

# BRANDT<sup>®</sup> Lime Sulfur

## Fungicide

**Not for residential use or application to residential sites.** This product may not be used in, on, or around any structure, vehicle, article, surface or area associated with the household, including non-agricultural outbuildings, non-commercial greenhouses, pleasure boats and recreational vehicles; in or around any preschool or day care facility or on humans or pets.

<b>ACTIVE INGREDIENT:</b>	<b>BY WEIGHT</b>
Calcium polysulfide .....	29.0%
<b>OTHER INGREDIENTS:</b> .....	71.0%
<b>TOTAL:</b> .....	100.0%

Density: Baume at 60°F ..... 31°  
Lbs Per Gallon at 68°F ..... 10.6

Contains Calcium and Sulfur expressed as Gypsum - 3.0 lbs. per gallon. Other combined Sulfur 1.9 lbs. per gallon.

EPA Reg. No. 61842-30-48813

EPA Est. No. 48498-CA-1

## KEEP OUT OF REACH OF CHILDREN DANGER – PELIGRO

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

### FIRST AID

**IF IN EYES:** Hold eyes 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 eye. 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.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**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 1-866-374-1975 for emergency medical treatment information.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate gastric lavage.

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER:** Corrosive. Causes irreversible eye damage. Causes skin burns. Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. This product is corrosive to flesh because of its caustic alkaline nature.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant to this product are made of any waterproof material.

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

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves (barrier laminate; butyl, nitrile, neoprene or natural rubber ≥ 14 mils; polyethylene; polyvinyl chloride (PVC) ≥ 14 mils; viton ≥ 14 mils)
- Chemical-resistant footwear plus socks
- Goggles or face shield
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when mixing, loading or cleaning equipment or spills.

LIME SULFUR	GROUP	M2	FUNGICIDE
LIME SULFUR	GROUP	UN	INSECTICIDE

Discard clothing and other absorbent material 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, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

### PHYTOTOXICITY AND NON-TARGET ORGANISM ADVISORY STATEMENT

This product may be toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect non-target plants, and the forage and habitat of non-target organisms, by following label directions intended to minimize spray drift.

### PHYSICAL OR CHEMICAL HAZARDS

Do not mix BRANDT LIME SULFUR 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.

### RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, BRANDT LIME SULFUR contains a Group M2 fungicide and Group UN insecticide. Any fungal population may contain individuals naturally resistant to BRANDT LIME SULFUR and other Group M2 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

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

- Rotate the use of BRANDT LIME SULFUR or other Group M2 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.
- For further information or to report suspected resistance contact BRANDT Consolidated, Inc. at 800-300-6559. You can also contact your pesticide distributor or university extension specialist to report resistance.

To delay insecticide resistance, take the following steps:

- Rotate the use of BRANDT LIME SULFUR or other Group UN insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticidal activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact BRANDT Consolidated, Inc. at 800-300-6559.

#### 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 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 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, such as plants, soil, or water, is: Coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, chemical-resistant footwear plus socks, goggles or face shield, chemical-resistant headgear for overhead exposure.

#### 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.

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

#### INSTRUCTIONS FOR USE

Some fruits and other plants are susceptible to injury from sulfur under certain climatic conditions. The user is advised not to use sulfur on any crop unless local use has proved that sulfur does not damage crops in that locality.

**USE PRECAUTIONS:** Do not use this product within 30 days of an oil spray at any stage other than dormant (deciduous only) unless prior experience in your immediate area has shown that shorter intervals will not result in phytotoxic injury. BRANDT LIME SULFUR may burn foliage when temperature is high; avoid applying this material during very hot periods of the day (above 85°F). Keep container tightly closed when not in use. If crust should form on the surface, break through the crust so product will pour.

**RESTRICTIONS: Not for residential use or application to residential sites.** This product may not be used in, on, or around any structure, vehicle, article, surface or area associated with the household, including non-agricultural outbuildings, non-commercial greenhouses, pleasure boats and recreational vehicles; in or around any preschool or day care facility or on humans or pets.

Do not apply, or allow to drift, to painted surfaces as a permanent stain may result. Do not combine BRANDT LIME SULFUR with other pesticides unless previous experience has shown them to be compatible. If tank mixing, always follow the more restrictive label directions. This product cannot be mixed with any product containing a label prohibition against such mixing. Read entire label and use strictly in accordance with label directions.

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

Unless otherwise indicated, the following use rates are per 100 gallons of water. Where a rate range is given, use the higher rates when disease is severe or where disease was severe in the previous season.

Do not apply this product to harvested fruit.

#### SPRAY DRIFT MANAGEMENT

##### SPRAY DRIFT

##### Airblast Applications:

- Sprays must be directed into the canopy.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- Do not apply during temperature inversions.

##### Ground Boom Applications:

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

#### SPRAY DRIFT ADVISORIES

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

#### IMPORTANCE OF DROPLET SIZE

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

#### Controlling Droplet Size -- Ground Boom

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

#### BOOM HEIGHT - Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

#### SHIELDED SPRAYERS

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

#### TEMPERATURE AND HUMIDITY

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

#### TEMPERATURE INVERSIONS

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

#### WIND

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

#### SPRAY DRIFT

Handheld Technology: Applications:

- Take precautions to minimize spray drift.

#### DILUTE SPRAY OR APPLICATION

For general dilute applications, use higher gallonage (100-400 gal/acre) on larger trees where required.

## CONCENTRATE SPRAY OR APPLICATION

For concentrate spray applications, use 100 gal/acre. **Restriction:** When using concentrate sprays do not exceed 12 gallons of BRANDT LIME SULFUR per 100 gallons on a per acre basis. (Rust mites and scale insects have been shown to be more effectively controlled with dilute or semi dilute applications.)

## ALMONDS

**DORMANT** for Powdery Mildew, Shothole—Apply 1 to 3 applications of 8 gallons at two week intervals between November 15 and December 15. **DORMANT or DELAYED DORMANT** for Scab (*Cladosporium carpophilum*) apply 8-16 gallons in 100 gallons per acre in a concentrate spray per acre. As a dilute spray apply 4 gallons.

**PRE-BLOOM, EARLY BLOOM and FULL BLOOM** for Brown Rot Blossom Blight—Apply ¾ to 1½ gallons.

**USE RESTRICTION FOR ALMONDS:** Apply a maximum of 46 gallons of BRANDT LIME SULFUR (138 lbs of calcium polysulfide) per acre per year.

## APPLES

**DORMANT** for Blister Mite, Rust Mite, Brown Mite, European Red Mite and San Jose Scale—Apply 6 to 11 gallons, OR 3 gallons plus 1 ½ gallons supreme or superior type oil spray. For Blister Mite and Rust Mite only—Apply 3 gallons.

**NOTE:** Apple Scab and Powdery Mildew are not controlled at the dormant stage.

**DELAYED DORMANT** for Blister Mite, Rust Mite, Apple Scab, Brown Mite, Powdery Mildew—Apply 3 gallons. For Leaf Spot—Increase rate to 7 ½ to 10 gallons. (See Growing Season recommendation). For Scab only—Apply 1 ½ to 2 gallons, repeat in Pre-Pink and Pink stages.

**PRE-PINK** for Powdery Mildew, Apple Scab—Apply 2 to 3 gallons. For Apple Scab repeat in Pink stage. For Powdery Mildew see Pink stage recommendation.

**PINK** for Powdery Mildew, Apple Scab—Apply 2 ½ gallons or 2 gallons plus 5 pounds of wettable sulfur. A Petal Fall application may be needed.

**PRE-BLOOM** for Blotch—Apply 2 gallons, repeat at Petal Fall, and again 10 days later.

**PETAL FALL** for Blotch—(See Pre-Bloom directions)—Apply 2 gallons. Repeat in 10 days.

**GROWING SEASON FOLIAR SPRAYS** for Leaf Spot—Apply ½ gallon (See Delayed Dormant directions). **Precaution:** USE ON GOLDEN DELICIOUS GOLD APPLES (fruit) OR GINGER GOLD APPLES (fruit) MAY CAUSE INJURY.

**POST-HARVEST** (Late fall after temperatures cool (Mid-October to November) before the first frost): For Rust Mite, Blister Mite, San Jose Scale, Aphid and Mite eggs—Apply 3 to 5 gallons plus 1 ½ to 2 gallons of supreme or superior type oil. Apply to the apple trees after the fruit has been harvested. **Precaution:** Post-Harvest applications of BRANDT LIME SULFUR may cause early defoliation. Early Post-Harvest sprays (early to mid September) can retard tree growth and are not recommended.

**USE RESTRICTION FOR APPLES:** Apply a maximum of 65 gallons of BRANDT LIME SULFUR (195 lbs. of calcium polysulfide) per acre per year (for dormant, delayed dormant, pre-pink, pink, pre bloom, petal fall, growing season foliar sprays, and post harvest applications). If used with apple blossom thinning applications, apply a maximum of 137 gallons of BRANDT LIME SULFUR (411 lbs. of calcium polysulfide) per acre per year.

**APPLES: BLOOM THINNING** - [For use only in ID, NC, OR, PA, UT, VA and WA.] Apple thinning at bloom is affected by numerous factors including but not limited to apple variety, overall condition of the tree, and weather conditions. Thinning programs using BRANDT LIME SULFUR or BRANDT LIME SULFUR + oil should be considered on a case by case basis. In particular, apple varieties vary significantly in sensitivity to BRANDT LIME SULFUR application for bloom thinning. Additionally, temperature and moisture can have major impact on the effectiveness of BRANDT LIME SULFUR for bloom thinning. General Recommendation: Apply in adequate water volume (typically 100 to 200 gallons per acre) for full coverage of blossoms. Make application from king bloom (20% full bloom) to early petal fall, as side blooms are opening. Use of spray oil in the BRANDT LIME SULFUR application will increase spray spreading, penetration and efficacy thus requiring lower rates of BRANDT LIME SULFUR. When using oil refer to the oil product label for specific use directions.

### Rates for Easy-to-Thin Apple Varieties (see Table 1):

BRANDT LIME SULFUR alone: apply at 4 to 10% v/v solution BRANDT LIME OR SULFUR + Oil: apply BRANDT LIME SULFUR at 1 to 2% v/v in combination with one of the following oils; Fish Oil at 2% v/v; Dormant Petroleum Spray Oil 0.5% to 1% v/v; or Summer Petroleum Spray Oil at 1% to 1.5% v/v.

### Rates for Difficult-to-Thin Apple Varieties (see Table 1):

BRANDT LIME SULFUR alone: apply 6% to 12% v/v solution. OR BRANDT LIME SULFUR + Oil: apply BRANDT LIME SULFUR at 1 to 3% v/v in combination with one of the following oils: Fish Oil at 2% v/v; Dormant Petroleum Spray Oil at 0.5% to 1% v/v; or Summer Petroleum Spray Oil at 1 to 1.5% v/v.

Table 1. Examples of sensitivity to BRANDT LIME SULFUR applied for bloom thinning by apple variety<sup>1</sup>.

Easy-to-Thin Apple Varieties	Braeburn, Cripps Pink, Gala, Granny Smith, Honey Crisp, Jonagold, Red Delicious
Difficult-to-Thin Apple Varieties	Cameo, Fuji, Golden Delicious, Pacific Rose

<sup>1</sup>These are varieties that have been reported as easy or difficult to thin, however, the success of bloom thinning will vary from year to year and by geography. It is recommended the grower determines use of BRANDT LIME SULFUR for bloom thinning based on experience, environmental conditions, and local expertise.

**RESTRICTIONS:** Do not apply this product through any type of irrigation system. Do not make more than three applications of BRANDT LIME SULFUR for blossom thinning per growing season. For applications of BRANDT LIME SULFUR to varieties other than those listed on this label, a phytotoxicity test and/or consultation with a local thinning expert is recommended. [For use as an apple blossom thinner only in ID, NC, OR, PA, UT, VA and WA.] **Use Restriction for Apple Blossom Thinning:** Apply a maximum of 72 gallons of BRANDT LIME SULFUR (216 lbs calcium polysulfide) per acre per year.

**PRECAUTIONS:** If lime sulfur is used on apples for pest control purposes up to 10 days before or after blossom thinning sprays, the overall thinning response may be increased. For apple varieties sensitive to sulfur (e.g., Braeburn), use lower rates and only 1 to 2 applications per season. Be sure to use additives at indicated rates. If using Fish Oil, make sure it is of uniform consistency. Any spray oils used in combination with this product must be labeled for use during bloom, and must not prohibit tank mixing with lime sulfur. Do not tank mix with other chemicals, surfactants or spray adjuvants other than those listed on this label. Reduce the number of applications per season or lower the rate for blossom thinning for trees that are under stress or low vigor (e.g. trees with natural fruit set reduced by poor pollination conditions, frost, or other factors; trees with less than 12 inches of soot growth in top of tree in prior season, etc.) If temperature is above 80 degrees, or is expected to exceed 90 degrees within 24 hours do not apply BRANDT LIME SULFUR because application under these temperatures may cause over thinning or damage to fruit finish. If slow drying conditions or wet weather is expected, do not make application for blossom thinning. Take care not to over treat the lower portion of the tree nearest the spray boom. Making application at higher pressure and with smaller nozzles can reduce phytotoxicity. Use of this product as an apple blossom thinner can lead to crop injury, loss, or damage. Please see the Warranty and Limitations for Apple Blossom Thinning below.

### WARRANTY AND LIMITATION OF DAMAGES FOR APPLE BLOSSOM THINNING

BRANDT Consolidated, Inc. (BCI) recommends that the user test this product before commercial use in order to determine its suitability for the intended purpose as crop injury may occur. BRANDT Consolidated, Inc. warrants only that this product conforms to the product description on the label. Except as warranted by this label, BRANDT Consolidated, Inc. makes no representation or warranty or guarantee, whether expressed or implied, of fitness for a particular purpose of merchantability, or of product performance. To the extent consistent with applicable law, buyer and user acknowledge and assume all risks.

This statement has been added by BCI and is not required by the USEPA.

## BLUEBERRIES

Phomopsis Cane and Twig Blight—Apply 5 to 6 gallons per 100 to 150 gallons of diluted spray per acre. Apply during delayed dormant stage after leaf buds begin to break. To aid control of Mummy Berry (caused by the fungus *Monilinia vaccinii-corymbosi*), apply a post harvest (September to October) or early dormant spray of 8 gallons BRANDT LIME SULFUR per 100 gallons of water. Use 200 to 300 gallons of spray per acre.

**USE RESTRICTION FOR BLUEBERRIES:** Do not use within 14 days of an oil spray or when temperatures are above 85°F. Burning of foliage may occur during period of warm temperatures. Apply a maximum of 48 gallons of BRANDT LIME SULFUR (144 lbs calcium polysulfide) per acre per year.

## CANE BERRIES

(Such as Blackberries, Boysenberries, Raspberries, and other caneberries)

FALL application for Red Berry Mite, Blackberry Leaf Mite—Apply 8 gallons after old canes have been removed from the field.

**DORMANT or DELAYED DORMANT** (Green Bud) for Anthracnose, Cane Blight, Powdery Mildew, Overwintering Spores, Rust—Apply 6 to 12 gallons. For Spur Blight—Apply one spray at 12 gallons or two sprays at 10 gallons before buds break and show silver. For Overwintering Spores only—Apply 2 1/3 gallons.

**DELAYED DORMANT** or when leaf buds first start to open for Red Berry (Blackberry mite), Rose Scale, Oyster Scale, San Jose Scale, and Yellow Rust—Apply 8 gallons.

**EARLY SPRING**, when new growth is 1 ½ inches long, use 5 gallons for the control of Rose Scale, Oyster Scale, San Jose Scale and Yellow Rust. When fruiting canes are 8 to 12 inches long and before blossoms have opened—for Anthracnose, Cane Blight, Powdery Mildew and Rust—Apply 8 1/3 gallons. **Restriction:** Do not use on raspberries at this timing.

**Use Restriction for Caneberries:** Apply a maximum of 32 gallons of BRANDT LIME SULFUR (96 lbs calcium polysulfide) per acre per year.

### **CHERRIES (SWEET)**

**DELAYED DORMANT** for Powdery Mildew—Apply 7 ½ gallons. For the control of Coryneum Blight, Scale Insects, Peach Twig Borer, Leaf Curl, Silver Mites—Apply 6 to 11 gallons per 100 gallons of spray or at a rate of 3 gallons with 1 ½ gallons of superior type oil per 100 gallons for additional control of Brown Mites and Red Mites. **POST-HARVEST** for Brown Mites, Two Spotted Mite—Apply 1 gallon plus 4 pounds wettable sulfur. Apply to the cherry trees after the fruit has been harvested. **POST-HARVEST** for Powdery Mildew—Apply 10 to 20 gallons per acre in sufficient water for coverage. Apply to the cherry trees after the fruit has been harvested.

### **CHERRIES (TART)**

**DELAYED DORMANT** for the control of Coryneum Blight, Scale Insects, Peach Twig Borer, Leaf Curl, Silver Mites—Apply 6 to 11 gallons per 100 gallons of spray or at a rate of 3 gallons with 1 ½ gallons of superior type oil per 100 gallons for additional control of Brown Mites and Red Mites.

**PRE-BLOOM, EARLY BLOOM and FULL BLOOM** for Brown Rot Blossom Blight, Leaf Spot, Scab—Apply up to 3 sprays at 1 ½ gallons.

**LATE SEASON** for Brown Rot (Fruit), Leaf Spot, Powdery Mildew—Use ½ gallon. Apply 3 to 5 sprays at weekly intervals until harvest.

**POST-HARVEST** for Brown Mites, Two Spotted Mite—Apply 1 gallon plus 4 pounds wettable sulfur. Apply to the cherry trees after the fruit has been harvested.

**Use Restriction for Cherries (sweet and tart):** Apply a maximum of 42 gallons of BRANDT LIME SULFUR (126 lbs calcium polysulfide) per acre per year.

### **CITRUS**

Red Spider Mites—Apply 2 gallons when the mites appear. Thrips—Apply 2 gallons. Consult with your State Agricultural Experiment Station for recommendations. Rust Mites—**JANUARY** apply 1 ½ gallons. **APRIL or MAY, AUGUST 15 to SEPTEMBER 15, and OCTOBER 15 to DECEMBER 15**—Apply 7 ½ pints per 100 gallons. Tangerines should be sprayed during late winter and early spring (February 15 to April 15). **Precaution:** Early and Mid-Season citrus may be injured by BRANDT LIME SULFUR sprays during summer and early fall months.

### **ORANGES (NAVEL and VALENCIA)**

For Flat Mite, Thrips, Light Infestations of Citrocola Scale—Apply 2 gallons in winter between January 1 and March 15, but before new shoots exceed ½ inch in length. Do not apply where heavy copper residues are present.

**Use Restriction for Citrus (including Oranges - Navel and Valencia):** Apply a maximum of 40 gallons of BRANDT LIME SULFUR (120 lbs calcium polysulfide) per acre per year.

### **HAZELNUTS**

Big Bud Mite- (Not for use in California) - Apply 12 gallons of product per acre in sufficient water for complete coverage of trees (a minimum of 100 gallons of water per acre). Apply when buds begin to open in the spring. **Use Restriction for Hazelnuts:** Apply a maximum of 40 gallons of BRANDT LIME SULFUR (120 lbs calcium polysulfide) per acre per year.

### **CURRANTS, GOOSEBERRIES**

**BUD BREAK** for Anthracnose—Apply 2 ½ gallons. Repeat 10 to 15 days later. Apply 3 pints at 10 day intervals after second spray if needed.

**PRE-BLOOM and POST-BLOOM** for Powdery Mildew—Apply 1 ½ quarts.

**Use Restriction for Currants and Gooseberries:** Apply a maximum of 40 gallons of BRANDT LIME SULFUR (120 lbs calcium polysulfide) per acre per year.

### **FRUIT TREES (BEARING)**

**DORMANT** for Overwintering Spores—Apply 3 ½ gallons. **Restriction: Do not apply to apricots.**

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

**CLUSTER BUD and PRE-BLOOM** for Blotch, Powdery Mildew, Scab—Apply 2 ½ quarts.

**Restriction: Do not apply to apricots.**

**Use Restriction for Fruit Trees (bearing and non-bearing):** Apply a maximum of 46 gallons of BRANDT LIME SULFUR (138 lbs calcium polysulfide) per acre per year.

### **GRAPES**

**DORMANT** for Phomopsis—Prior to bud swell, apply 15-20 gallons per acre in sufficient water for coverage. Spray to runoff.

During the **DORMANT** period for Powdery Mildew, Mealybugs—Apply 4 to 10 gallons per acre in sufficient water for coverage.

During the growing season when new shoots are 4 to 6 inches long for Anthracnose, Powdery Mildew, Mealybugs—Apply 2 quarts in sufficient water for coverage. On mature foliage use 1 pint plus 4 pounds of wettable sulfur.

For later applications during the growing season for Powdery Mildew eradication—Apply 2 to 4 quarts plus 1 to 4 pounds wettable sulfur, plus ½ pint Sulforix Foliage Spray per 100 gallons. Apply 300 gallons of spray mix per acre for thorough coverage.

**Use Restriction for Grapes:** DO NOT apply after 5:00 a.m. or during the day when maximum temperatures are expected to exceed 85°F or sulfur burn may occur. Apply a maximum of 66 gallons of BRANDT LIME SULFUR (198 lbs calcium polysulfide) per acre per year.

### **NECTARINES**

**EARLY WINTER and LATE DORMANT** for Leaf Curl—Apply 6 gallons.

**GROWING SEASON** for Powdery Mildew—Apply 2 to 3 quarts when disease appears. For Brown Rot, Leaf Spot, Shothole—Use 2 quarts. Apply 3 to 5 times at weekly intervals until harvest.

**Use Restriction for Nectarines:** Apply a maximum of 39 gallons of BRANDT LIME SULFUR (117 lbs calcium polysulfide) per acre per year.

### **PEACHES**

**DORMANT** for Peach Leaf Curl, Scab, Shothole—Apply 10 to 12 gallons. For Leaf Curl only—Apply 6 to 8 gallons in full coverage spray. Apply after all leaves have fallen and before buds begin to swell. If Leaf Curl has been severe, two applications may be needed, the first in Early Dormant, the second in Delayed Dormant.

**DORMANT or DELAYED DORMANT** for Scale Insects, Silver Mites, Peach Twig Borers, Coryneum Blight, Aphids—Apply 6 to 11 gallons per 100 gallons spray or 3 gallons per 100 gallons with 1 ½ gallons superior type oil for additional control of Brown Mites and Red Mites.

**DELAYED DORMANT** for Powdery Mildew—Apply 7 ½ gallons at Green Tip, apply second spray at 4 to 5 gallons.

**Restriction:** DO NOT apply dormant spray to peaches immediately after or during periods of 5 days or more of unseasonably high temperatures if a sufficient number of dormant cold hours have occurred.

**PRE-BLOOM, EARLY BLOOM and FULL BLOOM** for Brown Rot Blossom Blight—Apply ¾ to 1 ½ gallons, one spray at each period if conditions require it.

**SUMMER FOLIAGE SPRAYS** for Powdery Mildew—Apply 1 ½ quarts. For Brown Rot, Powdery Mildew, Leaf Spot—Apply ½ to 1 gallon 3 to 5 times at weekly intervals until harvest. Avoid spraying during hot period of the day or during hot humid conditions. Spray only to the drip point, not to runoff, as excessive spray may cause injury.

**Use Restriction for Peaches:** Apply a maximum of 39 gallons of BRANDT LIME SULFUR (117 lbs calcium polysulfide) per acre per year.

### **PEARS**

**DORMANT** for Pear Leaf Blister Mite—Apply 5 to 7 gallons. May be combined with oils labeled for dormant use on pears.

**DORMANT or DELAYED DORMANT** to prevent Pear Scab infections and to aid in the control of hatching eggs and young nymphs of Green Apple Aphid, Rosy Aphid, and Pear Psylla and to control Scab, Powdery Mildew, San Jose Scale, Rust Mite, Pear Leaf Blister Mite, European Red Mite, and Brown Almond Mite—Apply 11 gallons.

**DELAYED DORMANT** for Pear Leaf Blister Mite, Rust Mite, European Red Mite, San Jose Scale, Pear Psylla—Apply 3 gallons plus 1 ½ gallons supreme or superior type oil. For Scab—Apply 6 gallons. **Restriction:** DO NOT use on d'Anjou, Comice or Seckle varieties after Delayed Dormant.

**GREEN TIP TO FINGER BUD** for Scab, Rust Mite, Powdery Mildew—Apply 6 gallons.

**CRACKED BUD** for Scab, Powdery Mildew—Apply 5 gallons.

**CLUSTER BUD** for Scab, Powdery Mildew—Apply 2 ½ gallons.

**FINGER BUD** for Scab, Powdery Mildew—Apply 2 gallons.

**PETAL FALL** for Scab, Powdery Mildew—Apply 3 gallons.

**GROWING SEASON FOLIAR SPRAYS** for persistent Powdery Mildew—Apply 1 2/3 quarts throughout the growing season as needed. For concentrate sprays follow State Agricultural Experiment Station recommendations.

**POST-HARVEST** (Early to Mid-September): For Rust Mite, Pear Leaf Blister Mite—Apply 4 gallons plus ¾ gallon supreme or superior type oil, OR 11 gallons with no oil, OR 2 gallons plus 4 pounds of wettable sulfur. Apply to the pear trees after the fruit has been harvested.

**POST HARVEST** (Late fall after temperatures cool (mid-October to November) before the first frost): For Scale Insects, Pear Psylla, Aphid and Mite Eggs, Pear Leaf Blister Mite—Apply 3 to 5 gallons plus 1 ½ to 2 gallons of supreme or superior type oil. For Bud Mite (Pacific Coast States)—Apply when mites first penetrate under bud scales. Apply to the pear trees after the fruit has been harvested. **Restrictions:** DO NOT allow Post Harvest sprays to drift to adjacent apple orchards as defoliation may occur. Oils must not be used with BRANDT LIME SULFUR except as indicated above. DO NOT apply oil after lime sulfur sprays as injury may occur. Allow a minimum of 10 days between a Delayed Dormant oil application and a later lime sulfur application. DO NOT apply BRANDT LIME SULFUR if oil has been applied after Delayed Dormant. Allow 30 days between oil and lime sulfur sprays in the growing season, as injury may occur. Use only on lime sulfur tolerant varieties. Drought, cold and high temperatures, and other conditions may weaken trees. DO NOT apply BRANDT LIME SULFUR or oils to trees in weakened condition.

**Use Restriction for Pears:** Apply a maximum of 68 gallons of BRANDT LIME SULFUR (204 lbs calcium polysulfide) per acre per year.

## PECANS

**GROWING SEASON** for Yellow Pecan Aphids and Mites (*Tetranychidae* and *Eriophyidae*)—Apply 1 gallon. For mature trees apply as a full coverage spray using 200 to 400 gallons of spray per acre (2 to 4 gallons BRANDT LIME SULFUR per acre). For concentrate sprays apply 2 to 4 gallons per acre. Thorough coverage is essential for control. For Yellow Aphids—Spray as needed to prevent excessive honeydew buildup. For Mites—Spray when infestation is first noticed.

**Use Restriction for Pecans:** Apply a maximum of 70 gallons of BRANDT LIME SULFUR (210 lbs calcium polysulfide) per acre per year.

## PISTACHIOS

**DORMANT** or **DELAYED DORMANT** for suppression of *Botryosphaeria Panicle* and Shoot Blight caused by *Botryosphaeria dothidea*—Apply 16 gallons per acre in sufficient water for coverage.

**Use Restriction for Pistachios:** Apply a maximum of 25 gallons of BRANDT LIME SULFUR (75 lbs calcium polysulfide) per acre per year.

## PLUMS

**DORMANT** for Leaf Curl—Apply 10 to 12 gallons.

**GREEN TIP** for Black Knot—Apply 6 ¼ gallons.

**DORMANT** or **DELAYED DORMANT** for Scale Insects, Silver Mites, Peach Twig Borers, Coryneum Blight, Peach Leaf Curl, Aphids—Apply 6 to 11 gallons per 100 gallons spray or 3 gallons with 1 ½ gallons superior type oil per 100 gallons spray for additional control of Brown Mites and Red Mites.

**LATE SEASON** for Blotch, Powdery Mildew—Use 2 quarts, apply weekly beginning 3 to 5 weeks before harvest. For Brown Rot (Fruit Rot)—Apply 3 quarts at 20, 10 and 2 days before harvest.

**Use Restriction for Plums:** Apply a maximum of 50 gallons of BRANDT LIME SULFUR (150 lbs calcium polysulfide) per acre per year.

## PRUNES

**GREEN TIP STAGE** for Black Knot—Apply 6 ¼ gallons.

**DORMANT** or **DELAYED DORMANT** for Scale Insects, Silver Mites, Peach Twig Borers, Coryneum Blight, Peach Leaf Curl, Aphids—Apply 6 to 11 gallons per 100 gallons spray or 3 gallons with 1 ½ gallons of superior type oil for additional control of Brown Mites and Red Mites.

**LATE SEASON** for Brown Rot (Fruit Rot), Leaf Spot, Powdery Mildew—Apply 2 quarts in weekly applications beginning 3 to 5 weeks before harvest.

**Use Restriction for Prunes:** Apply a maximum of 50 gallons of BRANDT LIME SULFUR (150 lbs calcium polysulfide) per acre per year.

## QUINCE

For Scab—Apply 1 gallon at 10 day intervals during primary infection period.

**Use Restriction for Quince:** Apply a maximum of 65 gallons of BRANDT LIME SULFUR (195 lbs calcium polysulfide) per acre per year.

## RED CLOVER, ALFALFA

**EARLY BUD STAGE** or at first sign of disease for Powdery Mildew—Apply 1 gallon per acre in 50 to 100 gallons of spray.

**Use Restriction for Red Clover and Alfalfa:** Apply a maximum of 20 gallons of BRANDT LIME SULFUR (60 lbs calcium polysulfide) per acre per year.

## MANGE

(Sarcoptic Mites), SCAB (Psoroptic Mites, Chorioptic Mites): dilute BRANDT LIME SULFUR with warm water in the following proportions (gallons) and use as a dip or spray: Horses and Cattle, 1 to 15; Sheep, 1 to 20; Swine, 1 to 15 or 20 when hand treating small areas of mange, dilute 1 to 10. Maintain the mixture between 95°F and 105°F. Use the mixture only once and retreat animals at 12 day intervals if needed. Treatment may be repeated at 3 to 7 day intervals when treating swine.

## ORNAMENTALS

**DORMANT DISEASE CONTROL:** Deciduous Hedge Plants, Ornamental Shrubbery, Shade Trees and Berries:

**FALL** for Stem Canker—Apply 11 gallons, repeat at Bud Swell.

**DORMANT** for Anthracnose, Black Spot, Powdery Mildew, Rust—Apply 12 ½ gallons.

**DORMANT** Clean-up spray on Roses - Apply 12 ½ gallons in 100 gallons of water or 3 pints in 3 gallons of water, as winter buds swell - before opening (December or January).

If roses are not sprayed before buds swell - Apply 8 1/3 gallons in 100 gallons water or 1 quart in 3 gallons water (February).

**SPRING DORMANT** on boxwood for Canker—Apply 2 gallons after leaves are cleaned up.

**AS LEAVES BEGIN TO EMERGE** for Anthracnose, Black Spot, Brown Canker—Apply 6 ¾ gallons. (See Boxwood under Foliar Sprays.)

**DORMANT: HARD OR ARMORED SCALE CONTROL AND WINTER CLEAN UP** of Overwintering Spores of diseases listed for each crop in other

sections of this label: Scales, such as Scurfy Scale, San Jose Scale, Euonymus Scale, Pine Needle Scale, Juniper Scale on deciduous Fruit Trees, Ornamental Shrubberies, Berries and most Ornamental Trees such as Lilac, Ash, Poplar, Dogwood, Elm, Birch, Willow—Apply 10 to 12 gallons when fully dormant. For Evergreen Euonymus, Pines, Junipers and other tolerant evergreens—Use 4 to 6 gallons.

**FOLIAR SPRAYS:** Ornamentals such as Begonias (Tuberous), Crape Myrtle, Dahlias, Delphiniums, Euonymus, Lilacs, Marigolds, Sweet Peas, Zinnias for Powdery Mildew—Apply 1 to 2 quarts when foliage appears and repeat at 7 to 10 day intervals as needed. Boxwood Canker—Apply 2 quarts at Spring mid-growth, completed growth and fall growth. Follow with a dormant application shown in Dormant Disease Control section.

**PLANT TOLERANCE:** For specific plants not mentioned above, a preliminary trial spray to determine plant tolerance is recommended.

**Use Restriction for Ornamentals:** On roses, apply a maximum of 33 gallons BRANDT LIME SULFUR (99 lbs calcium polysulfide) per acre per year. On other ornamentals, apply a maximum of 40 gallons of BRANDT LIME SULFUR (120 lbs calcium polysulfide) per acre per year.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Keep pesticide in original container. Store product in a secure locked place, inaccessible to children, pets and livestock. Do not put concentrate or dilute into food or drink containers. Keep container in the shade. For help with any spill, leak, fire, or exposure involving this material call day or night CHEMTREC (800) 424-9300.

**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 of the nearest EPA Regional Office for guidance.

## CONTAINER HANDLING:

**Nonrefillable Container (five gallons or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. 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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of container in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (greater than five gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of container in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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