BioCover™ UL

Department of Agriculture
STATE OF HAWAII
LICENSED
PERIOD 2011-2013 LIC. NO.

ACTIVE INGREDIENT:	By Weight
Petroleum Oil	98.00%
INERT INGREDIENTS:	2.00%
TOTAL	100.00%
Unsulphonated Residue	99.00% (minimum)
Aromatic Composition by ASTM D2140	0.0%

Department of Agriculture
STATE OF HAWAII
LICENSED
PERIOD 2014-2016 LIC. NO.
8378.24

KEEP OUT OF REACH OF CHILDREN
CAUTION

See Below For Additional Precautionary Statements.

FIRST AID

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If swallowed:	• Immediately call a poison control center or doctor. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
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 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 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.

NOTE TO PHYSICIAN: Petroleum distillate poses aspiration pneumonia hazard. Only minor irritation should be expected from any type of exposure other than pulmonary aspiration. Ingestion may result in some gastroenteritis and mild diarrhea. Since systemic toxicity is not expected, the added risk of aspiration from attempts to induce vomiting or lavage are deemed not warranted.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL:
1-800-301-7976

EPA REG. NO. 34704-806
EPA EST. NO._____
NET CONTENTS _____GAL. (_____ L)

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PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed or absorbed through skin or inhaled. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. This product is a potential skin sensitizer. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing spray mist. Wash thoroughly with Soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

Personal Protective Equipment:
Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on the EPA chemical resistance category selection chart.

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves (such as Barrier Laminate, Nitrile rubber, Butyl, Neoprene rubber or Viton) and shoes plus socks.
Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

USER SAFETY RECOMMENDATIONS

Users should:
Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
Remove clothing 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 product is toxic to fish. 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 wash waters. Apply this product only as specified on the label.

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.
Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 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, shoes and socks and chemical-resistant gloves (such as Nitrile, Butyl, Neoprene, and/or Barrier Laminate).

NON-AGRICULTURAL USE REQUIREMENTS

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

Department of Agriculture
STATE OF HAWAII
LICENSED
PERIOD 2008-2010 LIC. NO.

LICENSED
HAWAII
DEPT. OF AGRICULTURE
Period 2005-2007 No. 8378.24

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.
PESTICIDE STORAGE: Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.
PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
CONTAINER DISPOSAL: Metal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not cut or weld metal containers. **Plastic:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

MIXING DIRECTIONS

Use only in equipment with sufficient agitation to keep spray thoroughly mixed. Be sure tank is clean. With agitator running, start filling tank with water; add oil when tank is about ½ full. Pump this mixture through the overflow and back into tank for about two minutes. If this mixture turns white, it indicates good emulsification. Fill the tank with water, adding other desired materials as tank is filling. If wettable powders are used, add and thoroughly mix before adding oil. Observe all cautions and limitations on labeling of all products used in mixtures. Keep agitator running at all times. If an injector is used, first add 25 to 50 gals. of water to tank with engine running to provide good pressure. Put injector suction tube into the measured amount of spray oil, opening injector valve to allow the oil to be sucked into the tank, then fill the tank with water.

DO NOT USE THIS MATERIAL IF IT DOES NOT EMULSIFY.

Preharvest Interval - This product may be used up to the day of harvest.
To ensure the best coverage, dilute applications (greater than 150 gallons of spray solution per acre) are recommended. Concentrate applications (usually from 20 to 150 gallons of spray solution) may reduce the coverage and thus the effectiveness. Application volumes depend on the crop type, crop size and target pest.
Adjust the spray volume to obtain the best coverage without runoff. Extreme care should be taken when using concentrate sprays as the potential for enhanced crop phytotoxicity is increased. A concentrate application can provide satisfactory results as long as the spray unit is properly engineered, calibrated and operated.
Note: Use efficient equipment of the proper type. Avoid spraying during or immediately prior to hot or freezing weather (over 95°F. or under 32°F.), hot dry winds, rain or other unsuitable conditions; avoid over spraying or double spraying. Plants should be sprayed only when in vigorous condition and when their moisture condition is suitable. Before using, make certain spray tank is free of sulfur residues. Do not apply sulfur within 30 days except in the Northwest (Oregon and Washington) where it may be used in combination on Pears as a Post Harvest (after old fruit is off the tree), Dormant and Delayed Dormant (before the scales slip, or at or prior to bud swell) treatment and on Apples prior to or up to the Delayed Dormant (½ inch green) period. In areas west of the Continental Divide do not apply to Captan treated trees within 90 days after or 60 days before this oil. In areas east of the Continental Divide do not apply to Captan treated trees within 10 to 14 days before and after this oil. If in doubt, spray a portion of one tree previously treated with Sulfur or Captan using 1 quart to 25 gallons water. Burn will show in several days if sufficient time has not elapsed.
This product has not been tested on all species or varieties. Before treating a large area, treat a small area and observe prior to full scale application.
A period of 14 days must elapse before any of the following chemicals are used before or after an application of this product: anilazine (Dyrene), chlorothalonil (Bravo), dicloran (Botran), dicofol (Kelthane), Dikar, dinocap (Karathane), permethrin (Ambush, Pounce).
Do not use chlorothalonil (Bravo) or dimethoate (Cygon) in a spray program with this product on grapes, ornamentals and strawberries. Do not use dicofol (Kelthane) in a spray program with this product on ornamentals and strawberries. Do not use propargite (Omite) with an oil spray or within 30 days before or after an oil spray.

FRUIT AND NUT CROPS

APPLES AND PEARS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
APPLES AND PEARS: European Fruit Lecanium Scale Olive Scale San Jose Scale European Red Mite Eggs	**DORMANT OR DELAYED DORMANT:** Use 1 to 2 gals. per 100 gals. of water at 100 to 800 gals. per acre. (Concentrate Spray: Use 3 to 8 gals. per acre in a minimum of 20 to 100 gals. water per acre.)	
Two Spotted Spider Mite Pacific Red Mite European Red Mite	**FOLIAR SPRAY (Post Bloom):** **East of the Mississippi:** Use 1 quart - 1½ gallons per 100 gals. of water at 100 to 800 gals. per acre. Do Not exceed more than 1½ gals. per acre per application for *SUMMER* treatments. (Concentrate Spray: Do not exceed more than 1½ gals. per acre per application. Apply a minimum of 50 gals. water per acre.) **West of the Mississippi:** Use 1 qt. to 1½ gals. per 100 gals. of water at 100 to 800 gals. per acre. (Concentrate Spray: Do not exceed more than 1½ gals. per acre per application. Apply a minimum of 20 to 100 gals. water per acre).	
APPLES ONLY: Rosy Apple Aphid Eggs Apple Aphid Eggs	**DORMANT OR DELAYED DORMANT:** Use 1 to 2 gals. per 100 gals. of water at 100 to 800 gals. per acre. (Concentrate Spray: Use 3 to 8 gals per acre in a minimum of 20 to 100 gals. water per acre.)	
Fruit Tree Leafroller Apple Red Bug Scurfy Scale	**GREEN TIP TO DELAYED DORMANT:** Use 1 to 3 gals. per 100 gals. of water at 100 to 800 gals. per acre. (Concentrate Spray: Use 3 to 12 gals. per acre in a minimum of 20 to 100 gals. water per acre.)	
European Red Mite		**Delayed dormant preferred**
San Jose Scale Forbes Scale	**DORMANT, GREEN TIP TO DELAYED DORMANT:** Use 1 to 2 gals. per 100 gals. of water at 100 to 800 gals. per acre. (Concentrate Spray: Use 3 to 8 gals. per acre in a minimum of 20 to 100 gals. water per acre.)	

APPLES AND PEARS cont'd.:

PEARS ONLY: Pear Psylla	**DORMANT:** Use 1 to 2 gals. per 100 gals. of water at 100 to 800 gals. per acre. (Concentrate Spray: Use 3 to 8 gals. per acre in a minimum of 20 to 100 gals. water per acre.)	**Apply before eggs are laid.**
Fruit Tree Leafroller Pear Leaf Blister Mite	**DORMANT:** Use 1 to 3 gals. per 100 gals. of water at 100 to 800 gals. per acre. (Concentrate Spray: Use 3 to 12 gals. per acre in a minimum of 20 to 100 gals. water per acre.)	

ALMONDS, APRICOTS, CHERRIES, NECTARINES, PEACHES, PISTACHIO, PLUMS AND PRUNES: (Directions for use on Plums and Prunes in California's Sacramento Valley can be found in the table following this one):

PEST	APPLICATION RATE & TIMING	COMMENTS
Black Scale European Fruit Lecanium Scale San Jose Scale Olive Scale Frosted Scale Aphid Eggs European Red Mite Eggs Brown Mite Eggs Fruittree Leafroller Eggs	**DORMANT AND DELAYED DORMANT:** Use 1 to 3 gals. per 100 gals. of water at 300 to 600 gals. per acre. (Concentrate Spray: Use 6 to 8 gals. per acre in a minimum of 20 gals. of water per acre.)	**Preferred times of application for European Fruit Lecanium Scale and European Red Mite Eggs is Green Tip to Delayed Dormant, and for San Jose Scale is Dormant, Green Tip to Delayed Dormant.**
Terrapin Scale	**DELAYED DORMANT:** Use 2 to 3 gals. per 100 gals. of water at 300 to 600 gals. per acre. (Concentrate Spray: Use 8 to 12 gals. per acre in a minimum of 20 gals. of water per acre.)	
Cottony Peach Scale	**DORMANT:** Use 2 to 3 gals. per 100 gals. of water at 300 to 600 gallons per acre. (Concentrate Spray: Use 8 to 12 gals. per acre in a minimum of 20 gals. of water per acre.	
Two-spotted Spider Mite Pacific Mite European Red Mite Brown Mite	**FOLIAR SPRAY:** Use ½ to 1½ gals. per 100 gals. of water at 300 to 600 gals. per acre. (Concentrate Spray: Do not use more than 4 gals. per acre in a minimum of 20 gals. water per acre.)	**Certain varieties of plums and prunes may be injured by oil sprays, check for tolerance prior to treatment.** Do not apply to trees lacking moisture.
White Peach Scale on Peaches: Only for use in Georgia, Florida, South Carolina, North Carolina, and Alabama.	**DORMANT:** Use 1½ to 2 gals. per 100 gals. of water at 300 to 600 gals. per acre. (Concentrate Spray: Use 6 to 8 gals. per acre in a minimum of 20 gals. of water per acre.)	**Apply before buds begin to swell in the spring. Make 2 applications 7 to 14 days apart, according to local recommendations, during the dormant period.**

PLUMS AND PRUNES: (Sacramento Valley of California Only)

PEST	APPLICATION RATE & TIMING	COMMENTS
Black Scale European Fruit Lecanium Scale San Jose scale Olive Scale Frosted Scale Mealy Plum Aphid Eggs Leaf Curl Plum Aphid Eggs Brown Mite Eggs European Red Mite Eggs	**PRE-BLOOM WHEN FRUIT BUDS SHOW GREEN TIPS:** Use 1½ to 2 gals. per 100 gals. of water at 300 to 600 gals. per acre. (Concentrate Spray: Use 6 to 8 gals. per acre in a minimum of 20 gals. water per acre.)	**Application at this time is preferred.**
Two-spotted Spider Mite Pacific Mite European Red Mite Brown Mite	**FOLIAR SPRAY:** Use ½ to 1 gals. per 100 gals. water at 300 to 600 gals. per acre. (Concentrate Spray: Use 4 to 6 gals. per acre in a minimum of 20 gals. water per acre.)	**Oil sprays may injure certain varieties of plums and prunes, check for tolerance prior to treatment.**

AVOCADOS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Avocado Brown Mite Thrip Pracea Mite	Use ½ to 1 gal. per 100 gals. of water with thorough coverage in 400 to 3000 gal. per acre. (Concentrate Spray: Use 4 to 15 gals. per acre in a minimum of 50 to 100 gals. per acre.)	**Apply through late fall.** **Consult with your local University of California Cooperative Extension Service for proper timing and application parameters.**

BANANAS, PLANTAINS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Black Leaf Streak *(Mycosphaerella fijiensis)* Black Sigatoka *(Mycosphaerella fijiensis var. difformis)* Yellow Sigatoka *Mycosphaerella musicola)*	Use ½ to 1½ gals. in 20 to 100 gals. of water per acre. (Mist Blower: Use 1½ gals. in 6 gals. of water per acre.)	**Begin application when disease first appears and continue every 10 to 15 days during rainy periods or as is needed. Do not apply when daytime temperatures exceed 80° F as injury may occur. Phytotoxicity may be affected by the quantity of oil used, vigor of trees and temperature at the time of application. Bag fruits, or use a directed spray on unbagged fruits. Bagged fruit improves crop safety where as unbagged fruit may show phytotoxicity.** This application is also effective in loosening Sooty Mold Fungus and in preventing it's formation by the control of Aphids, Mealybugs, Scales and Whitefly.

BLUEBERRIES*, BUSHBERRIES*, CANEBERRIES:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Mites Powdery Mildew Rust	0.75-1.5	Using ground equipment, spray for optimum coverage of leaf surfaces. For **fungal diseases** use at least 200 psi spray pressure.

CITRUS: (California Only) - Lemons, Grapefruit, and Oranges (Navel and Valencia), Limes, Tangerines and Tangelos and other citrus hybrids.

PEST	APPLICATION RATE & TIMING	COMMENTS
Mites -Citrus Bud -Citrus Flat -Citrus Red -Citrus Rust	**Central California:** Apply ½ to 1½ gals. of oil per 100 gals. of water as thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1 to 10 gals. of oil per acre.	**Apply July through September.**
Scales -Black -Brown Soft -California Red	Apply up to 10 gals. of oil per acre on bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet. Apply as a low volume spray (LV) 1 to 10 gals. of oil per acre.	
-Citricola -Purple -Yellow -Red	Apply as a low volume spray (LV) 1 to 10 gals. of oil per acre.	**For Lemons and Limes, make applications in all months except December through February; for Grapefruit make applications July through October; for Oranges make applications on Navels July through September and on Valencias, Tangelos and Tangerines and other citrus hybrids July through October.**
Mites -Citrus Bud -Citrus Flat -Citrus Red -Citrus Rust	**Southern California:** Apply ½ to 1½ gals. of oil per 100 gals. water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1 to 10 gals. of oil per acre.	**For Coastal Lemons and Limes, apply May and June and/or September through December.** **For Interior Lemons and Limes, apply in April and May and/or September through November.**
Scales -Black -Brown Soft -California Red	Apply up to 10 gals. of oil per acre on bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet. Apply as a low volume spray (LV) 1 to 10 gals of oil per acre.	
-Citricola -Purple -Yellow -Red	Apply as a low volume spray (LV) 1 to 10 gals. of oil per acre.	**For Lemons and Limes, make applications in all months except December through February; for Grapefruit make applications July through October; for Oranges make applications on Navels July through September and on Valencias, Tangelos and Tangerines and other citrus hybrids July through October.**
Mites -Citrus Bud -Citrus Flat -Citrus Red -Citrus Rust	**Oxnard Plains Area:** Apply ½ to 1½ gals. of oil per 100 gals. of water as a thorough coverage spray (TC). Alternately, use a low volume spray (LV) to apply 1 to 10 gals. of oil per acre. Apply up to 10 gals. of oil per acre on bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet.	**Make applications as needed throughout the year.**
Scales -Black -Brown Soft -California Red -Citricola -Purple -Yellow -Red	Apply as a low volume spray (LV) 1 to 10 gals. of oil per acre.	

Thorough coverage spray (TC): Applications achieving a uniform film wetting of all portions of the tree at 250 to 4500 gallons of spray solution per acre, the total volume is dependent of the size of the trees.
Low-volume spray (LV): Applications with droplet depositions achieved on all interior and exterior parts of the tree using 10 to 100 gallons of spray solution per acre.
Do not apply prior to or during a period of excessively high temperatures.
Do not apply oil spray when trees show stress.

Consult with your local University of California Cooperative Extension Specialist for proper timing and spray program.

CITRUS: (Florida and Texas) -Grapefruit, Lemons, Limes, Oranges, Tangelos and Tangerines and other citrus hybrids.

PEST	APPLICATION RATE & TIMING	COMMENTS
Citrus Rust Mite	5 to 10 gals. of oil per acre. Apply as a dilute spray.	**Does not control citrus Snow Scale.**
Spider Mites	5 to 10 gals. of oil per acre. Apply as a dilute spray.	
Scale Insects -Black Soft -Brown Soft -Chaff -Glover -Purple -Red -Yellow	5 gals. of oil per acre + 6 pints Ethion 4EC. Apply as a dilute spray.	**Summer spray only.** **Observe all applicable precautions on Ethion label.** **Do not apply to Navel oranges.**
Scale Insects -Black Soft -Brown Soft -Chaff -Glover -Purple -Red -Yellow	5 to 10 gals. of oil per acre. Apply as a dilute spray.	
Whitefly	5 gals. of oil per acre. Apply as a dilute spray.	
Greasy Spot (Grapefruit)	5 gals. of oil per acre. Apply as a dilute spray.	**Tank mix with sufficient copper fungicide to provide 4 lbs. per acre of metallic copper.**
Greasy Spot (all other varieties)	5 to 10 gals. of oil per acre. Apply as a dilute spray.	**If disease pressure is severe, tank mix 4 lbs. (metallic) copper per acre. Do not exceed 5 gals. oil if copper used.**
Loosening sooty mold	5 to 10 gals. of oil per acre. Apply as a dilute spray.	**Use higher rate when disease pressure is heavy.**

Dilute spray: Apply the spray oil application rate in up to 4500 gallons of water per acre, or 30 to 35 gallons per tree, to over 45 gallons per tree for large trees. Best results can be obtained when the oil is added to a partially filled spray tank under proper agitation and all foliage is thoroughly covered.

Precautions in the use of oil include: Do not apply oil spray when trees are wilting. Do not apply oil and sulfur within 3 weeks of each other in Florida or Texas. Oil spray applied after October 1 may increase susceptibility of trees to cold damage and may reduce the fruit crop the following year. Oil sprays applied in the fall may inhibit solids formation in the juice and retard coloring of fruit and should not be applied within 60 days of anticipated harvest. Sensitive foliage may be injured.

Florida growers consult the Florida Citrus Spray and Dust Schedule, or your Agricultural Experiment Station or State Extension Service Specialist for complete details on the spraying program best suited to your locale. Texas growers consult with your Agricultural Experiment Station or State Extension Specialist for complete details on the spraying program suited to you locale.

COFFEE:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Green Scale	Use 3 to 6 gallons in 100 gallons of water per acre. Use only water as a diluent.	**Apply when insects appear and treat as necessary at 30 to 60 day intervals. Do not exceed 18 gallons of oil per acre in a growing season. Do not apply with in 30 days of harvest when berries are handpicked. Oil residues make picking difficult.**

Do not apply this product through any type of irrigation system. Phytotoxicity may be affected by the quantity of oil used, vigor of trees and temperature at the time of application.

FIGS:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Fig Scale	1-3	Dormant or Delayed Dormant
Mites Mealybug Scale	1-2	Foliar Spray

GRAPES:

PEST	APPLICATION RATE & TIMING	COMMENTS
Mealybug Mites Leafhopper* Whiteflies* Powdery Mildew.	**DORMANT:** Use 1 to 3 gals. plus the appropriate label rate of insecticide registered for use on grapes in 200 to 300 gals. of water per acre.	**Do not apply over 300 gals. of water per acre.** Using ground equipment, spray for optimum coverage of leaf surfaces. Repeat sprays every 10-14 days. **For powdery mildew** - Make first application pre-bloom and continue every ten days to three weeks depending on level of disease pressure. Use higher rate and/or shorter spray interval when disease conditions are severe. Oil will remove the bloom on grapes. Table grapes should not be sprayed within 60 days of harvest. On grapes, **do not tank mix** oil and copper more than once/season. Do not use copper and oil together with fruit present.

OLIVES:

PEST	APPLICATION RATE & TIMING	COMMENTS
Olive (Parlatoria) Scale Oleander Scale Black Scale	**POSTBLOOM THROUGH AUGUST AND POST HARVEST:** Use 1 to 1½ gals. per 100 gals. of water at 400 to 1500 gals. per acre.	
Mites		Prebloom to Postbloom Buckshot

PECANS:

PESTS	APPLICATION RATE & TIMING	COMMENTS
Scales Aphids (eggs) Mites (eggs)	Use 2 to 3 gallons in 100 gallons of water using a minimum of 200 gallons of water per acre. Use the lower rate of oil when trees are in a weakened condition. (Concentrate Spray: Use 6 to 8 gallons per acre in a minimum of 20 to 125 gallons of water.)	**Apply from late February until buds first break.**

STRAWBERRIES:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Leafminers* Mites Powdery Mildew	0.75	Spray at no less than 400 psi using ceramic spray nozzles (ALBUZ® ATR, lilac color or their equivalent).

TROPICAL FRUIT: Kiwi, Mango, Papaya and Pineapple.

PESTS	APPLICATION RATE & TIMING	COMMENTS
KIWI Latania Scale Greedy Scale Oleander Scale San Jose Scale	Use 4 to 6 gallons of oil in a minimum of 100 gallons of water per acre. Use higher rate when scale populations are high.	**Do not apply after budbreak. Do not use on weak or stressed vines, or where soil moisture is inadequate.**
MANGO Mites Powdery Mildew	Use 1 to 1.5 gallons of oil in 100 gallons of water per acre.	**Apply every 2 to 3 weeks as necessary depending on level of pest pressure.**
PAPAYA Mites Powdery Mildew Papaya Ringspot Virus	Use 0.75 to 1.5 gallons in 100 gallons of water per acre.	**For Powdery Mildew/Mites: Spray every 10 to 14 days depending on the level of pest pressure. For Virus: Initiate spray when seeds are germinated. Spray weekly using 400 psi spray pressure and ceramic hollow cone nozzles.**
PINEAPPLE Mealybugs Bud Moth Chinese Rose Beetle	**Spray** - Use 1 to 2 gallons of oil in 100 gallons of water per acre **Dip** - Use 1 to 2 gallons of oil in 100 gallons of water, dip for 30 seconds.	Allow fruit to dry for 1 hour before being stored.

WALNUTS:

PEST	APPLICATION RATE & TIMING	COMMENTS
Black Scale Calico Scale European Fruit Lecanium Scale Frosted Scale Olive Scale San Jose Scale European Red Mite Eggs Walnut Aphid Eggs	**DELAYED DORMANT:** Use 4 to 6 gals. per acre in 200 to 500 gallons of water per acre.	**Use only on trees that have not suffered from lack of moisture at any time during the growing season. Do not apply to orchards where soil moisture is low.** **Trees must be fully dormant.** **Do not apply after husk split.**
Spider Mites Soft Scales	**SUMMER FOLIAR (when leaves fully expanded):** Use 4 to 6 gals. per acre in 200 to 500 gals. water per acre.	

VEGETABLE CROPS

ASPARAGUS, BEANS, BEETS, CABBAGE, CAULIFLOWER and other Cole crops, CELERY, CUCURBITS, EGGPLANT, LETTUCE, MELON, PEPPER, POTATO, PUMPKIN, RADISH, SQUASH, SWEET POTATO, TOMATO, HERBS AND SPICES (Curly Leaf Basil, Lemon Balm, Mexican Oregano, Mint), ORIENTAL VEGETABLES (Acerola, Atemoy, Balsam pear (Bitter melon), Carambola, Chinese broccoli (Gai Lon), Chinese cabbage (Gai Choy), Chinese spinach, Chinese waxgourd, Cilantro, Citron melon, Dasheen, Ginger, Ginseng, Japanese artichoke, Japanese radish (Daikon), Rambutan):

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids Mites Beetle Larvae Leafminers Thrips Leafhopper Whitefly	0.75-1	For virus control on cucurbits use 0.75 gallons per 100 g. Spray once or twice weekly depending on the rapid growth of the crop and / or vector pressure. When using to control insect transmitted diseases, use higher pressure 400 psi and ceramic hollow cone nozzles.

ORNAMENTALS

FOLIAGE ORNAMENTALS & BEDDING PLANTS:

PESTS	APPLICATION RATE & TIMING (ounces of oil per gallon of water)	COMMENTS
Aphids Adelgids	1-2.5 oz. per gallon	Summer (Foliar or Cover): Do not spray plants during flowering.

SHADE TREES AND SHRUBS INCLUDING CONIFERS, DECIDUOUS BROADLEAF EVERGREENS & WOODY ORNAMENTALS, ORNAMENTAL TREES** , SHRUBS ALONG CITY STREETS, OTHER RIGHTS-OF-WAY INCLUDING CONIFERS, DECIDUOUS AND BROADLEAF EVERGREENS:**

PESTS	APPLICATION RATE & TIMING (ounces of oil per gallon of water)	COMMENTS
Aphids Adelgids Eriophyid Mites Gall Mites Honey Locust Plant Bug Lace Bug Leaf Beetle Larvae Leafminer Leafrollers Mealybugs Psyllids (immature) Red Mites Sawfly (larvae) Scales (immature) Spider Mites Webworms Whiteflies	**Winter Dormant Period:** 2.5-4 oz. per gallon **Summer (Foliar or Cover):** 1-2.5 oz. per gallon	**CAUTION:** Spray no more than 4 times during the growing season; Use a 2 week minimum application Interval. Do not spray when there is obvious moisture deficit in leaves, or the plant is under stress. For fall dormant applications, reduce rate to 2 gallons oil per 100 gallons water and limit use only to: American Red Oak, Japanese Black Pine, Dogwood, Weeping Cherry, Cornelian Cherry, Crabapple, Norway Maple, Purple Plum. **NOTE:** May cause discoloration of Blue Spruce. Do not use on conifers or ferns not tolerant to oil sprays. Use enough spray solution to completely penetrate the leaf canopy and cover both top and bottom of all of the leaves and stems until wet but without significant runoff. Do not spray during flowering.

FLOWERING AND FOLIAGE PLANTS INCLUDING ROSES AND OTHER FLOWERING SHRUBS:

PESTS	APPLICATION RATE & TIMING (ounces of oil per gallon of water)	COMMENTS
Same as above	**Winter Dormant Period:** 2.5-4 oz. per gallon	Do not spray during flowering.

CHRISTMAS TREES **:

PESTS	APPLICATION RATE & TIMING (ounces of oil per gallon of water)	COMMENTS
Scale (soft & hard) (immature)	2-3	Winter
Spider Mites	0.75-2	Summer

Use a lower concentration for more sensitive plants.

** This product removes the glaucous (blue) bloom from such evergreens as Colorado Blue Spruce and Koster Spruce. Always use lower dosage or test spray oil sensitive plants such as Cryptomeria, Smoke Tree, Chamaecypris, Juniper, Japanese Holly and Spruce. Tendency toward sensitivity: Red Cedar and Douglas Fir.

GREENHOUSE AND CONTAINER

Frequency of Application: For the greenhouse pests listed, use once a week initially, then as the pest is controlled, decrease the frequency to every 2-3 weeks as needed.
Application safety during bloom period should be determined for each individual species of plant to be treated by conducting a small test.

AGERATUM, CROWN OF THORNS, DIEFFENBACHIA, FERNS, FICUS, LISIANTHUS, ORCHID, PALMS, PETUNIA, POINSETTIA, SCHEFFLERA, SUNFLOWER:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids Fungus Gnats Leafminers Mealybugs Scales (soft & hard) Spider Mites Thrips Whitefly	0.5-1	Due to varietal differences in response to a treatment of this product at the recommended rate, we recommend conducting a small test on 1 or 2 plants of the specific variety to be treated.

LEAF POLISH FOR HARDY PLANTS:

PESTS	APPLICATION RATE & TIMING (ounces of oil per gallon of water)	COMMENTS
	1	

AGLAONEMA, ASTER, AZALEAS, BEGONIAS, BROWALLIA, CAMELLIAS, CARNATION, CELOSIA, CHRYSANTHEMUM, COLEUS, COSMOS, DUSTY MILLER, EASTER LILIES, GARDENIAS, GERBERA, HELLICHRYSUM, HIBISCUS FOLIAGE, HYDRANGEA, JADE PLANT, MARIGOLD, NEW GUINEA IMPATIENS, NICOTONIA, PHILEDENDRON, PORTULACA, REIGER BEGONIAS, SNAPDRAGON, ZINNIAS:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids Fungus Gnats Leafminers Mealybugs Scales (soft & hard) Spider Mites Thrips Whitefly	1-2	Due to varietal differences in response to a treatment of this product at the recommended rate, we recommend conducting a small test on 1 or 2 plants of the specific variety to be treated.

Some plants are more sensitive to oil treatments if any of the following conditions are present when application is made: High humidity (74%), an overcast or cloudy day, inadequate air flow, a small greenhouse where the sunlight is magnified causing a fast build-up of temperature and light intensity.

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FIELD CROPS

CORN (Sweet & Field), SUGAR BEETS:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids Mites Leafminers Corn Earworm Rootworm Armyworm Whitefly	**Corn:** 1-2 **Sugar Beets:** 2	

HOPS*:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Mites Powdery Mildew	1-2	**For powdery mildew:** Initiate sprays at early leaf stage. Continue sprays every 10-14 days. **Mite control** will be effective under the same spray interval as powdery mildew sprays. Discontinue sprays at burr development.

TOBACCO:

PESTS	APPLICATION RATE & TIMING (gallons of oil per 100 gallons of water)	COMMENTS
Aphids Mites Beetle Larvae Leafminers Thrips Leafhopper Whitefly	0.75-1	

***Asterisk denotes crop, pest Not approved in California.**

This product has not been tested on all species or varieties. Before treating a large area, treat a small area and observe prior to full scale application.

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