

69526-9

07-26-2011

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

5898580  
332/1300

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

July 26, 2011

Ms. Juli Mann  
Paralegal Specialist  
Steptoe & Johnson LLP  
1330 Connecticut Avenue, NW.  
Washington, DC 20036-1795

Subject: PURESPRAY™ GREEN  
EPA Registration No. 69526-9  
Notification Submitted on June 27, 2011

Dear Ms. Mann:

On June 27, 2011, the Agency received your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the product Purespray™ Green, EPA Reg. No. 69526-9. The Registration Division (RD) finds that the actions requested fall within the scope of PRN 98-10. . The label submitted for this product on June 27, 2011, has been stamped "Notification" and placed in our records.

If you have any questions regarding this letter, you may reach me by telephone at 703-305-6406, by FAX at 703-308-0029, or via e-mail at [jacobs.bill@epa.gov](mailto:jacobs.bill@epa.gov).

Sincerely yours,

A handwritten signature in black ink, appearing to read "William W. Jacobs".

William W. Jacobs  
Insecticide-Rodenticide Branch  
Registration Division (7505P)

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 <b>United States</b> <b>Environmental Protection Agency</b> Washington, DC 20460	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20px; text-align: center;"><input type="checkbox"/></td> <td style="padding-left: 5px;"><b>Registration</b></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="padding-left: 5px;"><b>Amendment</b></td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="padding-left: 5px;"><b>Other</b></td> </tr> </table>	<input type="checkbox"/>	<b>Registration</b>	<input type="checkbox"/>	<b>Amendment</b>	<input checked="" type="checkbox"/>	<b>Other</b>	OPP Identifier Number  
<input type="checkbox"/>	<b>Registration</b>							
<input type="checkbox"/>	<b>Amendment</b>							
<input checked="" type="checkbox"/>	<b>Other</b>							

Application for Pesticide - Section I		
1. Company/Product Number 69526-9  4. Company/Product (Name) PURESPRAY™ GREEN  5. Name and Address of Applicant (Include ZIP Code) Petro Canada Lubricants, Inc., a Suncor Energy Business 2310 Lakeshore Road W. Mississauga, Ontario L5J 1K2 Canada  <input type="checkbox"/> Check if this is a new address	2. EPA Product Manager Venus Eagle  PM # 1	3. Proposed Classification  <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg No. _____ Product Name _____		

Section - II	
<input type="checkbox"/> Amendment - Explain below  <input type="checkbox"/> Resubmission in response to Agency letter dated _____  <input checked="" type="checkbox"/> Notification - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application  <input type="checkbox"/> Other - Explain below

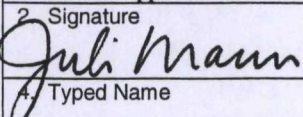
**NOTIFICATION**  
**JUL 26 2011**

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.)

Notification of Labeling Changes per PR Notice 98-10: Add trademark statement, bracket "Contents" as optional, correct identification of pest from "San Jose Scale" to "San Jose Scale crawler" in Apples section on page 5 of label, add asterisk (\*) following Powdery Mildew in Pomegranate section on page 7, update "Made in Canada" statement per PMRA requirements. All changes are highlighted on the enclosed label.

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section III				
1. Material This Product Will be Packaged in:				
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
*Certification must be submitted If "Yes" Unit Packaging wgt.    No. per container		If "Yes" Package wgt    No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of label directions <input type="checkbox"/> On Label <input type="checkbox"/> On Label accompanying product
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other: _____	

Section IV			
1. Contact Person (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Juli Mann	Title Steptoe & Johnson, LLP Authorized agent	Telephone No. (Include Area Code) 202-429-3095	
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law			6. Date Application Received  (Stamped)
2. Signature 		3. Title Steptoe & Johnson, LLP Authorized Agent	
4. Typed Name Juli Mann, Regulatory Analyst		5. Date June 27, 2011	

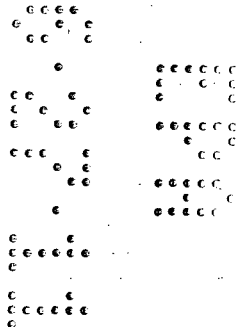
WRITER'S DIRECT DIAL  
202.429.3095

1330 Connecticut Avenue, NW  
Washington, DC 20036-1795  
Tel 202.429.3000  
Fax 202.429.3902  
steptoe.com

June 27, 2011

*Via Hand Delivery*

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202



Attention: Venus Eagle (PM 1)

Subject: Notification per PR 98-10

Product: PURESPRAY GREEN (EPA Reg. No. 69526-9)

Dear Ms. Eagle:

On behalf of our client, Petro Canada, enclosed please find a notification for PURESPRAY GREEN (EPA Reg. No. 69526-9). The following changes have been made to the label:

- Page 1 – Add trademark statement;  
Bracket “Contents” to identify as optional wording.
- Page 5 – Correct identification of pest from “San Jose Scale” to “San Jose Scale crawler” in Apples section.
- Page 7 – Add asterisk (\*) following Powdery Mildew in Pomegranate section.
- Page 13 – “Made in Canada for:” statement changed to “Made in Canada (may contain imported parts) for” per PMRA requirements.

Please note that the change identified in the Agency letter dated February 16, 2011 has been incorporated into the label.

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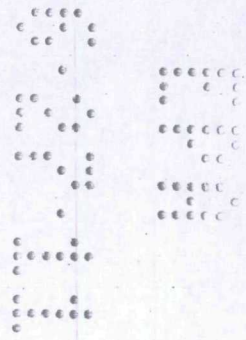
Venus Eagle  
June 27, 2011  
Page 2

Enclosed with this application, please find EPA Form 8750-1 and one copy of the label with changes highlighted. This notification is consistent with PR 98-10. Please contact me if there are any questions. Thank you for your attention to this matter.

Sincerely,



Juli Mann  
Regulatory Analyst  
jmann@steptoe.com



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**OMRI™**  
Listed  
Organic Materials  
Review Institute

FOR ORGANIC PRODUCTION

[ONE OR MORE OF FOLLOWING CLAIMS MAY APPEAR ON LABEL:]

- ORGANIC HORTICULTURAL SPRAY OIL FOR INSECT, MITE AND DISEASE CONTROL
- A WHITE HORTICULTURAL SPRAY OIL FOR INSECT, MITE, AND DISEASE CONTROL FOR ORGANIC AND SENSITIVE CROPS
- HORTICULTURAL SPRAY OIL FOR INSECT AND PEST MANAGEMENT
- A WHITE HORTICULTURAL SPRAY OIL FOR INSECT, MITE AND DISEASE CONTROL

ACTIVE INGREDIENT:	BY WEIGHT
Mineral Oil*:	98.00%
INERT INGREDIENTS:	2.00%
	<b>TOTAL 100.00%</b>
Unulfonated Residue of the Oil	99.00%
	(minimum)
Aromatic Composition by ASTM D2140	0.00%

**NOTIFICATION**

**JUL 26 2011**

\* Contains petroleum distillates

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

See Below For Additional Precautionary Statements

<b>FIRST AID</b>	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>Immediately call a poison control center or doctor.</li> <li>Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>Do not give any liquid to the person.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
<b>FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: PETRO-CANADA LUBRICANTS, INC., A SUNCOR ENERGY BUSINESS 403-296-3000, CANUTEC TRANSPORTATION: 613-996-6666, POISON CONTROL CENTER.</b>	
<b>NOTE TO PHYSICIAN:</b> 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.	

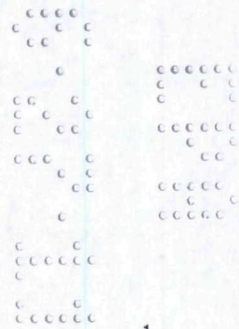
EPA REG. NO. 69526-9  
EPA EST. NO.

NET [CONTENTS] \_\_\_\_\_ GAL. ( \_\_\_\_\_ L)

Batch/Lot Number: \_\_\_\_\_

™Trademark of Suncor Energy Inc. Used under license.

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.  
\*Crop or pest not approved in California unless accompanied by supplemental label



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

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Some materials that are chemical-resistant to this product are Barrier Laminate, Nitrile Rubber, Butyl Rubber, Neoprene Rubber, and Viton. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

**Mixers, loaders, applicators, flaggers and other handlers must wear:** Long-sleeved shirt and long pants, chemical-resistant gloves, and shoes plus socks. See engineering controls for additional requirements.

**User Safety Requirements:** Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily damaged by this product's concentrate. Do not reuse them.

**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 and/or 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**

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 or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

**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.

This product may be applied on the plants listed on this label that are growing in or around habitable buildings, along city streets and other rights of way, as well as in agricultural settings. Refer to the appropriate table for the application rate needed to control a specific pest on a specific plant. **Protect painted surfaces, carpet and furnishings from overspray. This product may cause discoloration of concrete, brick driveways.**

**Aerial application of this product is prohibited.**

**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, shoes plus socks, and chemical-resistant gloves made of any waterproof material.

**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 until sprays have dried.**

**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.**

\*Crop or pest not approved in California unless accompanied by supplemental label

## STORAGE AND DISPOSAL

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

#### Rigid, nonrefillable containers equal to or less than 5 gallons:

Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse (or equivalent) 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 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. If recycling is unavailable, puncture and dispose of in sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### Rigid, nonrefillable containers greater than 5 gallons:

Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse (or equivalent) promptly after emptying. 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 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. **For Plastic containers greater than 5 gallons:** If recycling is unavailable, puncture and dispose of in sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. **For Metal containers greater than 5 gallons:** If recycling is unavailable, puncture and dispose of container in a sanitary landfill, or by other procedures approved by state and local authorities.

## USE RESTRICTIONS AND PRECAUTIONS

**Preharvest Interval** - This product may be used up to the day of harvest.

To improve coverage, dilute applications (greater than 150 gallons of spray solution per acre) should be made. 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 thorough coverage without runoff. Use extreme care when using concentrate sprays as the potential for 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. Do not spray during or immediately prior to hot or freezing weather (over 95°F or under 32°F), hot dry winds, rain or other unsuitable conditions. Do not overspray or double spray. Spray plants only when they are in vigorous condition and when their moisture condition is suitable. Before using, make certain spray tank is free of sulfur residues.

**Sulfur: On Grapes:** Do not apply sulfur within 10 days of an oil application. **On all other Crops:** Do not apply micronized sulfur within 10 days of an oil application and do not apply oil within 14 days of an application of wettable or dusting sulfur.

Do not use the following chemicals: captan, Folpet, oxythioquinox (Morestan) organic tin compounds (Du-Ter), during, with or following an oil spray. 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.

This product has not been tested on all species or varieties of crops, ornamentals, non-bearing or commercial trees, and greenhouse plants. Before treating a large area, treat a small area and observe prior to full scale application.

## SPRAY DRIFT MANAGEMENT

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

### Wind Speed

Do not apply at wind speeds greater than 15 mph at the application site.

### 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.

### Release Height

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

### Droplet Size

Apply as a medium or coarser spray (ASABE standard 572), and the minimum volume mean diameter (VMD) for spinning atomizer nozzles.

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.

\*Crop or pest not approved in California unless accompanied by supplemental label

For airblast applications, turn off outward pointing nozzles at row ends and when spraying outer row. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

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### 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 half 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.**

### FRUIT AND NUT CROPS and OTHER LISTED PERENNIAL CROPS

CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
<b>ACEROLA (Barbados Cherry), ATEMOYA, CARAMBOLA (Star Fruit), RAMBUTAN</b>	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Caterpillars	<b>Dilute Spray:</b> Use 0.75-1.5 gals. of oil per 100 gals. of water at 200-500 gals. of water per acre.  <b>Concentrate Spray:</b> Use 3 - 6 gals of oil per acre in a minimum of 20 gals. of water per acre.	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 (minimum 100 psi) and ceramic hollow cone nozzles.
	Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust	<b>Dilute Spray:</b> Use 0.75 gals. of oil per 100 gals. of water at 200-500 gals. of water per acre.  <b>Concentrate Spray:</b> Use 3 - 6 gals of oil per acre in a minimum of 20 gals. of water per acre.	
	Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	<b>Dilute Spray:</b> Use 0.75 gals. of oil per 100 gals. of water at 200-500 gals. of water per acre.  <b>Concentrate Spray:</b> Use 3 - 6 gals of oil per acre in a minimum of 20 gals. of water per acre.	
<b>ALMONDS, APRICOTS, CHERRIES, NECTARINES, PEACHES, PISTACHIOS</b>  Continues on next page	Black Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, Brown Mite eggs, European Red Mite eggs, Aphid eggs, Fruit Tree Leafroller eggs*, Overwintering Phytocoris plant bug eggs* (only on pistachio), Overwintering Tent Caterpillar eggs*	<b>Dilute Spray:</b> Use 1-3 gals. of oil per 100 gals. of water in 200-600 gals. of water per acre.  <b>Concentrate Spray:</b> Use 6-8 gals. of oil per acre in a minimum of 20 gals. of water per acre.	<b>DORMANT/DELAYED DORMANT TO GREEN TIP</b> Preferred times of application for European Fruit Lecanium Scale and European Red Mite eggs are Delayed Dormant to Green Tip, and for San Jose Scale are Dormant, Delayed Dormant to Green Tip.  <b>Pistachios</b> For use on pistachios, apply as a dormant and/or post harvest treatment. For pistachios in Arizona, apply 4 gallons of oil per acre. In California, apply up to 6 gallons of oil per acre.
	Cottony Peach Scale Terrapin Scale	<b>Dilute Spray:</b> Use 2-3 gals. of oil per 100 gals of water in 200-600 gals. of water per acre.  <b>Concentrate Spray:</b> Use 8-12 gals. of oil per acre in a minimum of 20 gals. of water per acre.	<b>DORMANT/DELAYED DORMANT</b>
	White Peach Scale on Peaches: Only for use in Georgia, Florida, South Carolina, North Carolina, and Alabama.	<b>Dilute Spray:</b> Use 1.5-2 gals. of oil per 100 gals. of water in 200-600 gals. of water per acre.  <b>Concentrate Spray:</b> Use 6-8 gals. of oil per acre in a minimum of 20 gals. of water per acre.	<b>DORMANT</b> Apply before buds begin to swell in the spring. Make 2 applications 7-14 days apart, according to local recommendations, during the dormant period.
	Powdery Mildew (Cherries, Nectarines and Peaches only)	<b>Dilute Spray:</b> Use 1-2 gals. of oil per 100 gals. of water at 200-600 gals. of water per acre.  <b>Concentrate Spray:</b> Use 6-8 gals. of oil per acre in a minimum of 20 gals. of water per acre.	<b>Cherries:</b> Preharvest Use: Use up to pit hardening stage. Apply at 10-14 day interval - shorten interval and/or use higher rate when disease conditions are severe. Do not use Guthion during, with or following the use of oil. Postharvest applications may be made to maintain control and reduce overwintering inoculum.
			<b>Nectarines/Peaches:</b> Begin at 5% bloom and continue at 10-14 day intervals until terminal growth phase stops. Do not apply to oil sensitive varieties.

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.

\*Crop or pest not approved in California unless accompanied by supplemental label



CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
Continued from previous page	Two-spotted Spider Mite, Pacific Mite, European Red Mite, Brown Mite	<b>Dilute Spray:</b> Use 0.5-1.5 gals. of oil per 100 gals. of water in 300-600 gals. of water per acre. <b>Concentrate Spray:</b> Do not use more than 4 gals. of oil per acre in a minimum of 20 gals. water per acre.	<b>SUMMER (Foliar or Cover) AND POSTHARVEST SPRAY</b> Apply when mites first appear. Repeat sprays every 10-14 days. Post harvest sprays may be made to maintain control and reduce over-wintering pressure. Do not apply oil to sensitive varieties.
APPLES	European Fruit Lecanium Scale, Forbes Scale, Olive Scale, San Jose Scale, European Red Mite eggs, Rosy Apple Aphid eggs, Apple Aphid eggs, Codling Moth, *	<b>Dilute Spray:</b> Use 1-2 gals. of oil per 100 gals. of water in 100-800 gals. of water per acre. <b>Concentrate Spray:</b> Use 3-8 gals. of oil per acre in a minimum of 50 gals. of water per acre.	<b>DORMANT/DELAYED DORMANT TO ½ INCH GREEN</b> <b>Codling Moth:</b> Use to control first generation early instar stages only.
	Fruit Tree Leafroller, Apple Red Bug, Scurfy Scale, European Red Mite	<b>Dilute Spray:</b> Use 1-3 gals. of oil per 100 gals. of water in 100-800 gals. of water per acre. <b>Concentrate Spray:</b> Use 3-12 gals. of oil per acre in a minimum of 20-100 gals. of water per acre.	<b>DORMANT/DELAYED DORMANT TO ½ INCH GREEN</b> <b>European Red Mite:</b> Delayed dormant preferred
	Powdery Mildew	<b>Dilute Spray:</b> Use 1-2 gals. of oil per 100 gals. of water at 100-800 gals. of water per acre. <b>Concentrate Spray:</b> Use 3-12 gals. of oil per acre in a minimum of 50 gals. of water per acre.	Apply at tight cluster and continue every 10-14 days through second cover spray. Use higher rate and/or shorter spray interval when disease conditions are severe.
	Two-spotted Spider Mite, Pacific Red Mite, European Red Mite, San Jose Scale crawler, Leafhopper*, Rosy Apple Aphid*, Fruit Tree Leafroller*	<b>Dilute Spray:</b> Use 0.25-1.5 gals. of oil per 100 gals. of water in 100-800 gals. of water per acre. <b>Concentrate Spray:</b> Do not exceed more than 1.5 gals. of oil per acre per application. Apply a minimum of 50 gals. of water per acre.	<b>SUMMER (Foliar or Cover) - Post Bloom</b> Apply every 10-14 days depending on level of pest pressure. Post harvest sprays may be made to maintain control and reduce over-wintering pressure. Do not apply oil to sensitive varieties. Do not exceed more than 1.5 gals. per acre per application for SUMMER treatments.
AVOCADOS	Avocado Brown Mite, Thrips, Persea Mite	<b>Dilute Spray:</b> Use 0.5-1 gal. of oil per 100 gals. of water with thorough coverage at 400-3000 gal. of water per acre. <b>Concentrate Spray:</b> Use 4-15 gals. of oil per acre in a minimum of 50 gals. of water per acre.	Apply through late fall. <b>California:</b> Consult with your local University of California Cooperative Extension Service for proper timing and application parameters.
BANANAS, PLANTAINS	Black Leaf Streak ( <i>Mycosphaerella fijiensis</i> ), Black Sigatoka ( <i>Mycosphaerella fijiensis</i> var. <i>difformis</i> ) Yellow Sigatoka ( <i>Mycosphaerella musicola</i> )	Use 0.5-1.5 gals. of oil in 20-100 gals. of water per acre. <b>Mist Blower:</b> Use 1.5 gals. of oil in 6 gals. of water per acre.	Begin application when disease first appears and continue every 10-15 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 whereas unbagged fruit may show phytotoxicity. This application is also effective in loosening Sooty Mold Fungus and in preventing its formation by the control of Aphids, Mealybugs, Scales and Whiteflies.
BLUEBERRIES*, BUSHBERRIES*, CANEBERRIES, RASPBERRIES, BLACKBERRIES	Mites, Powdery Mildew, Rust, Sawfly eggs*, Scales* Aphids*, Mealybugs*, Whiteflies*	<b>Dilute Spray:</b> Use 0.75-1.5 gals. of oil per 100 gals. of water at 100-250 gals. of water per acre. <b>Concentrate Spray:</b> Use 1.5 - 3 gals of oil per acre in a minimum of 50 gals. of water per acre.	Using ground equipment, spray for optimum coverage of leaf surfaces. For fungal diseases use at least 200 psi spray pressure.

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CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
COFFEE	Green Scale	<b>Concentrate Spray:</b> Use 3-6 gals. of oil per acre in 100 gals. of water. Use only water as a diluent.	Apply when insects appear and treat as necessary at 30-60 day intervals. Do not exceed 18 gals. of oil per acre in a growing season. Do not apply within 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.
	Fig Scale	<b>Dilute Spray:</b> Use 1-3 gals. of oil per 100 gals. of water at 100-300 gals. of water per acre.	<b>DORMANT/DELAYED DORMANT</b>
FIGS	Mites, Mealybug, Scale	<b>Dilute Spray:</b> Use 1-2 gals. of oil per 100 gals. of water at 100-500 gals. of water per acre.  <b>Concentrate Spray:</b> Use 2 - 6 gals of oil per acre in a minimum of 50 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b>
	Mealybug, Mites, Leafhopper*, Whiteflies*, Powdery Mildew, Botrytis	<b>Dilute Spray:</b> Use 0.75 gals oil per 100 gals at 150-300 gals. of water per acre.  <b>Concentrate Spray:</b> Use 1 to 3 gallons oil per acre in a minimum of 50 gals. of water per acre.  <b>Note:</b> 100 gallons per acre or greater is considered a dilute application. Concentrate sprays are under 100 gallons per acre and usually at about 50 gpa.	<b>DORMANT and SUMMER USE</b> Using ground equipment, spray for optimum coverage of leaf surfaces. Repeat sprays every 10-14 days. Oil will remove the bloom on grapes. Do not spray table grapes within 2 weeks 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. <b>For Powdery Mildew:</b> Make first application pre-bloom and continue every ten days to three weeks depending on level of disease pressure. Use the higher rate and/or shorter spray interval when disease conditions are severe. <b>For Botrytis Bunch Rot:</b> Initiate sprays at bloom and repeat prior to bunch closing and véraison. Final application at harvest if needed. Use higher rate when disease conditions are severe.
GRAPES	Mealybug, Mites, Leafhopper*, Whiteflies*, Powdery Mildew, Botrytis	<b>Dilute Spray:</b> Use 0.75 gals oil per 100 gals at 150-300 gals. of water per acre.  <b>Concentrate Spray:</b> Use 1 to 3 gallons oil per acre in a minimum of 50 gals. of water per acre.  <b>Note:</b> 100 gallons per acre or greater is considered a dilute application. Concentrate sprays are under 100 gallons per acre and usually at about 50 gpa.	<b>DORMANT and SUMMER USE</b> Using ground equipment, spray for optimum coverage of leaf surfaces. Repeat sprays every 10-14 days. Oil will remove the bloom on grapes. Do not spray table grapes within 2 weeks 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. <b>For Powdery Mildew:</b> Make first application pre-bloom and continue every ten days to three weeks depending on level of disease pressure. Use the higher rate and/or shorter spray interval when disease conditions are severe. <b>For Botrytis Bunch Rot:</b> Initiate sprays at bloom and repeat prior to bunch closing and véraison. Final application at harvest if needed. Use higher rate when disease conditions are severe.
KIWI	Latania Scale, Greedy Scale, Oleander Scale, San Jose Scale	<b>Concentrate Spray:</b> Use 4-6 gals. of oil per acre in a minimum of 100 gallons of water per acre.	Do not apply after budbreak. Do not use on weak or stressed vines, or where soil moisture is inadequate. Use 6-gallon rate when scale populations are high.
MANGO	Mites	<b>Concentrate Spray:</b> Use 1-1.5 gals. of oil per acre in a minimum of 100 gals. of water per acre.	Apply every 2-3 weeks as necessary depending on level of pest pressure.
	Powdery Mildew		Begin application before bloom. Repeat at bloom and every 2-3 weeks as necessary.
OLIVES	Olive (Parlatoria) Scale, Oleander Scale, Black Scale	Use 1-1.5 gals. of oil per 100 gals. of water at 400-1500 gals. of water per acre.	<b>POSTBLOOM THROUGH AUGUST AND POST HARVEST</b>
	Mites	Use 1.5 gals. of oil per 100 gals. of water at 400-1500 gals. of water per acre.	<b>PREBLOOM TO POSTBLOOM BUCKSHOT</b>
PAPAYA	Mites, Powdery Mildew, Papaya Ringspot Virus	<b>Concentrate Spray:</b> Use 0.75-1.5 gals. of oil per acre in a minimum of 100 gals. of water per acre.	For Powdery Mildew/Mites: Spray every 10-14 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.
PEARS  Continues on next page	European Fruit Lecanium Scale, Olive Scale, San Jose Scale, European Red Mite eggs, Pear Psylla Codling Moth*	<b>Dilute Spray:</b> Use 1-2 gals. of oil per 100 gals. of water at 100-800 gals. of water per acre.  <b>Concentrate Spray:</b> Use 3-8 gals. of oil per acre in a minimum of 50 gals. water per acre.	<b>DORMANT/DELAYED DORMANT (up to and including petal fall)</b>  <b>Pear Psylla:</b> Apply before eggs are laid.  <b>Codling Moth:</b> Use to control first generation early instar stages only.
	Fruit Tree Leafroller Pear Leaf Blister Mite	<b>Dilute Spray:</b> Use 1-3 gals. of oil per 100 gals. of water at 100-800 gals. of water per acre.  <b>Concentrate Spray:</b> Use 3-12 gals. of oil per acre in a minimum of 50 gals. of water per acre.	<b>DORMANT/ DELAYED DORMANT (up to and including petal fall)</b>

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CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
Continued from previous page	Powdery Mildew	<b>Dilute Spray:</b> Use 1-2 gals. of oil per 100 gals. of water at 100-800 gals. of water per acre.  <b>Concentrate Spray:</b> Use 3-12 gals. of oil per acre in a minimum of 50 gals. of water per acre.	Apply at bud burst and continue every 10-14 days. Use the higher rates and/or shorter spray interval when disease conditions are severe.
	Two-spotted Spider Mite, Pacific Red Mite, European Red Mite, San Jose Scale crawlers, Italian Pear Scale crawlers, Leafhopper*, Pear Psylla	<b>Dilute Spray:</b> Use 0.25-1.5 gals. of oil per 100 gals. of water at 100 to 800 gals. of water per acre.  <b>Concentrate Spray:</b> Do not exceed more than 1.5 gals. of oil per acre per application. Apply a minimum of 50 gals. of water per acre.	<b>SUMMER (Foliar or Cover) - Post Bloom</b> Do not exceed more than 1.5 gals. of oil per acre per application for SUMMER treatments.  Post harvest applications may be made to maintain control and reduce over-wintering inoculum. Do not apply oil to sensitive varieties.
PECANS	Scale, Aphid eggs, Mite eggs	<b>Dilute Spray:</b> Use 2-3 gals. of oil per 100 gals. of water at 200-500 gals. of water per acre.  <b>Concentrate Spray:</b> Use 6-8 gals. of oil per acre in a minimum of 50 gals. of water.	Apply from late February until buds first break.  Use the lower rate of oil when trees are in a weakened condition.
PINEAPPLE	Mealybugs, Bud Moth, Chinese Rose Beetle	<b>Spray -</b> Use 1-2 gals. of oil per 100 gals. of water at 100-200 gals. of water per acre.  <b>Dip -</b> Use 1-2 gals. of oil in 100 gals. of water. Dip for 30 seconds.	Allow fruit to dry for 1 hour before being stored.
PLUMS, PRUNES	Black Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, Brown Mite eggs, European Red Mite eggs, Aphid eggs, Fruit Tree Leafroller eggs, Tent Caterpillar eggs*	<b>Dilute Spray:</b> Use 1-3 gals. of oil per 100 gals. of water at 300-600 gals. of water per acre.  <b>Concentrate Spray:</b> Use 6-8 gals. of oil per acre in a minimum of 50 gals. of water per acre.	<b>DORMANT/DELAYED DORMANT TO GREEN TIP</b> Preferred times of application for European Fruit Lecanium Scale and European Red Mite eggs are Green Tip to Delayed Dormant, and for San Jose Scale are Dormant, Green Tip to Delayed Dormant.
	Terrapin Scale Cottony Peach Scale	<b>Dilute Spray:</b> Use 2-3 gals. of oil per 100 gals. of water at 300-600 gals. of water per acre.  <b>Concentrate Spray:</b> Use 8-12 gals. of oil per acre in a minimum of 50 gals. of water per acre.	<b>DORMANT/DELAYED DORMANT TO GREEN TIP</b>
	Two-spotted Spider Mite, Pacific Mite, European Red Mite, Brown Mite	<b>Dilute Spray:</b> Use 0.5-1.5 gals. of oil per 100 gals. of water at 300-600 gals. of water per acre.  <b>Concentrate Spray:</b> Do not use more than 4 gals. of oil per acre in a minimum of 50 gals. water per acre.	<b>SUMMER (Foliar or Cover)</b> Some varieties of plums and prunes may be injured by oil sprays. Check for tolerance prior to treatment. Do not apply to trees lacking moisture.  Post harvest sprays may be made to maintain control and reduce over-wintering pressure. Do not apply oil to sensitive varieties.  Oil may remove waxy bloom.
POMEGRANATE	Scales: Black, Brown Soft, San Jose, Frosted, and Olive; European Red Mite eggs, Aphid eggs, Mealy Bugs	Use 2-3 gals. of oil per 100 gals. of water at 50-300 gals. of water per acre.	<b>DORMANT/DELAYED DORMANT</b> Apply during winter when leaves are not present.
	Powdery Mildew*, Spider mites, Aphids, Whiteflies, Scale crawlers, Mealy Bugs	Use 1-3 gals. of oil per 100 gals. of water at 50-300 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b> Spray every 2 - 3 weeks depending on pest pressure
STRAWBERRIES	Aphids*, Botrytis, Leafminers*, Mites, Powdery Mildew, Sawfly, Scale, Whiteflies	Use 0.75-1.5 gals. of oil per 100 gals. of water at 100-200 gals. of water per acre.	Spray at no less than 400 psi using ceramic spray nozzles (ALBUZ® ATR, lilac color or their equivalent).

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CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
WALNUTS	Black Scale, Calico Scale, European Fruit Lecanium Scale, Frosted Scale, Olive Scale, San Jose Scale, European Red Mite eggs, Walnut Aphid eggs	Use 4-6 gals. of oil per acre at 200-500 gals. of water per acre.	<b>DELAYED DORMANT</b>  Use only on trees that have not suffered from lack of moisture at anytime 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	Use 4-6 gals. of oil per acre at 200-500 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b> Do not apply after husk split. Do not spray oil sensitive varieties.

**CITRUS: (California Only)**

CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
<b>GRAPEFRUIT, LEMONS, LIMES, ORANGES (Navel &amp; Valencia), TANGELOS, TANGERINES</b>  <b>Other citrus hybrids</b>	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Central California:</b> Apply 0.5-1.5 gals. of oil per 100 gals. of water as thorough coverage spray. Alternately, use a low volume spray to apply 1-10 gals. of oil per acre.  Apply up to 10 gals. of oil per acre on fruit bearing trees up to 10 feet in height. Add 1 gal. of oil per acre for each foot of tree height over 10 feet.	<b>Lemons and Limes:</b> make applications in all months except December through February.  <b>Grapefruit:</b> make applications July through October.  <b>Navel Oranges:</b> make applications July through September.  <b>Valencia Oranges, Tangelos, Tangerines and other citrus hybrids:</b> make applications July through October.
	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Southern California:</b> Apply 0.5-1.5 gals. of oil per 100 gals. of water as a thorough coverage spray. Alternately, use a low volume spray 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.	<b>Coastal Lemons and Limes:</b> apply May and June and/or September through December. <b>Interior Lemons and Limes:</b> apply in April and May and/or September through November.  <b>Grapefruit:</b> make applications July through October  <b>Navel Oranges:</b> make applications July through September  <b>Valencia Oranges, Tangelos, Tangerines and other citrus hybrids:</b> make applications July through October.
	Mites: Citrus Bud, Citrus Flat, Citrus Red, Citrus Rust  Scales: Black, Brown Soft, California Red, Citricola, Purple, Yellow, Red	<b>Oxnard Plains Area:</b> Apply 0.5-1.5 gals. of oil per 100 gals. of water as a thorough coverage spray. Alternately, use a low volume spray 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.

Thorough coverage spray: Applications achieving a uniform film wetting of all portions of the tree at 250-2000 gallons of spray solution per acre. The total volume is dependent on the size of the trees. Do not exceed a maximum of 212 pounds of active ingredient (in a maximum volume of 2000 gallons of spray mix per acre) when treating citrus in California (based on thorough coverage spray, with 1.5 gallons of product mixed per 100 gallons of water). Low-volume spray: Applications with droplet depositions achieved on all interior and exterior parts of the tree using 10-100 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)**

CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
CITRONS, GRAPEFRUIT, LEMONS, LIMES, MANDARINS, ORANGES, TANGELOS, TANGERINES  Other citrus hybrids	Citrus Rust Mite, Spider Mites, Bud Mites, Flat Mites	Use 5-10 gals. of oil per acre. Apply as a dilute spray.	
	Scales: Black Soft, Brown Soft, Chaff, Glover, Purple, Red, Yellow	Use 5-10 gals. of oil per acre. Apply as a dilute spray.	Does not control citrus Snow Scale.
	Whitefly, Blackfly	Use 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 (Grapefruit)		
	Greasy Spot (all other varieties)	Use 5-10 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		Use 10-gallon rate when disease pressure is heavy.	

Dilute spray: Apply the spray oil application rate in up to 1500 gallons of water per acre, or 10-12 gallons per tree, to over 15 gallons per tree for large trees. Do not exceed a maximum of 159 pounds of active ingredient (in a maximum volume of 1500 gallons of spray mix per acre) when treating citrus in Florida and Texas (based on dilute spray, with 1.5 gallons of product mixed per 100 gallons of water). Improved control 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. Do not apply 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 your locale.

**FIELD CROPS**

CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
ALFALFA (Seed Crop Only)*	Spider Mites	Use 0.25 gals. of oil per acre in a minimum of 20 gals. water per acre	Use only in combination with a miticide labeled for use on alfalfa. Use 0.25 gals. of oil per acre in 20-30 gals. of water when used in combination with miticides that are labeled for use with oil. Follow the label rates of the miticide.
CORN (Sweet & Field), SUGAR BEETS	Aphids, Mites, Leafhopper*, Leafminers, Corn Earworm, Rootworm, Armyworm, Whitefly, Cercospora Leaf Spot*	<b>Corn:</b> Use 1-2 gals. of oil per acre in a minimum of 10 gals. of water per acre.  <b>Sugar Beets:</b> Use 2 gals. of oil per acre in a minimum of 10 gals. of water per acre.	
COTTON*, TOBACCO*	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Earworm, Corn Rootworm, Fall Armyworm, Cercospora	Use 0.75-1.0 gals. of oil per acre in a minimum of 10 gals. of water per acre.	For heavy pest pressure on tobacco, concentration can be increased to 2 gals. per acre.
GRASSES GROWN FOR SEED* - Bluegrass, Fescues, Orchardgrass, Perennial ryegrass	Mites, Powdery Mildew, Rust	Use 1-2 gals. of oil per acre in a minimum of 10 gals. of water per acre.	Initiate sprays in late spring, or early fall when powdery mildew and rust pustules are noticeable. Continue sprays every 14-21 days.
HOPS*	Aphids, Mites, Powdery Mildew, Whiteflies	Use 1-2 gals. of oil per acre in a minimum of 50 gals. of water per acre.	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.

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**VEGETABLE CROPS**

CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
<b>ASPARAGUS, BEANS (including Garbanzo Beans), BEETS, BROCCOLI, CHINESE BROCCOLI, BROCCOLI RAAB, BRUSSELS SPROUTS, CABBAGE, CAULIFLOWER, CHINESE CABBAGE (Bok Choy and Mapa), CHINESE MUSTARD CABBAGE (Gai Choy), CAVALO BROCCOLI, COLLARDS, KALE, KOHLRABI, MIZUNA, MUSTARD GREENS, MUSTARD SPINACH, RAPE GREENS, CELERY, CHAYOTE, CHINESE WAXGOURD, CITRON MELON, CUCUMBER, GHERKIN, HYOTAN, CUCUZZA, HECHIMA, CHINESE OKRA, BALSAM APPLE, BALSAM PEAR, BITTER MELON, CHINESE CUCUMBER, TRUE CANTALOUPE, CANTALOUPE, CASABA, CRENSHAW MELON, GOLDEN PERSHAW MELON, HONEYDEW MELON, HONEY GALLS, MANGO MELON, PERSIAN MELON, PUMPKIN, SUMMER SQUASH, WINTER SQUASH, WATERMELON, DASHIEN (Taro)*, EGGPLANT, GINGER*, GINSENG*, HERBS AND SPICES* (Curly Leaf Basil, Lemon Balm), JAPANESE RADISH (Daikon)*, LETTUCE, OKRA*, PEAS*, PEPPERS, POTATOES, RADISH, SWEET POTATOES</b>	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Caterpillars, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust	Use 0.75-1.5 gals. of oil per acre in 50-100 gals. of water.	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 (minimum 100 psi) and ceramic hollow cone nozzles.
	Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 0.75 gals. of oil per acre in 50-100 gals. of water.	
<b>GARLIC, ONIONS (Dry Bulb and Green), LEEKS, SHALLOTS</b>	Leaf Miner flies Onion Maggot flies Seedcorn Maggot flies Flower Thrips Onion Thrips Western Flower Thrips	Use 1-1.5 gals. of oil per acre in a minimum of 20 gallons of water per acre.	Make applications when pests appear and repeat as necessary to maintain control. This product may be used with other registered insecticides, such as pyrethroids, to improve control of thrips. Follow all label precautions and directions for use on other registered insecticides.

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CROP	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
<b>CHINESE ARTICHOKE*</b> (Japanese Artichoke), <b>CILANTRO*</b> , <b>HERBS AND SPICES*</b> (Mexican Oregano, Mint)	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust, Pepper Psyllids, Caterpillars, Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 1-2 gals. of oil per acre in a minimum of 50 gals. of water.	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 (minimum 100 psi) and ceramic hollow cone nozzles.
<b>TOMATOES</b>	Aphids, Mites, Beetle Larvae, Leafminers, Thrips, Leafhopper, Whitefly, Alternaria Leafspot, Gummy Stem Blight, Powdery Mildew, Rust, Tomato Psyllid*, Tomato Pin Worm*, Fruit Worm*, Army Worm*, Horn Worm*, Lygus Bug*, Stink Bug*, Cucumber Mosaic Virus, Papaya Ringspot Virus, Pepper Mottle Virus, Potato Leafroll Virus, Potato Virus Y, Tobacco Etch Virus, Watermelon Mosaic Virus 2, Zucchini Yellow Mosaic Virus	Use 0.75-1.5 gals. of oil per 100 gals. of water at 25-150 gals. of water per acre.	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 (minimum 100 psi) and ceramic hollow cone nozzles.

**NON-BEARING FRUIT TREES**

PLANT	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
<b>APPLE*, CHERRY*, PEACH*, PEAR*</b>	Mites	<b>Dilute Spray:</b> Use 1-2 gals. of oil per 100 gals. of water at 100-500 gals. of water per acre.	Apply every 10-14 days.
	Powdery Mildew	<b>Dilute Spray:</b> Use 1-2 gals. of oil per 100 gals. of water at 100-500 gals. of water per acre.	Spray before disease first appears. Apply every 10-14 days.

**COMMERCIAL TREES**

PLANT	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
<b>CHRISTMAS TREES **</b>	Adelgids, Aphids, Scale (soft & hard) (immature), Spider Mites	<b>Dilute Spray:</b> Use 1.5-2.5 gals. of oil per 100 gals. of water at 100-250 gals. of water per acre.	<b>WINTER DORMANT PERIOD</b>
		<b>Dilute Spray:</b> Use 0.5-1.5 gals. of oil per 100 gals. of water at 100-250 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b>

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.

**ORNAMENTALS**

PLANT	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
<b>FLOWERING AND FOLIAGE PLANTS INCLUDING ROSES AND OTHER FLOWERING SHRUBS</b>	Aphids, Adelgids, Eriophyid Mites, Gall Mites, Honey Locust Plant Bug, Lace Bug, Leaf Beetle Larvae, Leafminer (non-larvae), Leafrollers, Mealybugs, Psyllids (immature), Red Mites, Sawfly (larvae), Scales (immature), Spider Mites, Webworms, Whiteflies, Blackspot, Powdery Mildew, Young larvae/ Caterpillars	Use 2-3 gals. of oil per 100 gals. of water in 100-250 gals. of water per acre.	<b>WINTER DORMANT PERIOD</b> Do not spray during flowering.
		Use 0.75-2 gals. of oil per 100 gals. of water at 100-250 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b> For blackspot and powdery mildew control during the summer do not exceed 1.5 gals. of oil per 100 gals. of water.  Do not spray during flowering.
<b>FOLIAGE ORNAMENTALS &amp; BEDDING PLANTS</b>	Aphids, Adelgids	Use 2-3 gals. of oil per 100 gals. of water in 50-150 gals. of water per acre.	<b>WINTER DORMANT PERIOD</b>
		Use 0.75-2 gals. of oil per 100 gals. of water in 50-150 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b> Determine application safety during bloom period for each individual species of plant to be treated by conducting a small test.  Do not spray during flowering.
<b>SHADE TREES**, ORNAMENTAL TREES**, SHRUBS</b>  <b>(INCLUDING CONIFERS, DECIDUOUS AND BROADLEAF EVERGREENS &amp; WOODY ORNAMENTALS)</b>	Aphids, Adelgids, Black Spot, Eriophyid Mites, Gall Mites, Hemlock Woolly Adelgids, Honey Locust Plant Bug, Lace Bug, Leaf Beetle Larvae, Leafminer (non-larvae), Leafrollers, Mealybugs, Psyllids (immature), Red Mites, Sawfly (larvae), Scales (immature), Spider Mites, Webworms, Whiteflies, Powdery Mildew (on crepe myrtle), Young larvae/Caterpillars	Use 2-3 gals. of oil per 100 gals. of water at 100-500 gals. of water per acre.	<b>WINTER DORMANT PERIOD</b> Use a 2-week 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 gals. oil per 100 gals. water and limit use only to: American Red Oak, Japanese Black Pine, Dogwood, Weeping Cherry, Cornelian Cherry, Crabapple, Norway Maple, Purple Plum. <b>NOTE:</b> This product may cause discoloration of Blue Spruce. Do not use on conifers or ferns not tolerant to oil sprays (e.g. Alberta Dwarf Spruce). 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.
		Use 0.75-2 gals. of oil per 100 gals. of water in 100-500 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b> For blackspot and powdery mildew control during the summer do not exceed 2 gals. of oil per 100 gals. of water. Use a 2-week application interval. Do not spray when there is obvious moisture deficit in leaves, or the plant is under stress. <b>NOTE:</b> This product may cause discoloration of Blue Spruce. Do not use on conifers or ferns not tolerant to oil sprays (e.g. Alberta Dwarf Spruce). 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.

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.



## GREENHOUSES AND CONTAINERS AND INTERIORSCAPES

**Frequency of Application:** For the pests listed, use once a week initially, and then as the pest is controlled, decrease the frequency to every 2-3 weeks as needed.

Determine application safety during bloom period for each individual species of plant to be treated by conducting a small test.

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

PLANT	PESTS	APPLICATION RATE	TIMING, COMMENTS & RESTRICTIONS
AGERATUM, CROWN OF THORNS, DIEFFENBACH- IA, FERNs, FICUS, LISIANTHUS, ORCHID, PALMS, PETUNIA, POINSETTIA, SCHEFFLERA, SUNFLOWER	Aphids, Fungus Gnats, Leafminers, Mealybugs, Scales (soft & hard), Spider Mites, Thrips, Whitefly	Use 0.5-1 gals. of oil per 100 gals. of water in 100-200 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b> Due to varietal differences in response to a treatment of this product at the labeled rate, conduct a small test on 1 or 2 plants of the specific variety to be treated.
AGLAONEMA, ASTER, AZALEAS, BEGONIAS, BROWALLIA, CAMELLIAS, CARNATION, CELOSIA, CHRYSANTHE- MUM, COLEUS, COSMOS, CREPE MYRTLE, DUSTY MILLER, EASTER LILIES, FUCHSIA, GARDENIAS, GERBERA, HELICHRYSUM, HIBISCUS FOLI- AGE, HYDRANGEA, IMPATIENS, JADE PLANT, MARIGOLD, NEW GUINEA IMPATIENS, NICOTONIA, PHILODENDRON, PORTULACA, REIGER BEGON- IAS, SNAPDRAGON, ZINNIAS	Aphids, Fungus Gnats, Leafminers, Mealybugs, Scales (soft & hard), Spider Mites, Thrips, Whitefly, Pow- dery Mildew*	Use 1-2 gals. of oil per 100 gals. of water in 100-200 gals. of water per acre.	<b>SUMMER (Foliar or Cover)</b> Due to varietal differences in response to a treatment of this product at the labeled rate, conduct a small test on 1 or 2 plants of the specific variety to be treated.
LEAF POLISH FOR HARDY PLANTS		Use 1 gal. of oil per 100 gals. of water	<b>SUMMER (Foliar or Cover)</b> Wipe upper and lower sides of leaf until fully covered.

### CONDITIONS OF SALE AND LIMITATIONS OF WARRANTY AND LIABILITY

It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Petro-Canada, the manufacturer or seller. All such risks shall be assumed by the buyer. To the extent permitted by applicable law neither Petro-Canada, the manufacturer, or seller shall be liable for consequential, special or indirect damages resulting from the use or handling of this product. Except as provided by applicable laws or except as warranted by this label, Petro-Canada, the manufacturer or seller makes no warranties, guarantees, or representations of any kind, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including, but not limited to, merchantability, fitness for a particular purpose, use or eligibility of the product for any particular trade usage. Except as provided by applicable laws, buyer's or user's exclusive remedy, and Petro-Canada's, the manufacturer's or seller's total liability, shall be for damages not exceeding the cost of the product.

Made in Canada (may contain imported parts) for  
**PETRO-CANADA LUBRICANTS, INC., A SUNCOR ENERGY BUSINESS**  
 2310 LAKESHORE ROAD W., MISSISSAUGA, ONTARIO, CANADA L5J 1K2

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.

\*Crop or pest not approved in California unless accompanied by supplemental label