when drought stress exists. The user is advised not to use Lime Sulfur ULTRA on any crop unless local use has proved that Lime Sulfur ULTRA does not damage crops in that locality.

### **PRODUCT USE RESTRICTIONS**

- **Not for residential use or application to residential sites.**
- **Do not use Lime Sulfur ULTRA on apricots.**
- **Do not use Oil with Lime Sulfur ULTRA in summer applications except where specified on the label.**
- **Do not apply when temperature exceeds 85F.**
- **Do not apply Oil following Lime Sulfur ULTRA, nor Lime Sulfur ULTRA following Oil, in foliage period.**

Where a rate is given, use the highest rates when disease is severe or where disease was severe in the previous season.

## SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g. wind direction, wind speed, temperature, relative humidity) and method of application (e.g. ground, airblast, and chemigation) can influence pesticide drift. The applicator and grower must evaluate all factors and make appropriate adjustments when applying this product.

### FOR GROUND BOOM APPLICATIONS:

**WIND SPEED:** Do not apply at wind speeds greater than 10 mph at the application site.

**DROPLET SIZE:** Apply as a medium or coarser spray according to the American Society of Agricultural Engineers (ASAE) 572 definition for standard nozzles (Medium and Coarse) and the minimum volume mean diameter (VMD) for spinning atomizer nozzles.

**RELEASE HEIGHT:** Apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

### FOR AIRBLAST APPLICATIONS:

Sprays must be directed into the crop canopy, rather than above the canopy. Turn off outward pointing nozzles at row ends and when spraying outer rows.

### TEMPERATURE INVERSIONS:

If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

### **TO MINIMIZE POSSIBLE ADVERSE EFFECTS:**

**Do not** enter or allow worker entry into treated areas during the restricted entry interval (REI) or 48 hours. **Do not** enter treated areas without protective clothing until sprays have dried. **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.

**Do not** apply this product through any type of irrigation system.

**Do not** apply Lime Sulfur ULTRA to Apricots, Evergreens, Euonymus and Rhododendrons or allow spray to drift on these susceptible species.

**Do not** acidify spray solution with strong acidifiers. This product is a highly alkaline material until dry and is incompatible with metal containing sprays such as copper and zinc. Lime Sulfur ULTRA may be mixed with other pesticides that are compatible with or in tank solutions. A compatibility test must be made by each individual user or grower on the basis of possible injury or performance as a pesticide solution when mixed with other pesticides. Each year a test plot needs to be done due to environmental variances from year to year. 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 involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**Do not** use Oil with Lime Sulfur ULTRA in growing season applications except where specified on the label. When applied in dormancy, Lime Sulfur ULTRA can be used with oil to increase the penetration of the caustic sulfur into the surface of the infected tissues. Once green tissue appears, do not mix oil with Lime Sulfur ULTRA as oil will carry sulfur into green plant tissue causing injury. **Do not** apply Oil following Lime Sulfur ULTRA or Lime Sulfur ULTRA following Oil within 21 days except where specified on the label, to prevent injury to flowers, leaves and fruit. **Do not** use a combination of oil and Lime Sulfur ULTRA spray on certain plants including maple, beech, black walnut, Japanese walnut and flowering cherry. Check the product labels for these and other restrictions before use. **See Combination Oil Spray section of the label for more information.**

**Do not** apply during freezing temperatures. **Do not** apply when temperature exceeds, or remains at or above 85 F. When high daytime temperatures exist, wait for cool evening or early morning temperatures to apply.

## GUIDELINES AND HELPFUL INFORMATION

For best disease control, developmental stages on the label are listed as Dormant through Post Harvest, with some of the important symptoms, life cycles and pest management data given in each stage. This information is found in the stage where spray is first directed for any given pest. Lime Sulfur ULTRA is a contact fungicide/insecticide. Anticipated occurrence of infection is helpful for disease control. Lime Sulfur ULTRA is not used in all growth stages, depending upon the crop. **A description of growth stages follows:**

**Fall**—Just before and during leaf drop in the autumn.

**Post-harvest**—After crop is harvested. **Note:** Post-harvest applications do not include applications to harvested crop.

**Dormant**—After leaves have fallen and first rains begin, but not before the soil is thoroughly wet, until the buds begin to swell. As a rule, this is not before November 15<sup>th</sup> below 39<sup>th</sup> parallel.

**Delayed Dormant**—From the first swelling of the buds until color begins to show.

**Bud (Pink)**—From the time of new color until the first blossoms begin to open.

**Blossom (Bloom)**—From opening of the first blossoms until the petals fall.

**Calyx**—From falling of the petals until the calyxes are closed by the sepal or by the pollen filaments converging.

**Growing Season**—From when fruit and/or new leaves begin to develop until just before leaf drop.

**Symptoms, Life Cycle and Pest Management data** is provided by State University Cooperative Extension Services of: Arkansas, California, Colorado, Florida, Illinois, Massachusetts, New York, Ohio, Oregon, Pennsylvania, Texas, Utah, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

## SPRAY EFFICIENCY GUIDELINES

Lime Sulfur ULTRA is a fungicide, insecticide and miticide which contains Lime Sulfur plus an organic wetting agent.

The most active compounds in the lime sulfur spray are the Calcium Polysulfides (CaS<sub>2</sub> and CaS<sub>3</sub>) and are strong reducing agents, taking up oxygen and CO<sub>2</sub> as they dry, changing pH, forming free sulfur and releasing hydrogen sulfide (H<sub>2</sub>S)—the rotten egg smell. Particularly, through the release of H<sub>2</sub>S, the sulfide solution is drawn into the pests and instantaneously reacts forming crystals of elemental sulfur and changing the surrounding pH. These combined reactions are responsible for destroying the pests. Minimizing these reactions until the spray is in place increases the efficacy. Once the spray is fully reacted and dry, hydrated calcium sulfate remains and can for a short time limit the amount of sunlight reaching leaf surfaces, mildly reducing metabolic functions until the leaf adapts or the hydrated calcium sulfate is washed off.

Use mixed product within three hours to prevent degradation of spray mix.

Even spray distribution is very important. Spray thoroughly, but do not drench foliage. Lime Sulfur ULTRA does not translocate and is not systemic. Use a full cover spray from the orchard floor or trunk soil line to the top of canopy. See additional label instructions for broader use directions.

The risk of bronzing, tip burn and leaf margin chlorosis is greater when: drought stress exists, temperatures are high and humidity is low, foliage is drenched, and/or excessive rates with low dilutions are used. Faulty equipment can cause damage. If injury occurs, increasing dilution rates by 25% and/or lengthening time from oil applications can reduce symptoms.

Spotting at or near the central part of the leaf is usually caused by fungus or insects which have made possible the entrance of the spray into the inner and more tender tissue. The pre-existing damage to the leaves is made evident after the Lime Sulfur ULTRA spray; in these cases, if no apparent damage is sustained, the diseases probably would not be controlled.

Read the label to determine a lower use rate or different application timing or omitting the use of this product on a variety of crops altogether where spray injury cannot be mitigated. In any case, if it occurs, the spray injury will appear within 1 to 4 days. The user is advised not to use Lime Sulfur ULTRA on any crop unless local use has proved that Lime Sulfur ULTRA does not damage crops in that locality.

Sprayer clean-up is best achieved by using a mildly acid rinse. If spray contacts concrete or white painted surfaces, discoloration of these surfaces may occur.

## DILUTION RATES

Label directions are based on 100 gallons of water plus Lime Sulfur ULTRA product; this is the application dilution and application rate per acre unless otherwise noted. The grower or applicator will need to make spray volume adjustments to attain sufficient coverage for variations in tree density, row spacing or maturity of any given crop. Larger volumes of water may be used depending on canopy size. Maintain percentage dilution when mixing less than 100 gallons. Base medium volume spraying with lower dilution rates on active material per acre; however, spray tests are necessary to ensure that the crop is not damaged. Where a rate range is given, use the highest rates when disease is severe or where disease was severe in the previous season.

- **ALMONDS (Bearing, Non-Bearing, Nursery, Ornamental)**

**Alternaria Leaf Spot, Brown Rot Blossom Blight, Powdery Mildew, Rust, San Jose Scale, Scab, Shot Hole**

**Dormant Application**

**Powdery Mildew, San Jose Scale, Shot Hole;** Apply 2 to 3 gallons of product per 100 gallons of water per acre. Apply as needed every 10 to 14 days from November 15 through December for pathogen spores. Make applications below 36th parallel prior to December 15th.

**Delayed Dormant Application**

**Scab;** Apply 2 to 3 gallons of product per 100 gallons of water per acre. Then apply one to two applications from 2 to 5 weeks after petal fall at ½ gallon of product per 100 gallons of water per acre.

**Pre-Bloom, Early Bloom and Full Bloom Application**

**Brown Rot Blossom Blight, Powdery Mildew, Shot Hole;** Apply ½ to 1¼ gallons of product per 100 gallons of water per acre. Then, apply at pink bud (5-10% bloom) and/or full bloom.

**Growing Season Application**

**Alternaria Leaf Spot, Powdery Mildew, Rust, Scab, Shot Hole;** Apply ½ to ¾ gallon of product per 100 gallons of water per acre. No more than four applications during growing season.

For Rust and Alternaria leaf spot, applications need to be made at the first sign of disease, before leaf symptoms appear, in late spring through summer at 10 to 14 day intervals. Non-Bearing Almonds may receive applications at 7 day intervals.

**Fall Clean-up**

**Not for post-harvest application to harvested nuts.** Apply 1 to 1½ gallons of product per 100 gallons of water per acre post-harvest and/or 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. **Shot Hole;** fall application before winter rains begin is the most important application for control of this disease. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**USE RESTRICTION:** Do not apply more than 46 gallons of Lime Sulfur ULTRA Solution product (136.5 lbs. of Calcium Polysulfide) per acre per year.

- **APPLES AND QUINCE**

**Apple Blotch, Black Rot and Frogeye Leaf Spot, Brown Mite, European Red Mite, Flyspeck, Green Apple, Rosy Apple and Woolly Apple Aphid Eggs, Oystershell Scale, Pear Leaf Blister Mite, Powdery Mildew, Rust Mite, San Jose Scale, Scab, Sooty Blotch**

**Use precaution: Use on Golden Delicious and Ginger Gold apple trees when fruit is present may result in injury.**

**Dormant Application**

**Brown Mite, European Red Mite, Pear Leaf Blister Mite, San Jose Scale;** Apply Dormant spray 2 to 3 gallons of product per 100 gallons of water per acre.

**Delayed Dormant Application** When buds begin to show green tips.

**Green Apple, Rosy Apple and Woolly Apple Aphid Eggs;** (February to March) Apply 2 to 3 gallons of product per 100 gallons of water per acre about the time the outer aphid shells split. **Scab;** Delayed Dormant spray is vital to scab control and leads to cleaner fruit and a minimum of later applications. Apply 2 to 3 gallons of product per 100 gallons of water per acre. Repeat application with ¾ to 1¼ gallons of product per 100 gallons of water per acre in Pre-Pink and Pink stages. **Black Rot and Frogeye Leaf Spot;** Apply 2 to 3 gallons of product per 100 gallons of water per acre in delayed dormant stage with follow up sprays at Petal Fall and during the growing season. **Brown Mite, Rust Mite, Pear Leaf Blister Mite;** Apply 2 to 3 gallons per 100 gallons per acre. **For Oystershell Scale see Combination Oil spray section.**

**Pre-Pink Application**

**Powdery Mildew;** Apply 1 to 1½ gallons of product per 100 gallons of water per acre. Apply in pre-pink, pink and calyx stages. **Scab;** Apply ¾ to 1¼ gallons of product per 100 gallons of water per acre.

### Pink, Pre-Bloom Application

**Scab;** Apply ¼ to 1¼ gallons of product per 100 gallons of water per acre.

**Powdery Mildew;** Apply 1 to 1½ gallons of product per 100 gallons of water per acre.

**Sooty Blotch;** Apply 1 to 1½ gallons of product per 100 gallons of water per acre, followed by three more applications in pre-bloom and petal fall stages, then 10 days later.

### Petal Fall Application

**Apple Blotch, Black Rot and Frogeye Leaf Spot;** Apply ½ gallon of product per 100 gallons of water per acre, then two more applications, the first two to four weeks later and ten weeks after petal fall. **Powdery Mildew,** Apply ½ gallon of product per 100 gallons of water per acre at petal fall and 2 to 3 weeks later, then as needed. Treat immediately if mildew is found on shoots or leaves on inner scaffolds. **Sooty Blotch;** Apply ½ gallon of product per 100 gallons of water per acre.

### Growing Season Application

**Apple Blotch, Black Rot and Frogeye Leaf Spot;** Apply ½ gallon of product per 100 gallons of water per acre, two to four weeks and ten weeks after petal fall. **Flyspeck;** Apply ½ gallon of product per 100 gallons of water per acre at 10 to 14 day intervals through the growing season, 4 to 6 applications. **Scab;** Apply ½ gallon of product per 100 gallons of water per acre every 10 to 14 days until about a month before harvest.

### Fall Clean-up/Post-Harvest Application

**Not for post-harvest application to harvested fruit.**

Late fall after temperatures cool and preferably before the first frost. **Aphid eggs, Apple blotch, Scab, Rust mite, Blister Mite, San Jose Scale;** Apply 1 to 1½ gallons of product per 100 gallons of water per acre post-harvest and/or 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**USE RESTRICTION:** Do not apply more than 65 gallons of Lime Sulfur ULTRA Solution product (192.9 lbs. of Calcium Polysulfide) per acre per year.

## • BLUEBERRIES

**Anthracnose, Blueberry Bud Mite, Exobasidium Leaf and Fruit Spot, Fusicoccum (Godronia) Canker, Mummy Berry, Phomopsis Canker and Twig Blight, Stem Canker and Stem Blight**

### Dormant Application

**Anthracnose;** Apply 2 to 3 gallons of product per 100 gallons of water per acre. Spray the ground as well.

**Fusicoccum (Godronia) Canker, Stem Canker and Stem Blight;** Apply 2 to 3 gallons of product per 100 gallons of water per acre.

**Mummy Berry;** Apply 2 to 3 gallons of product per 100 gallons of water. Use up to 300 gallons of spray per acre. Additionally, spray on the soil surface very early in the spring to destroy the apothecia (as the first mummy berry cups appear), use 2 to 3 gallons of product per 100 gallons of water.

### Delayed Dormant Application

**Anthracnose, Phomopsis Canker and Twig Blight;** Apply 2 to 2½ gallons of product per 100 gallons of water. Use up to 150 gallons of spray per acre after leaf buds begin to break.

**Exobasidium Leaf and Fruit Spot;** Apply 1 to 2 gallons of product per 100 gallons of water, use up to 150 gallons of spray per acre, then, repeat with 1 to 2 gallons of product per 100 gallons of water at early green tip.

### Early Green Tip Application

**Exobasidium Leaf and Fruit Spot;** Apply 1 to 2 gallons of product per 100 gallons of water, use up to 150 gallons of spray per acre.

### Fall Clean-up, Post-harvest Application

**Not for post-harvest application to harvested fruit.**

**Blueberry Bud Mite;** Apply 1 gallon of product per 100 gallons of water per acre immediately after harvest before buds are fully formed so the product can reach the mites under the bud scales. A second application before buds are fully formed may be required to achieve control in highly infested sites. **Exobasidium Leaf and Fruit Spot;** Apply 1 gallon of product per 100 gallons of water post-harvest, use up to 150 gallons of spray per acre. **Mummy Berry and other Overwintering pests;** Apply post-harvest as leaves begin



to fall (September or October) or early dormant spray of 2 to 3 gallons of product per 100 gallons of water. Use up to 300 gallons of spray per acre. Apply to ground as well. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**USE RESTRICTION:** Do not apply more than 48 gallons of Lime Sulfur ULTRA Solution product (142.5 lbs. of Calcium Polysulfide) per acre per year.

• **CANEBERRIES (Including Blackberries, Boysenberries, Dewberries, Raspberries, and other caneberries)**

**Anthracoese, Blackberry Leaf Mite, Cane Blight, Cane and Leaf Rust, Dryberry Mites, Oystershell Scale, Powdery Mildew, Purple Blotch, Red Berry Mite, Rose Scale, San Jose Scale, Septoria Leaf Spot, Spur Blight, Yellow Rust**

**Dormant Application**

**Cane Blight, Cane and Leaf Rust, San Jose Scale, Spur Blight and Overwintering Fungus Spores;** Apply 2 to 3 gallons of product per 100 gallons of water per acre. Spray ground as well.

**Delayed Dormant Application**

**Blackberry Leaf Mite, Cane Blight, Dryberry Mites, Oystershell Scale, Purple Blotch, Powdery Mildew, Redberry Mite, Rose Scale, San Jose Scale, Septoria Leaf Spot, Spur Blight, Yellow Rust;** Apply 2 to 3 gallons of product per 100 gallons of water per acre before shoots reach 3/8 inch. **Anthracoese;** Apply 2 to 3 gallons of product per 100 gallons of water per acre in early spring before growth starts. When shoots are 6 to 8 inches high, apply 1 to 1½ gallons of product per 100 gallons of water per acre. Just before the blooming period, apply ½ to 1¼ gallons of product per 100 gallons of water per acre. In addition to spray application, remove old fruiting canes as soon as the crop is picked.

**Pre-Bloom, Bloom and Growing Season Application**

**Anthracoese;** When shoots are 6 to 8 inches high, apply 1 to 1½ gallons of product per 100 gallons of water per acre. Just before the blooming period, apply ½ to 1¼ gallons of product per 100 gallons of water per acre (see delayed dormant also). **Cane and Leaf Rust, Powdery Mildew, Red Berry Mite;** apply ½ to ¾ gallon of product per 100 gallons of water per acre. Do not use on Raspberries at this time.

**Fall Clean-up Application**

**Not for post-harvest application to harvested fruit.**

**Red Berry Mite, Blackberry Leaf Mite, Rust, Rose Scale, San Jose Scale;** Apply 2 to 3 gallons of product per 100 gallons of water per acre after old fruiting canes have been removed from the field. Spray ground as well. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves and canes.

**USE RESTRICTION:** Do not apply more than 32 gallons of Lime Sulfur ULTRA Solution product (95 lbs. of Calcium Polysulfide) per acre per year.

• **CHERRIES (SWEET and TART)**

**Brown Mite, Brown Rot Blossom and Fruit Blight, Coryneum Blight (Shot Hole), Leaf Curl, Leaf Spot, Peach Twig Borer, Powdery Mildew, Scab, Scale Insects, Two Spotted Mites**

**Dormant Application**

**Coryneum Blight (Shot Hole), Scale Insects, Leaf Curl, Leaf Spot, Peach Twig Borer, Mites;** Apply 2 to 3 gallons of product per 100 gallons of water per acre.

**Delayed Dormant Application**

**Leaf Curl, Powdery Mildew, Scab;** Apply 2 to 3 gallons of product per 100 gallons of water per acre.

**Pre-Bloom Application**

**Brown Rot Blossom Blight, Scab;** Apply ¾ to 1¼ gallons of product per 100 gallons of water per acre. Begin at white bud (popcorn) and repeat every 10 to 14 days through bloom if rains continue. **Powdery Mildew;** Apply ¾ to 1¼ gallons of product per 100 gallons

of water per acre. Begin at white bud (popcorn) and repeat every 10 to 14 days through petal fall. Treat immediately if mildew is found on leaves or shoots of inner scaffolds.

#### **Petal Fall Application and Growing Season Application**

**Leaf Spot, Powdery Mildew;** Apply ½ gallon of product per 100 gallons of water per acre at petal fall and 2 to 3 weeks later then as needed. Treat immediately if mildew is found on shoots or leaves on inner scaffolds.

#### **Pre-Harvest Application**

**Brown Rot (Fruit), Leaf Spot, Powdery Mildew;** Apply ½ gallon of product per 100 gallons of water per acre. Apply 3 to 5 sprays at weekly intervals up to 2 days before harvest.

#### **Post-Harvest**

**Not for post-harvest application to harvested fruit.**

**Powdery Mildew;** Apply ½ to 1 gallon of product per 100 gallons of water per acre.

#### **Fall Clean-up Application**

**Not for post-harvest application to harvested fruit.**

Apply 1 to 1½ gallons of product per 100 gallons of water post-harvest and/or 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. **Coryneum Blight (Shot Hole);** fall application before winter rains begin is the most important application for control of this disease. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches. To aid in **Leaf Spot** control, spray ground as well to kill spores on dead leaves.

**USE RESTRICTION:** Do not apply more than 42 gallons of Lime Sulfur ULTRA Solution product (124.7 lbs. of Calcium Polysulfide) per acre per year.

### **• CITRUS**

**Black Scale, Citricola Scale, Citrus Thrips, Flat Mite, Red Spider Mites, Rust Mites**

**Oranges: Flat Mite, Thrips, and light Infestations of Citricola Scale;** Apply 1 to 1½ gallons of product per 100 gallons of water per acre in winter between January 1 and March 15, but before new shoots exceed ½ inch in length. Don't use on orange trees in late spring, summer and early fall. **Tangerines:** Spray during late winter and early spring (February 15 to April 15).

**Lemons and citrus species less susceptible to lime sulfur injury: Red Spider Mites;** Apply 1 to 1½ gallons of product per 100 gallons of water per acre. Apply when the mites appear. **Citrus Thrips;** Apply 2 gallons of product per 100 gallons of water per acre after petals have mostly fallen (May).

**Rust Mites;** Apply in January at 1 to 1½ gallons of product per 100 gallons of water per acre. Then apply in late spring (April or May) and again in late summer (August 5 to September 15) and autumn (October 15 to December 15) at 1 gallon of product per 100 gallons of water per acre.

**Combination Oil and Lime Sulfur ULTRA:** Do not apply combination mixtures over tender foliage or after spring growth has started. Fall oil treatments may increase the risk of damage caused by frost. Narrow range oils with a 50% distillation range of 415, 440 or 455 are needed for citrus. The heavier the oil, the better the insecticidal properties will be, but also the greater potential for phytotoxicity.

**Black Scale:** Apply ¾ to 1½ gallons plus 1 to 3 gallons of Oil per 100 gallons water per acre. October to January is a safe time and proper time to apply.

**Citricola Scale and Red Spider Mites:** Apply ¾ to 1½ gallons plus 1 to 1½ gallons of Oil per 100 gallons water per acre (October through February). For Citricola Scale follow with a Lime Sulfur ULTRA only spray of 1 to 1½ gallons of product per 100 gallons of water per acre after petals have mostly fallen (May).

**For citrus, spray injury can be avoided by applying at proper temperatures—below 85 and above freezing—and when weather is predicted to remain in these temperatures. Only apply in well watered groves. Do not apply where heavy copper residues are present. Lemons are far less susceptible to spray injury than oranges. Apply up to 300 gallons per acre of dilute spray.**

**USE RESTRICTION:** Do not apply more than 40 gallons of Lime Sulfur ULTRA Solution product (118.7 lbs. of Calcium Polysulfide) per acre per year.

- **CURRENTS, GOOSEBERRIES**

**Anthracoze, Cane Blight, Leaf Spot, Powdery Mildew, San Jose Scale**

**Dormant Application**

**Cane Blight, Leaf Spot, San Jose Scale and Overwintering pests;** Apply 2 to 3 gallons of product per 100 gallons of water. Use up to 200 gallons of spray mix per acre. Apply to ground as well.

**Delayed Dormant Application**

**Anthracoze;** Apply 1 to 2 gallons of product per 100 gallons of water per acre. Apply at bud break stage and repeat 10 to 15 days later. Use ½ to ¾ gallon per 100 gallons of water per acre at 10 day intervals after second spray as necessary. **Powdery Mildew;** Apply 3 gallons of product per 100 gallons of water per acre prior to or just when buds are just beginning to open, then apply ¼ to 1¼ gallons of product per 100 gallons of water per acre just before bloom and again just after bloom.

**Bloom and Growing Season Application**

**Anthracoze;** Apply ½ to ¾ gallon per 100 gallons of water per acre at 10 day intervals after second delayed dormant spray as necessary. **Powdery Mildew;** Apply ¼ to 1¼ gallons of product per 100 gallons of water per acre just before bloom (no more than 10%) and again just after bloom (90% or more of blossoms are set) then use ½ to ¾ gallon of product per 100 gallons of water per acre as necessary during growing season.

**Fall Clean-up, Post-Harvest Application**

**Not for post-harvest application to harvested fruit.**

**Anthracoze, Leaf Spot, Powdery Mildew and other Overwintering pests;** apply after leaves begin to drop or early dormant spray of 2 to 3 gallons of product per 100 gallons of water per acre. Apply to ground as well to destroy overwintering inoculums. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**USE RESTRICTION:** Do not apply more than 40 gallons of Lime Sulfur ULTRA Solution product (118.7 lbs. of Calcium Polysulfide) per acre per year.

- **FILBERTS / HAZELNUTS**

**Big Bud Mite, Moss, Lichen and Bryophytes**

**Delayed Dormant Application**

**Big Bud Mite;** Apply 2 to 3 gallons of product per 100 gallons of water per acre when buds begin to show green in the spring (March-April).

**Fall Clean-up Application**

**Not for post-harvest application to harvested nuts.**

**Moss, Lichen, bryophytes, and Overwintering pests.** Apply 2 to 3 gallons of product per 100 gallons of water per acre after harvest just prior to winter bloom. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**USE RESTRICTIONS:** Do not apply more than 40 gallons of Lime Sulfur ULTRA Solution product (118.7 lbs. of Calcium Polysulfide) per acre per year. **NOT FOR USE IN CALIFORNIA ON FILBERTS / HAZELNUTS**

- **FRUIT TREES (NON-BEARING)**

**Blotch, Coryneum Blight (Shot Hole), Leaf Spot, Peach Twig Borer, Powdery Mildew, Scab (see other diseases for specific crops)**

**Dormant, Delayed Dormant application**

**Blotch, Coryneum Blight (Shot Hole), Peach Twig Borer, Powdery Mildew, Scab;** Apply 1½ to 2 gallons of product per 100 gallons of water per acre.

### **Bloom and Growing Season application**

**Powdery Mildew, Scab;** Apply ½ to ¾ gallon of product per 100 gallons of water per acre as necessary. For best control, use a full cover spray from the orchard floor or trunk soil line to the top of canopy. Spray thoroughly, but do not drench foliage.

### **Fall Clean-up Application**

Apply 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches. To aid in **Leaf Spot** control, spray ground as well to kill spores on dead leaves.

**USE RESTRICTION:** Do not apply more than 46 gallons of Lime Sulfur ULTRA Solution product (136.5 lbs. of Calcium Polysulfide) per acre per year.

#### **• FRUIT TREES (BEARING)**

**Blotch, Coryneum Blight (Shot Hole), Leaf Spot, Peach Twig Borer, Powdery Mildew, Scab (see other diseases for specific crops)**

### **Dormant, Delayed Dormant application**

**Blotch, Coryneum Blight (Shot Hole), Peach Twig Borer, Powdery Mildew, Scab;** Apply 1½ to 2 gallons of product per 100 gallons of water per acre.

### **Fall Clean-up Application**

**Not for post-harvest application to harvested fruit.**

Apply 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches. To aid in **Leaf Spot** control, spray ground as well to kill spores on dead leaves.

**USE RESTRICTION:** Do not apply more than 46 gallons of Lime Sulfur ULTRA Solution product (136.5 lbs. of Calcium Polysulfide) per acre per year.

#### **• GRAPES (field, nursery and container, for juice concentrate or fresh, ornamental, raisin, table, and wine)**

**Anthracnose, Mealybugs, Phomopsis Cane and Leaf Spot, Powdery Mildew, Measles (ESCA)**

### **Dormant Application**

**Powdery Mildew, Measles (ESCA) and Overwintering spores;** Apply 2 to 3 gallons of product per 100 gallons of water, use up to 300 gallons of spray per acre. Spray on the soil surface and vines very early in the spring to destroy spores on dead rachis, leaves, and twigs. **Mealybugs;** Apply 2-3 gallons of product per 100 gallons of water per acre; apply up to 300 gallons of spray per acre.

**Delayed Dormant Application** Prior to bud swell

**Anthracnose, Overwintering Phomopsis Cane and Leaf Spot, Powdery Mildew, Mealybugs, and Measles (ESCA) spores.**

Apply 2 to 3 gallons of product per 100 gallons of water per acre.

### **From Bud Break through Growing Season Application**

**Anthracnose, Mealybugs:** Apply ½ to ¾ gallon of product per 100 gallons of water per acre. Apply when new shoots are 4 to 6 inches long. **Phomopsis Cane and Leaf Spot:** Apply ½ to ¾ gallon of product per 100 gallons of water per acre. **Powdery Mildew (both A and B isolate);** Apply ¾ to 1 gallon of product per 100 gallons of water. Apply a minimum of 100 gallons of dilute spray per acre. Repeat once or twice at two week intervals or when new shoots are a minimum of 4 to 6 inches long. Dilute sprays of 1 to 1½ gallons of product per 100 gallons of water per acre may be applied when buds are swelling, when leaves are half grown and just before blossoming.

If bronzing occurs on Table Grapes, increase spray dilution to ½ gallon per 125 gallons of water per acre.

### **Fall Clean-up application**

**Not for post-harvest application to harvested fruit.**

**To reduce viability of Overwintering Anthracnose, Mealybugs, Measles, Phomopsis and Powdery Mildew spores;** Before late fall rains and just before leaf drop apply 1 to 3 gallons of product per 100 gallons of water. Apply up to 200 gallons spray per acre. Apply at least 4 hours prior to rainfall or irrigation. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and vines.

**USE RESTRICTION:** Do not apply more than 66 gallons of Lime Sulfur ULTRA Solution product (195.9 lbs. of Calcium Polysulfide) per acre per year.

- **PEACHES AND NECTARINES**

**Coryneum Blight (Shot Hole), Black Peach Aphid, Brown Rot Blossom (Fruit) Blight, European Red Mite, Leaf Curl, Leaf Spot, Powdery Mildew, Rust, San Jose Scale, Scab**

**Dormant Application**

**Coryneum Blight (Shot Hole), European Red Mite, Leaf Curl, Rust, San Jose Scale;** Apply 2 to 3 gallons of product per 100 gallons of water per acre. Apply in early winter and late dormant period.

**Delayed Dormant Application**

**Black Peach Aphid;** (February to March) Apply 2 to 3 gallons of product per 100 gallons of water per acre about the time the outer aphid shells split. **Leaf Curl;** Apply 2 to 3 gallons of product per 100 gallons of water per acre. **Powdery Mildew, Scab;** Delayed Dormant spray is vital to scab control and leads to cleaner fruit and a minimum of later applications. Apply 2 to 3 gallons of product per 100 gallons of water per acre, then, repeat with  $\frac{3}{4}$  to  $1\frac{1}{4}$  gallons of product per 100 gallons of water per acre in Pre-bloom and Pink stages.

**Pre-Bloom, Pink, Early Bloom and Full Bloom Applications**

**Brown Rot Blossom Blight;** Apply  $\frac{3}{4}$  to  $1\frac{1}{4}$  gallons of product per 100 gallons of water per acre. Begin at pre-bloom and repeat every 10 to 14 days through bloom if rains continue. **Powdery Mildew, Scab;** Apply  $\frac{3}{4}$  to  $1\frac{1}{4}$  gallons of product per 100 gallons of water per acre Pre-bloom and Pink stages.

**Growing Season Application**

**Brown Rot, Leaf Spot, Coryneum Blight (Shot Hole);** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre at 10 to 14 day intervals until about 1 month harvest. **Powdery Mildew;** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre as needed when disease appears. **Rust;** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre as needed; begin before disease appears on leaves.

**Pre-Harvest Application**

**Brown Rot (Fruit), Leaf Spot, Powdery Mildew;** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water. Apply 3 to 5 sprays at weekly intervals up to 2 days before harvest.

**Fall Clean-up Application** (before winter rains begin)

**Not for post-harvest application to harvested fruit.**

**Coryneum Blight (Shot Hole), Leaf Curl, Rust;** Apply 1 to  $1\frac{1}{2}$  gallons of product per 100 gallons of water per acre post-harvest and/or 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. **Coryneum Blight (Shot Hole);** fall application before winter rains begin is the most important application for control of this disease. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**Do not apply dormant or delayed dormant strength spray immediately after or during periods of 5 days or more of unseasonably high temperatures if a sufficient number of dormant cold hours have occurred.**

**USE RESTRICTION:** Do not apply more than 39 gallons of Lime Sulfur ULTRA Solution product (115.8 lbs. of Calcium Polysulfide) per acre per year.

- **PEARS**

**Aphid Eggs, Brown Mite, European Red Mite, Pear Leaf Blister Mite, Powdery Mildew, Rust Mite, San Jose Scale, Scab**

**Dormant Application**

**Brown Mite, European Red Mite, Pear Leaf Blister Mite, Rust Mite, San Jose Scale;** Apply Dormant spray 2 to 3 gallons of product per 100 gallons of water per acre.

**Delayed Dormant Application** When buds begin to show green tips.

**Aphid Eggs;** (February to March) Apply 2 to 3 gallons of product per 100 gallons of water per acre about the time the outer shells

split. **Blister Mite, Pear Psylla, Rust mite, San Jose Scale**; Apply 2 to 3 gallons of product per 100 gallons of water per acre. **Scab**; Delayed Dormant spray is vital to control and leads to cleaner fruit and a minimum of later applications. Apply 2 to 3 gallons of product per 100 gallons of water; use up to 300 gallons of mix per acre. Repeat with  $\frac{3}{4}$  to  $1\frac{1}{4}$  gallons of product per 100 gallons of water per acre in Pre-Pink and Pink stages.

#### **Pre-Pink, Pink and Pre-Bloom Applications**

**Powdery Mildew**; Apply 1 to  $1\frac{1}{2}$  gallons of product per 100 gallons of water per acre in Pre-Pink, followed by an application in the Pink and Calyx stages. **Scab**; Apply  $\frac{3}{4}$  to  $1\frac{1}{4}$  gallons of product per 100 gallons of water per acre in the Pre-pink and Pink stage.

#### **Growing Season Application**

**Powdery Mildew**; Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre as needed.

#### **Combination Oil Post-Harvest Application**

**Not for post-harvest application to harvested fruit.**

**Pear Leaf Blister Mite, Pear Psylla, Rust Mite**; Apply  $2\frac{1}{2}$  gallons of product per 100 gallons of water per acre plus 1 to 2 gallons light medium summer oil immediately after harvest. This is to prevent the Rust mite from overwintering under the developing fruit and leaf buds.

#### **Fall Clean-up Application**

**Not for post-harvest application to harvested fruit.**

Late fall after temperatures cool and preferably before the first frost. **Aphid eggs, Pear Leaf Blister Mite, Pear Psylla, Rust mite, San Jose Scale, Scab and other Overwintering inoculum.** Apply 1 to  $1\frac{1}{2}$  gallons of product per 100 gallons of water per acre and/or 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. **Optional Scab treatment**; Combine 3 gallons Lime Sulfur ULTRA with a 5% solution of biuret urea spray at 50 pounds per 100 gallons dilute spray just before leaf fall, this hastens leaf decomposition and reduces spore production the following spring. Take care to wait to the latest moment as early defoliation reduces energy transfer into the tree used for growth in the spring.

Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**Use on d'Anjou, Comice or Seckle varieties only for Dormant, Delayed Dormant, Pre-Pink and Fall Clean up applications.**

**USE RESTRICTION:** Do not apply more than 68 gallons of Lime Sulfur ULTRA Solution product (201.8 lbs. of Calcium Polysulfide) per acre per year.

#### **• PECANS**

**Yellow Pecan Aphid and Mites**

#### **Growing Season Application**

**Yellow Pecan Aphid and Mites**; Apply 1 Gallon of product per 100 gallons of water. For mature trees apply as a full coverage spray using up to 400 gallons of spray per acre. Thorough coverage is essential for control. **Yellow Pecan Aphid**; Apply as needed to prevent excessive honeydew buildup. **Mites**; Apply when infestation is first noticed.

#### **Fall Clean-up Application**

**Not for post-harvest application to harvested nuts.**

Apply 2 gallons of product per 100 gallons of water per acre in the fall and/or 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**USE RESTRICTION:** Do not apply more than 70 gallons of Lime Sulfur ULTRA Solution product (207.8 lbs. of Calcium Polysulfide) per acre per year.

## • PISTACHIOS

### **Alternaria Late Blight, Botryosphaeria Panicle and Shoot Blight**

#### **Dormant or Delayed Dormant Application**

**Alternaria Late Blight, Botryosphaeria Panicle and Shoot Blight;** Apply 2 to 3 gallons of product per 100 gallons of water per acre.

**USE RESTRICTION:** Do not apply more than 25 gallons of Lime Sulfur ULTRA Solution product (74.2 lbs. of Calcium Polysulfide) per acre per year.

## • PLUMS AND PRUNES

**Aphid Eggs, Black Knot, Brown Rot Blossom Blight (Fruit Rot), Coryneum Blight (Shot Hole), Flyspeck, Leaf Curl, Mites, Peach Twig Borer, Plum Leaf Spot, Plum Pockets, Powdery Mildew, Rust, San Jose Scale, Sooty Blotch**

#### **Dormant Application**

**Coryneum Blight (Shot Hole), Leaf curl, Mites, Peach Twig Borer, Plum Leaf spot, Plum Pockets, San Jose Scale, Scale Insects, Overwintering spores;** Apply 2 to 3 gallons of product per 100 gallons of water per acre.

#### **Delayed Dormant Application**

**Aphid Eggs;** (February to March) Apply 2 to 3 gallons of product per 100 gallons of water per acre about the time the outer shells split. **Coryneum Blight (Shot Hole), Black Knot, Brown Rot Blossom Blight, Mites, Scale insects;** Apply 2 to 3 gallons of product per 100 gallons of water per acre.

#### **Pre-Bloom Application**

**Brown Rot Blossom Blight;** Apply  $\frac{3}{4}$  to  $1\frac{1}{4}$  gallons of product per 100 gallons of water per acre. Begin at white bud and repeat every 10 to 14 days through bloom if rains continue. **Powdery Mildew;** Apply  $\frac{3}{4}$  to  $1\frac{1}{4}$  gallons of product per 100 gallons of water per acre. Begin at white bud and repeat every 10 to 14 days through petal fall. Treat immediately if mildew is found on leaves or shoots of inner scaffolds.

**Sooty Blotch and Flyspeck;** Apply  $\frac{3}{4}$  to  $1\frac{1}{4}$  gallons of product per 100 gallons of water per acre. Apply again at petal fall and 10 days later. Then use  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre 4 to 6 applications.

#### **Petal Fall Application and Growing Season Application**

**Sooty Blotch and Flyspeck;** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre at 10 to 14 day intervals through the growing season, 4 to 6 applications. **Powdery Mildew, Rust;** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre as needed. For Rust, applications need to be made before symptoms appear anytime in late spring through summer at 10 to 14 day intervals. **Plum Leaf Spot;** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre at petal fall, fruit set and two weeks later. Additional sprays at pre-harvest and fall clean up may be needed. **Coryneum Blight (Shot Hole);** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre at 10 to 14 day intervals until about 1 month before harvest.

#### **Pre-Harvest Application**

**Brown Rot (Fruit), Leaf Spot, Powdery Mildew;** Apply  $\frac{1}{2}$  gallon of product per 100 gallons of water per acre. Apply 3 to 5 sprays at weekly intervals up to 2 days before harvest.

#### **Post-Harvest and Fall Clean-up Application**

**Not for post-harvest application to harvested fruit.**

Late fall after temperatures cool and preferably before the first frost. **Aphid eggs, Leaf Spot, San Jose Scale and Overwintering spores;** Apply 1 to  $1\frac{1}{2}$  gallons of product per 100 gallons of water per acre and/or 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. Spray ground as well. **Coryneum Blight (Shot Hole);** fall application before winter rains begin is the most important application for control of this disease. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.

**USE RESTRICTION:** Do not apply more than 50 gallons of Lime Sulfur ULTRA Solution product (148.4 lbs. of Calcium Polysulfide) per acre per year.

## • RED CLOVER, ALFALFA

### **Powdery Mildew**

#### **Early Bud Stage through Growing Season Application**

**Powdery Mildew;** Apply 1 to 2 gallons of product per 100 gallons of water. Apply 50 to 100 gallons of spray per acre. Apply at early bud stage or at first sign of disease.

**USE RESTRICTIONS:** Do not apply more than 20 gallons of Lime Sulfur ULTRA Solution product (59.4 lbs. of Calcium Polysulfide) per acre per year.

## • ROSES

**Black Spot, Case Bearer, Powdery Mildew, Red Spider Mites, Rose and San Jose Scale, Rust**

#### **Delayed Dormant Application (Bud swell)**

**Rose and San Jose Scale, Case Bearer, Powdery Mildew;** Apply 1 to 1½ gallons of product per 100 gallons of water per acre.

#### **Growing Season Application**

**Black Spot, Powdery Mildew, Rust, Red Spider Mites;** Apply ½ gallon of product per 100 gallons of water per acre. Apply at 10 to 15 day intervals in growing season. Pick open flowers before spraying to avoid discoloration.

#### **Fall Clean-up Application**

**Rose and San Jose Scale, Powdery Mildew, Overwintering spores;** In fall after leaves begin to drop, apply 2 to 3 gallons of product per 100 gallons of water per acre. Spray ground as well. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and stems.

**USE RESTRICTION:** Do not apply more than 33 gallons of Lime Sulfur ULTRA Solution product (97.9 lbs. of Calcium Polysulfide) per acre per year.

## • SHADE TREES, ORNAMENTAL, SHRUBBERY, DECIDUOUS HEDGE PLANTS AND BERRIES

**Aphid eggs, Anthracnose, Black Spot, Boxwood Canker, Coryneum Blight (Shot Hole), Leaf Blotch, Leaf Spot, Lichen, Maple Gall, Moss, Nectria Canker, Powdery Mildew, Rust, San Jose Scale, Scale Insects, Stem Canker, Overwintering Spores.**

#### **Dormant and Delayed Dormant Application**

**Stem Canker;** Apply 2 to 3 gallons of product per 100 gallons of water per acre in the Fall, repeat at Bud Swell.

**Anthracnose, Black Spot, Coryneum Blight (Shot Hole), Lichen, Leaf Blotch, Maple Gall, Moss, Nectria Canker, Powdery Mildew, Rust, San Jose Scale;** Apply 2 to 3 gallons of product per 100 gallons of water per acre. For best control, use a full cover spray from the orchard floor or trunk soil line to the top of canopy. Spray thoroughly, but do not drench foliage.

**Scale Insects, Juniper Scale on deciduous Fruit Trees, Ornamental Shrubberies, Berries and most Ornamental Trees including but not limited to Lilac, Ash, Poplar, Dogwood, Elm, Birch Willow;** Apply 2 to 3 gallons of product per 100 gallons of water per acre.

#### **Growing Season Application**

**Ornamentals including but not limited to Begonias (Tuberous), Crape Myrtle, Dahlias, Delphiniums, Lilacs, Marigolds, Sweet Peas, Zinnias for Powdery Mildew;** Apply ½ gallon of product per 100 gallons of water per acre when foliage appears and repeat at 7 to 10 day intervals as needed. **Boxwood Canker;** Apply ½ gallon of product per 100 gallons of water per acre in spring at mid-growth, completed growth and fall growth. Follow with a dormant application.

#### **Fall Clean-up Application**

**Not for post-harvest application to harvested fruit.**

Late fall after temperatures cool and preferably before the first frost. **Aphid eggs, Leaf Spot, San Jose Scale and Overwintering spores;** Apply 1 to 1½ gallons of product per 100 gallons of water per acre and/or 2 to 3 gallons of product per 100 gallons of water per acre anytime after leaf drop begins. Spray ground as well. **Coryneum Blight (Shot Hole);** fall application before winter rains begin is the most important application for control of this disease. Clean up sprays are very effective in controlling susceptible insects, their eggs, and newly deposited diseases, spores and fungal parts that overwinter on dead or dying leaves, twigs and branches.



See and use other fruit sections for other appropriate diseases and their control. For specific plants not mentioned above a preliminary trial spray to determine plant tolerance is needed.

**USE RESTRICTIONS:** Do not apply more than 40 gallons of Lime Sulfur ULTRA Solution product (118.7 lbs. of Calcium Polysulfide) per acre per year. Do not apply to Evergreens, Euonymus or Rhododendrons or allow spray to drift on these susceptible species.

## COMBINATION OIL SPRAY OPTIONS

### • FRUIT TREES, ROSES AND DECIDUOUS HEDGE PLANTS, SHADE TREES AND SHRUBS

#### Horticultural Oils combined with Lime Sulfur ULTRA

*When applied as a true dormant spray before growth begins, Lime Sulfur ULTRA can be used with oil to increase the penetration of the caustic sulfur into the surface of the infected tissue. Lime Sulfur ULTRA rates are reduced when green tissue is exposed. The potential for phytotoxicity of oil product and/or oil product mixes has not been fully evaluated for all crop varieties in all growing areas. Small plot tests are prudent to determine safety margins of particular varieties for specific environmental conditions in different growing areas.*

*USE RESTRICTIONS: Once green tissue appears, do not mix oil with Lime Sulfur ULTRA; oil will carry sulfur into green plant tissue causing injury. Do not use oil within 21 days of a sulfur spray when green tissue is exposed. Do not apply during or when freezing weather is expected. Do not use oils on certain plants including maple, beech, black walnut, Japanese walnut and flowering cherry. Check the product labels for these and other restrictions before use. Do not apply Oil and Lime Sulfur ULTRA mix to Apricots, Evergreens, Euonymus and Rhododendrons or allow spray to drift on these susceptible species. Allow a minimum of 10 days between a Delayed Dormant oil application and a later Lime Sulfur ULTRA application. Allow a minimum of 21 days between oil and Tetrasul 4s5 sprays in the growing season, as injury may occur. Use only on Tetrasul 4s5 tolerant varieties. Drought, cold and high temperatures, and other conditions may weaken trees. Do not apply Lime Sulfur ULTRA or oils to trees in weakened condition.*

#### Dormant and Delayed Dormant Application

**For San Jose Scale, Oyster Shell Scale, Brown Apricot Scale, Black Scale, Moss, Lichen and Overwintering Insect Eggs, Fungus Spores and Plant Diseases;** Apply 1½ to 2 gallons plus 1 to 5 gallons supreme or superior type dormant spray oil or emulsion per 100 gallons of water per acre. Keep agitated during spraying.

### • APPLES

**DORMANT:** Brown Mite, European Red Mite, Pear Leaf Blister Mite, Rust Mite, San Jose Scale; Apply 1½ to 2 gallons plus 1½ gallons supreme or superior type oil spray per 100 gallons of water per acre.

**DELAYED DORMANT:** Oystershell Scale; Apply 1½ to 2 gallons plus 1½ to 2 gallons supreme or superior type oil spray per 100 gallons of water per acre. Apply just before bud break.

**POST-HARVEST:** Not for post-harvest application to harvested fruit.

**For Rust Mite, Blister Mite, San Jose Scale, Aphid and Mite eggs;** Apply 1 to 1½ gallons plus 1½ to 2 gallons of supreme or superior type oil per 100 gallons of water per acre. Apply late fall after temperatures cool, preferably before the first frost.

### • CHERRIES (SWEET and TART)

**DELAYED DORMANT:** For the control of Coryneum Blight (Shot hole), Scale Insects, Peach Twig Borer, Leaf Curl, Brown Mites, Red Mites, Silver Mites; Apply 1½ to 2 gallons with 1½ gallons of superior type oil per 100 gallons of water per acre.

### • CITRUS

See the Citrus section

- **GRAPES**

**POST-HARVEST:** Not for post-harvest application to harvested fruit.

To reduce viability of Overwintering Anthracnose, Mealybugs, Measles, Phomopsis and Powdery Mildew spores; Before late fall rains and just as leaf drop begins apply 1½ to 2 gallons plus 2 gallons of supreme or mineral oil per 100 gallons of water. Apply up to 200 gallons spray per acre. Apply at least 4 hours prior to rainfall or irrigation.

- **PEACHES and NECTARINES**

**DORMANT OR DELAYED DORMANT:** For Scale Insects, European Red Mite, Leaf Curl, Silver Mites, Peach Twig Borers, Coryneum Blight (Shot Hole), Brown Mites, Red Mites and Aphids; Apply 1½ to 2 gallons of product per 100 gallons plus 1½ gallons superior oil per 100 gallons of water per acre.

- **PEARS**

**DELAYED DORMANT:** Pear Leaf Blister Mite, Rust Mite, European Red Mite, San Jose Scale, Pear Psylla; Apply 1½ to 2 gallons plus 1½ gallons supreme or superior type oil per 100 gallons of water per acre. Allow a minimum of 10 days between a Delayed Dormant oil application and a later Lime Sulfur ULTRA application.

**POST-HARVEST:** Not for post-harvest application to harvested fruit.

**Rust Mite;** Apply 1½ to 2 gallons of product per 100 gallons of water per acre plus 1½ to 2 gallons light medium summer oil immediately after harvest. This is to prevent the Rust mite from overwintering under the developing fruit and leaf buds. *DO NOT allow sprays to drift to adjacent apple orchards as defoliation may occur.*

**For Scale Insects, Pear Psylla, Aphid and Mite Eggs, Pear Leaf Blister Mite;** Apply 2½ gallons plus 1½ to 2 gallons of supreme or superior type oil per 100 gallons of water per acre. Apply in fall as leaves begin to fall. **For Bud Mite (Pacific Coast States);** Apply 1 to 1½ gallons plus 2 gallons light medium summer oil per 100 gallons of water per acre. Apply in the fall after temperature cools but before the first frost at the time mites first penetrate under the bud scales.

- **PLUMS AND PRUNES**

**DORMANT OR DELAYED DORMANT:** For Scale Insects, Silver Mites, Peach Twig Borers, Coryneum Blight (Shot Hole), Peach Leaf Curl, Brown Mites, Red Mites, Aphids; Apply 1½ to 2 gallons plus 1½ gallons superior type oil per 100 gallons of water per acre.

- **SHADE TREES, SHRUBS, ROSES, OTHER FRUIT TREES**

**DORMANT OR DELAYED DORMANT:** For Coryneum Blight (Shot Hole), San Jose Scale, Oystershell Scale, Brown Apricot Scale, Black Scale, Moss, Lichen and Overwintering Insect Eggs, Fungus Spores and Plant Diseases; Apply 1½ to 3 gallons plus 1 to 5 gallons supreme or superior type dormant spray oil per 100 gallons of water per acre. Keep agitated during spraying.

**DELAYED DORMANT:** As an aid in the control of Powdery Mildew, Anthracnose; Apply 1½ to 2 gallons plus ¾ to 1½ gallons light medium summer oil per 100 gallons of water per acre once in early spring before buds swell. Full season control of Powdery Mildew and Anthracnose will require additional applications of fungicide that are not oil and Lime Sulfur ULTRA in combination.

**GROWING SEASON APPLICATION**

**For Spotted Wing Drosophila on Fruit Trees, Grapes and Berries;** Apply 2½ gallons of product per 100 gallons of water per acre plus ¾ to 1½ gallons light medium summer oil *to the ground* up to the base of the tree, vine or bush where fruit fall. Begin when fruit brix exceeds 6% and apply each week until after fruit have completely decomposed. Use fall clean up spray to reduce remaining adult population.

## **CONDITIONS OF SALE**

### **LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES**

The directions on this label are believed to be reliable and must be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions, the failure to follow the label directions all of which are beyond the control of OR-CAL, Inc. or seller. In addition, failure to follow the label directions may cause injury to crops, animals, man or the environment. OR-CAL, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of OR-CAL, Inc. OR-CAL, Inc. makes no other warranties or representations of any kind, express or implied concerning the product, including no implied warranty of merchantability or fitness for any particular purpose. To the extent consistent with applicable law, the exclusive remedy against OR-CAL, Inc. for any cause of action relating to the handling or use of this product is a claim of damage and damages or any other recovery of any kind against OR-CAL, Inc. shall not exceed the price of the product, which caused the alleged loss, damage, injury or other claim. To the extent consistent with applicable law, OR-CAL, Inc. shall not be liable for losses or damages resulting from special, indirect, incidental, or consequential damages or expenses, or any nature, including, but not limited to, loss of profits, or income, whether or not based on OR-CAL, Inc. negligence, breach of warranty, strict liability in tort or any other cause of action. OR-CAL, Inc. and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.



29454 MEADOWVIEW RD.  
JUNCTION CITY, OR 97448  
**(541) 689-4413**

[www.orcalinc.com](http://www.orcalinc.com)