

862-23

05/13/2003

1/28

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



OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MAY 13 2003

Ms. Nancy E. H. Wright
Sunoco, Inc. (R&M)
1801 Market Street
Philadelphia, PA 19103

Dear Ms. Wright:

Subject: Revised Labeling
Sunspray 6E Plus
EPA Registration No. 862-23
Your Submission Dated April 14, 2003

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided you make the following change before you release the product for shipment bearing the amended labeling:

Under Environmental Hazards delete the phrase "For terrestrial uses". Your product only has terrestrial uses.

Submit two copies of your final printed labeling before you release the product for shipment. A stamped copy is enclosed for your records. If you have any questions, please contact me at (703) 308-6249 or hebert.john@epa.gov.

Regards,

A handwritten signature in black ink, appearing to read "John Hebert".

John Hebert
Insecticide-Rodenticide Branch
Registration Division (7505C)

ACCEPTED
with COMMENTS
In EPA Letter Dated:

MAY 13 2003
Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.

862-23

SUNSPRAY® 6E PLUS

A superior horticultural spray oil for insect and mite pest management.

Active Ingredient: Paraffinic Oil*	98.8 %
Other Ingredient: Emulsifier	1.2 %
*Unsulfonated Residue of Paraffinic Oil	92.0 % Min
*50% Distillation Point of Paraffinic Oil	414.0 °F
*10%-90% Distillation Range of Paraffinic Oil	65.0 °F Max
*Flash Point	345.0 °F
Weight per Gallon	7.1 lbs.

CAUTION: KEEP OUT OF REACH OF CHILDREN

FIRST AID

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 the 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 followed by washing with soap & water.

Call a poison control center or doctor for treatment advice.

If inhaled:

Move person to fresh air.

Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-964-8861 for emergency medical treatment information.

NOTE TO PHYSICIAN

Contains petroleum distillate - vomiting may cause aspiration pneumonia. Aspiration may occur after swallowing or vomiting and results in serious, and sometimes delayed, lung injury.

According to the California Safe Drinking Water and Toxic Enforcement Act of 1986 Regulations, otherwise known as "Proposition 65"-
ATTENTION- This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.



Sunoco, Inc. (R&M)
Ten Penn Center
1801 Market Street
Philadelphia, PA 19103-1699

EPA Registration No. 862-23
EPA Establishment No. 862-OK-1
Net Content

PRECAUTIONARY STATEMENTS

Hazards to humans & domestic animals

Caution: Avoid contact with eyes, skin and clothing.
Harmful if swallowed.

Avoid breathing of spray mists or vapors.

Avoid contamination of feed and foodstuffs.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

Long-sleeved shirt and long pants

Shoes plus socks

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

USER SAFETY RECOMMENDATIONS

Users should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

STORAGE AND DISPOSAL

- 1. Prohibitions:** Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.
- 2. Storage:** Store in a cool, dry, locked area out of the reach of children. Keep oil container tightly closed in storage to prevent entry of water.
- 3. Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
- 4. 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. Plastic: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

See Additional Precautionary Statements
Inside Booklet. See Directions For Use Inside
Booklet

SS-5210 1/03

2/28

SunSpray® 6E Plus

A superior horticultural spray oil for insect and mite pest management.

Active Ingredient: Paraffinic Oil*	98.8 %
Other Ingredient: Emulsifier	1.2 %
*Unsulphonated Residue of Paraffinic Oil	92.0 % Min
*50% Distillation Point of Paraffinic Oil	414.0 °F
*10%-90% Distillation Range of Paraffinic Oil	65.0 °F Max
*Flash Point	345.0 °F
Weight per Gallon	7.1 lbs.


CAUTION: KEEP OUT OF REACH OF CHILDREN

FIRST AID	
<p>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.</p> <p>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 the eye. Call a poison control center or doctor for treatment advice.</p> <p>If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes followed by washing with soap & water. Call a poison control center or doctor for treatment advice.</p>	<p>If inhaled: Move person to fresh air. Call a poison control center or doctor for further treatment advice.</p> <p>HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-964-8861 for emergency medical treatment information.</p> <p>NOTE TO PHYSICIAN Contains petroleum distillate - vomiting may cause aspiration pneumonia. Aspiration may occur after swallowing or vomiting and results in serious, and sometimes delayed, lung injury.</p>

According to the California Safe Drinking Water and Toxic Enforcement Act of 1986 Regulations, otherwise known as "Proposition 65"- **ATTENTION-** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

EPA Registration No. 862-23

See Additional Precautionary Statements inside Booklet. See Directions For Use inside Booklet

 Sunoco, Inc. (R&M)
Ten Penn Center
1801 Market Street
Philadelphia, PA 19103-1696

PRECAUTIONARY STATEMENTS

Hazards to humans & domestic animals
Caution: Avoid contact with eyes, skin and clothing.
Harmful if swallowed.
Avoid breathing of spray mists or vapors.
Avoid contamination of feed and foodstuffs.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:
Long-sleeved shirt and long pants
Shoes plus socks

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

USER SAFETY RECOMMENDATIONS

Users should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

STORAGE AND DISPOSAL

- 1. Prohibitions:** Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.
- 2. Storage:** Store in a cool, dry, locked area out of the reach of children. Keep oil container tightly closed in storage to prevent entry of water.
- 3. Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
- 4. 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. Plastic: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

LIMITED WARRANTY AND LIABILITY

This product conforms to the description and is suitable for the uses set forth on this label but is strictly limited to those uses solely as directed under the specified label conditions, and only if purchased in the original unopened container. **MANUFACTURER AND SELLER DISCLAIM ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE** (except as specified on this label). Buyer and all users shall assume all risk, liability and damage if this product is used, stored, handled or applied other than as specifically set forth on this label. **LIABILITY OF MANUFACTURER AND SELLER AND USER'S REMEDIES SHALL BE LIMITED TO REFUND OF THE PURCHASE PRICE OR REPLACEMENT OF THE SPECIFIC QUANTITY INVOLVED. IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

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.

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
- Waterproof gloves
- Shoes plus socks

USES

May be applied on the plants listed on this label which are growing in or around habitable buildings, along city streets and other rights-of-ways, 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.

PESTS CONTROLLED

This product controls adelgids, aphids, lace bugs, leafhoppers, leafminers (larvae), mealybugs, mites, plant bugs, psyllids, sawfly larvae, scales, thrips, whitefly and eggs of aphids, mites and certain caterpillars on vegetables, fruits, tree nuts, certain field crops, shrubs, trees, greenhouse plants, ornamental foliage plants and flowers. This product can be applied up to harvest.

MIXING INSTRUCTIONS

1. Add sufficient water to the mixing tank to allow proper agitation by pump or paddles.
2. Add other desired pesticide. If wettable powder formulation, mix the water and powder thoroughly so that the powder is totally suspended in the water before the oil is added. If other pesticide to be added is an emulsifiable formulation, do so after the oil and water has been thoroughly mixed.
3. Add oil under agitation when tank is 3/4 full. Top off with water to form milky solution.
4. Maintain agitation until solution is used.
5. In small equipment lacking agitators, stir or shake diluted spray frequently during application.
6. It is important for users to read and follow all directions and restrictions on the labels of the proposed tank mix products.
7. Flush fluid in sprayer hose lines back into tank reservoir if fluid is allowed to stand for more than 20 minutes.

APPLICATION INSTRUCTIONS

The target pest must be completely covered with spray. Oil residue on the plant surface often acts as a feeding and oviposition deterrent. However, the primary target is the pest

itself as oil is a contact pesticide.

DILUTE APPLICATIONS defined as the number of gallons needed to completely cover all the tree surfaces, but not to the point of runoff. For most tree fruits this can be as much as 300-400 gallons per acre or as low as 100 gallons per acre for smaller trees. For mature citrus trees this can be as much as 800-1500 gallons per acre. Dilute applications ensure the best coverage.

CONCENTRATE APPLICATIONS (usually from 45 to 125 gallons spray per acre) may reduce coverage and effectiveness. Concentrate application includes the use of low volume (from 10 to 100 gallons spray per acre) sprayers. A concentrate application can provide satisfactory results as long as the spray unit is properly engineered, calibrated and operated. Speed of travel for ground application is extremely important. Tractor speed from 1 M.P.H. to 4 M.P.H. is recommended depending on crop, crop size and target pest.

Low volume applications of Sunspray 6E Plus will require approximately the same amount of oil per acre as dilute sprays but applied with much less water. Spray oil calculations should be based on no run off of the oil phase of the mixture.

AERIAL APPLICATIONS Use only as an emergency application when soil conditions do not permit regular ground application. Helicopter only. Apply quantity of product shown for each listed crop for control of listed insects in sufficient water to make a minimum of 20 gals. dilute spray per acre.

TIMING THE TREATMENT

Applicator must determine the precise timing to fit local growth and climatic conditions.
DO NOT EXCEED MAXIMUM RATES OR APPLY MORE OFTEN THAN RECOMMENDED.
MAY BE USED UP TO DAY OF HARVEST

TANK MIXES: Sunspray 6E Plus may be mixed with other pesticides to improve the level of kill. Users should read and follow all directions and restrictions on the labels of the proposed tank mix products. The combination of Sunspray 6E Plus with more than one additional pesticide is not rec-

ommended. Use caution and read all labels thoroughly when using any insecticides or miticides in combination with Sunspray 6E Plus. Always conduct a test spray for plant sensitivity before making a full-scale application.

USE PRECAUTIONS

Keep oil container tightly closed in storage to prevent entry of water. All horticultural oils interfere with or slow plant transpiration and respiration during the period of evaporation.

Do not spray plants under stress (i.e. drought, disease). Do not apply during periods of prolonged high temperature combined with high relative humidity. Do not spray immediately prior to, during or following unusually cold weather or freezing temperatures. Due to the reduced respiration rate of the insect at temperatures below 50°F, the effectiveness of Sunspray 6E Plus is reduced.

Do not tank mix with any herbicides. Do not tank mix with any insecticide or miticide whose label indicates that it should not be used with oil. Do not use with Sevin 50W formulation (carbaryl) on deciduous fruit trees.

The following list of pesticides represents some of the compounds that should not be used with Sunspray 6E Plus, however this list is not exhaustive: anilazine (Dyrene), captan (Captan), captofol (Difolatan), cyprex (Dodine), chlorothalnil (Bravo), dimethoate (cygon), dinocap (Karathene), dithianon (Delan), fentin hydroxide (Supertin) fentinacetate (Fentin), folpet (Folpet), methiocarb (Metmercapturon), oxythioquinox (Morestan), PMA(Agrosun), propargite (Omite), lime sulfur, wettable sulfur or any other product containing sulfur. For fungicides not included in this listing, consult the label of the specific fungicide formulation for compatibility information when used with oil. We recommend consulting your local extension agent for local recommendations relative to a specific fungicide/oil mix on a specific crop. Keep spray equipment used for these other products separate from the equipment used for Sunspray 6E Plus.

Application safety during the bloom period should be determined for each individual species of plant to be treated by conducting a small test.

Protect painted surfaces, carpet and furnishings from over-

Note: This pesticide is to be sold only in this original unopened container.

TABLE 1A

Crop	Pest	Application Rate			Time of Application (Stage of Development)
		Date Spray per 100 Gal. Water	Concentrate Gallons Oil per acre	Aerial* Gallons Oil per acre	
Apples	Aphids (eggs) Apple Red Bug Mites (eggs) including European Red Mite Scales (hard and soft) Scurfy Scale Fruit Tree Leaf Roller (eggs)	2 2 2 2 2 2	6 - 8 6 - 8 6 - 8 6 - 8 6 - 8 6 - 8	6 - 8 6 - 8 6 - 8 6 - 8 6 - 8 6 - 8	Dormant through Tightcluster
	Mites Scales	1 1 - 2	4 4 - 6	4 4 - 6	Summer (Foliar or Cover) or Postharvest. Do not apply over fruit after waxy bloom forms.
Pears	European Red Mite (eggs) Pear Leaf Blister Mite (eggs) Pear Psylla Scales Fruit Tree Leaf Roller (eggs)	1 - 2 2 2 2 2	4 - 6 4 - 6 4 - 6 4 - 6 4 - 6	4 - 6 4 - 6 4 - 6 4 - 6 4 - 6	Dormant or Delayed Dormant (up to and including petal fall).
	Two-Spotted Spider Mite Brown Mite Pear Rust Mite Pear Leaf Blister Mite Pear Psylla Thrips	1 1 1 - 2 1.5 - 2 1.5 - 2 1.5 - 2	4 4 4 - 6 4 - 6 4 - 6 4 - 6	4 4 4 - 6 4 - 6 4 - 6 4 - 6	Summer (Foliar or Cover) or Postharvest.
Almonds Apricots Cherries	Aphids (eggs) Fruit Tree Leaf Roller (eggs) Tent Caterpillars San Jose Scale	2 2 2 2	6 - 8 6 - 8 6 - 8 6 - 8	6 - 8 6 - 8 6 - 8 6 - 8	Dormant or Delayed Dormant Dormant
	Mites and Scales	1 - 1.5	4 - 6	4 - 6	Summer (Foliar or Cover) or Postharvest. - Application should not be made over of sensitive varieties. - Do not apply to trees lacking adequate moisture.

* Aerial application should be used only as emergency application when soil conditions do not permit regular ground application (helicopter only)

8/28

TABLE 1A

Crop	Pest	Application Rate - Ounces Oil	Time of Application (Stage of Development)
		Dilute Spray (oz.) per 25 Gal. Water	
Apples	Achids (eggs) Apple Red Bug Mites (eggs) including European Red Mite Scales (hard and soft) Soury Scale Fruit Tree Leaf Roller (eggs)	64 64 64 64 64 64	Dormant through Tightcluster
	Mites Scales	32 32 - 64	Summer (Foliar or Cover) or Postharvest. Do not apply over fruit after waxy bloom forms.
Pears	European Red Mite (eggs) Pear Leaf Blister Mite (eggs) Pear Psylla Scales Fruit Tree Leaf Roller (eggs)	32 - 64 64 64 64 64	Dormant or Delayed Dormant (up to and in- cluding petal fall)
	Two-Spotted Spider Mite Brown Mite Pear Rust Mite Pear Leaf Blister Mite Pear Psylla Trnps	32 32 32 - 64 48 - 64 48 - 64 48 - 64	Summer (Foliar or Cover) or Postharvest.
Almonds Apricots Cherries	Achids (eggs) Fruit Tree Leaf Roller (eggs) Tent Caterpillars San Jose Scale	64 64	Dormant or Delayed Dormant. Dormant
	Mites and Scales	32 - 48	Summer (Foliar or Cover) or Postharvest. - Application should not be made over oil sensi- tive varieties. - Do not apply to trees lacking adequate mois- ture.

1 oz. = 2 Tablespoons

TABLE 1A (CONT.)

Crop	Pest	Application Rate			Time of Application (Stage of Development)
		Dilute Spray per 100 Gal /acre	Concentrate Gallons Oil per acre	Aerial* Gallons Oil per acre	
Peaches Nectarine	Aphids (eggs) Fruit Tree Leaf Roller (eggs) Mites (eggs) Peach Twig Borer (hibernaculae) Cottony Peach Scale San Jose Scale	1 - 2	4 - 8	4 - 8	Dormant or Delayed Dormant.
	Mites Scales	2	6 - 8		Dormant
Plums Prunes	Mites Scales	1 - 2	4 - 6	4 - 6	Summer (Foliar or Cover) or Postharvest.
	Aphids (eggs) Scales Mites (eggs) Peach Twig Borer (hibernaculae)	1.5 - 2	4 - 6	4 - 6	Dormant or Delayed Dormant to 1/2" Green Tip
Pecans	Mites Scales	1 - 1.5	4 - 6	4 - 6	Summer (Foliar or Cover) or Postharvest. Do not apply over certain fresh market fruits after bloom starts to form as the oil spray will remove the waxy bloom. Application should not be made over oil sensitive varieties.
	Aphids (eggs) Scales Mites (eggs)	2	6 - 8	6 - 8	Dormant
	Aphids Mites	1 - 1.5	4 - 6	4 - 6	Summer (Foliar or Cover) or Postharvest

* Aerial application should be used only as emergency application when soil conditions do not permit regular ground application (helicopter only)

TABLE 1A (CONT.)

Crop	Pest	Application Rate - Ounces Oil	Time of Application (Stage of Development)
		Dilute Spray per 25 Gal. Water	
Peaches Nectarine	Aphids (eggs) Fruit Tree Leaf Roller (eggs) Mites (eggs) Peach Twig Borer (hibernac- ulae) Cottony Peach Scale San Jose Scale	32 - 64	Dormant or Delayed Dormant.
	Mites Scales	64	Dormant
	Mites Scales	32 - 64	Summer (Foliar or Cover) or Postharvest.
Plums Prunes	Aphids (eggs) Scales Mites (eggs) Peach Twig Borer (hibernac- ulae)	48 - 64	Dormant or Delayed Dormant to 1/2" Green Tip
	Mites Scales	32 - 48	Summer (Foliar or Cover) or Postharvest. Do not apply over certain fresh market fruits after bloom starts to form as the oil spray will remove the waxy bloom. Application should not be made over oil sensitive varieties.
Pecans	Aphids (eggs) Scales Mites (eggs)	64	Dormant
	Aphids Mites	32 - 48	Summer (Foliar or Cover) or Postharvest

1 oz. = 2 Tablespoons

TABLE 1A (CONT.)

Crop	Pest	Application Rate			Time of Application (Stage of Development)
		Dilute Spray per 100 Gal. Water	Concentrate Gallons Oil per acre	Aerial Gallons Oil per acre	
Walnuts	Aphids (eggs); Scales Mites (eggs)	4 - 6	NR	NR	Delayed Dormant - 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 have been fully dormant
	Mites	4 - 6 (200 gal. water/acre)	NR	NR	Foliar - Late Spring to early Summer when the leaves are fully expanded

NR = Not Recommended

TABLE 1B

Crop	Pest	Application Rate		Comments
		Dilute Spray per 100 Gal. Water	Concentrate Gallons Oil per acre	
Lemons and Grapefruit	Mites Scales including California Red Scale	1.0 - 1.4 1.0 - 1.6	8 - 24	For best results, spray during Fall, early Winter & Spring months when red scale are more easily controlled and trees generally less reactive to oil. For all citrus oil sprays ensure adequate soil moisture: leaves should not wilt before noon.
Navel & Valencia Oranges, Other Citrus Varieties including Non-Bearing	Mites including Rust Mite Spider Mite Scales including Black Scale California Red Scale Whitefly & Blackfly Sooty Mold	1.0 - 1.4 1.0 - 1.3 1.3 - 1.6 1.0 - 1.3 1.0 - 1.3	8 - 24	For low volume oil spray treatment during the Spring, application should be discontinued as soon as temperatures go above 90°F during the day or relative humidity is expected to go down to 20 percent or below. Oils should not be used in late Fall if there is any danger of damage from cold. The addition of a tank mix pesticide will improve performance against scales.

12/28

TABLE 1A (CONT.)

Crop	Pest	Application Rate - Ounces Oil	Time of Application (Stage of Development)
		Dilute Spray per 25 Gal. Water	
Walnuts	Aphids (Eggs) Scales Mites (eggs)	128 - 192	Delayed Dormant - 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 have been fully dormant.
	Mites	128 - 192 (200 gal. Water/acre)	Foliar - Late Spring to early Summer when the leaves are fully expanded.

TABLE 1B

Crop	Pest	Application Rate - Ounces Oil	Comments
		Dilute Spray per 25 Gal. Water	
Lemons and Grapefruit	Mites Scales including California Red Scale	32 - 44.8 32 - 51.2	For best results, spray during Fall, early Winter & Spring months when red scale are more easily controlled and trees generally less reactive to oil. For all citrus oil sprays ensure adequate soil moisture; leaves should not wilt before noon.
Navel & Valencia Oranges, Other Citrus Varieties Including Non-Bearing	Mites including Rust Mite Spider Mite Scales including Black Scale California Red Scale Whitefly & Blackfly Sooty Mold	32 - 44.8 32 - 41.6 41.6 - 51.2 32 - 41.6 32 - 41.6	For low volume oil spray treatment during the Spring, application should be discontinued as soon as temperatures go above 90°F during the day or relative humidity is expected to go down to 20 percent or below. Oils should not be used in late Fall if there is any danger of damage from cold. The addition of a tank mix pesticide will improve performance against scales.

1 oz. = 2 Tablespoons

13/28

**TABLE 2 SHADE TREES, SHRUBS, ORNAMENTALS,
FLOWER AND FOLIAGE PLANTS, CHRISTMAS TREES**

Crop or Plant	Pest	Application Rate Gallons Oil per 100 Gallons Water	Time of Application
Shade Trees* and Shrubs including Conifers, Deciduous Broadleaf Evergreens & Woody Ornamentals	Aphids Adelgids Enophyid Mites Gall Mites Honey Locust Plant Bug Lace Bug	2 - 3	Winter Dormant Period
	Ornamental Trees* and, Shrubs such as: Conifers, Deciduous and Broadleaf Evergreens located along city streets, other rights- of-ways and in or around habitable buildings	Leaf Beetle Larvae Leafminer Leafrollers Mealybugs Psyllids (immature) Sawfly (larvae) Scutes (immature) Spider Mites Thrips Webworms Whiteflies	1 - 2
Flowering and Foliage plants including Roses and other Flowering Shrubs		2 - 3	Winter Dormant Period
Foliage Ornamentals & Bedding Plants		1 - 2	Summer (Foliar or Cover)
Christmas Trees*	Aphids Adelgids	2 - 3	Winter
	Scale (soft & hard) (immature) Spider Mites	1 - 2	Summer

*Oil 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 Cryptomena, Smoke Tree, Chamaecypis, Juniper, Japanese Holly and Spruce. Tendency toward sensitivity: Red Cedar and Douglas Fir. Do not spray when buds have fully opened and shoot elongation is occurring. Do not spray Walnut foliage.

CAUTION: Spray no more than 4 consecutive sprays. The frequency of consecutive sprays should not exceed once every 2 weeks. Sunspray 6E Plus may be used in rotation with other compatible insecticides or fungicides. Do not spray when there is obvious moisture deficit in leaves, or the plant is under stress. Early morning applications are recommended. For Fall dormant applications, reduce rate to 2 gallons of 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 Leaf Plum.

**TABLE 2 SHADE TREES, SHRUBS, ORNAMENTALS,
FLOWER AND FOLIAGE PLANTS, CHRISTMAS TREES**

Crop or Plant	Pest	Application Rate Ounces OI per 25 Gallons Water	Time of Application
Shade Trees* and Shrubs including Conifers, Deciduous Broadleaf Evergreens & Woody Ornamentals	Aphids Adeigids Enophyd Mites Gall Mites Honey Locust Plant Bug Lace Bug	64 - 96	Winter Dormant Period
	Leaf Beetle Larvae Leafminer Leafrollers Mealybugs Psyllids (immature) Sawfly (larvae) Scales (immature) Spider Mites Thrips Webworms Whiteflies	32 - 64	Summer (Foliar or Cover)
Flowering and Foliage plants including Roses and other Flowering Shrubs		64 - 96	Winter Dormant Period
	Foliage Ornamentals & Bedding Plants	32 - 64	Summer (Foliar or Cover)
Christmas Trees*	Aphids Adelgids	64 - 96	Winter
	Scale (soft & hard) (immature) Spider Mites	32 - 64	Summer

1 oz. = 2 Tablespoons

*Oil removes the glaucous (blue) bloom from such evergreens as Colorado Blue Spruce and Koster Spruce. Always use lower dosage or fast spray oil sensitive plants such as Cryptomeria, Smoke Tree, Chamaecyparis, Juniper, Japanese Holly and Spruce. Tendency toward sensitivity: Red Cedar and Douglas Fir. Do not spray when buds have fully opened and shoot elongation is occurring. Do not spray Walnut foliage.

CAUTION: Spray no more than 4 consecutive sprays. The frequency of consecutive sprays should not exceed once every 2 weeks. Sunspray 6E Plus may be used in rotation with other compatible insecticides or fungicides. Do not spray when there is obvious moisture deficit in leaves, or the plant is under stress. Early morning applications are recommended. For fall dormant applications, reduce rate to 64 oz. of per 25 gallons water and limit use only to: American Red Oak, Japanese Black Pine, Dogwood, Weeping Cherry, Cornelian Cherry, Crabapple, Norway Maple, Purple Leaf Plum.

Powdery Mildew Control on Ornamentals

Apply a rate of 1 -2 gallons Sunspray 6E Plus per 100 gallons water from midsummer to early fall every 2 - 4 weeks to zinnia, lilac, azalea, monarda, briox, helianthemum and aster. If application to other woody or herbaceous ornamental plants is desired, we recommend first conducting a small scale test on specific plants that are to be treated, to check for sensitivity to the oil treatment. Sunspray 6E Plus is not effective if the plant canopy is extremely dense because adequate coverage is difficult to attain. Greenhouse applications should be at the 1 gallon rate except for greenhouse grown roses for the cut flower market where the dose should not exceed 0.5 gals Sunspray 6E Plus /100 gals water if applied weekly. A test spray should be conducted due to increased sensitivity of greenhouse grown plants.

TABLE 3 SMALL FRUITS

Crop	Pest	Application Rate Gallons Oil per 100 Gallons Water	Time of Application
Caneberries	Aphids	2	Dormant Spring - Summer Postharvest
	Leafhopper	1	
	Mites	2	
	Whitefly		
	Psyllid		
Cranberries	Leafhopper	1 - 2	As needed
	Scale		
	Mites		
Blueberries	Thrips	2	Foliage
	Mites	2	Foliage
	Sawfly (eggs)	2	Dormant
	Scales	3	
Strawberries	Aphids	1	Dormant and Foliage
	Mites		

Powdery Mildew Control on Ornamentals

Apply a rate of 32 - 64 ounces Sunspray 6E Plus per 25 gallons water from midsummer to early fall every 2 - 4 weeks to zinnia, lilac, azalea, monarda, phlox, helianthemum and aster. If application to other woody or herbaceous ornamental plants is desired, we recommend first conducting a small scale test on specific plants that are to be treated, to check for sensitivity to the oil treatment. Sunspray 6E Plus is not effective if the plant canopy is extremely dense because adequate coverage is difficult to attain. Greenhouse applications should be at the 32 oz. rate except for greenhouse grown roses for the cut flower market where the dose should not exceed 16 oz. Sunspray 6E Plus/25 gals water if applied weekly. A test spray should be conducted due to increased sensitivity of greenhouse grown plants.

TABLE 3 Small Fruits

Crop	Pest	Application Rate Ounces Oil per 25 Gallons Water	Time of Application
Caneberries	Aphids	64	Dormant Spring - Summer Postharvest
	Leafhopper	32	
	Mites	64	
	Whitefly Psyllid		
Cranberries	Leafhopper	32 - 64	As needed
	Scale		
	Mites		
Blueberries	Thrips	64	Foliage
	Mites	64	Foliage
	Sawfly (eggs)	64	Dormant
	Scales	96	
Strawberries	Aphids	32	Dormant and Foliage
	Mites		

1 oz. = 2 Tablespoons

TABLE 3 SMALL FRUITS (continued)

Crop	Pest	Application Rate		Time of Application
		Dilute Spray	Concentrate Spray* 43-100 Gals. Spray per Acre)	
Grapes	Mealybug	4 - 6 Gal. with 200 to 300 Gal. water/acre	NR	Dormant - A tank mix using an insecticide improves control. Bud swell or shoot growth of 5 - 7 cm (2-3 in) in spring.
	Mites	2 gal. per 100 gal. water	NR	
	Mealybug	Not recommended	4	Spray when crawlers are active and exposed usually around early Summer. Best results will occur when sprayed during first brood. Sprays after grapes are more than 1/4" diameter may affect bloom.
	Leafhopper	Not recommended	4	
	Mites	2 gal. per 100 gal. water	NR	Postharvest
	Powdery Mildew	1 gal. per 100 gal. water	NR	Begin Application after outbreak or according to local recommendations. Continue spraying every 10 to 14 days in rotation with other compatible fungicides. Frequent applications in short spray intervals may result in damage to plants.

Apply before mites reach high populations. Vineyard should be vigorous and supplied with ample water prior to application. Do not allow excessive webbing or burning.

No sensitivity to Sunspray 6E Plus treatments have been seen in the vineyards of cabernet, merlot, chardonnay or rbier when used for insect control. Do not mix Sunspray 6E Plus with dicofol (Kelthane), Captan, or sulfur since all can cause phytotoxicity in some varieties.

Avoid more than 4 consecutive sprays. Some varieties of grapes may be sensitive to 4 or more consecutive sprays.

* Air-camer or air-blast type sprayers strongly recommended to avoid plant injury and reduce effect on bloom of table grapes.

NR = Not Recommended

TABLE 3 Small Fruits (continued)

Crop	Pest	Application Rate -	Time of Application
		Ounces of Oil Dilute Spray	
Grapes	Mealybug	64 - 96 oz. with 25 to 37.5 Gal. water/acre	Dormant - A tank mix using an insecticide improves control.
	Mites	64 oz. per 25 gal. water	Bud swell or shoot growth of 5 - 7cm (2-3 in) in Spring.
	Mites	64 oz. per 25 gal. water	Postharvest
	Powdery Mildew	32 oz. per 25 gal. water	Begin application after budbreak or according to local recommendations. Continue spraying every 10 to 14 days in rotation with other compatible fungicides. Frequent applications in short spray intervals may result in damage to plants.

Apply before mites reach high populations. Vineyard should be vigorous and supplied with ample water prior to application. Do not allow excessive webbing or burning.

No sensitivity to Sunspray 6E Plus treatments have been seen in the vineyards of cabernet, merlot, chardonnay or riesling when used for insect control. Do not mix Sunspray 6E Plus with dicofol (Kelthane), Captan, or sulfur since all can cause phytotoxicity in some varieties.

Avoid more than 4 consecutive sprays. Some varieties of grapes may be sensitive to 4 or more consecutive sprays.

* Air-cannon or air-blast type sprayers strongly recommended to avoid plant injury and reduce effect on bloom of table grapes.

1 oz. = 2 Tablespoons

19/28

TABLE 4 VEGETABLES: OUTDOOR AND GREENHOUSE

Crop	Pest	Application Rate Gallons Oil per 100 Gallons Water	Time of Application
Asparagus Beans Beets Cabbage Cauliflower and other cole crops Celery Corn Cucurbit Eggplant Lettuce Melon Pepper Potato Radish Squash Sweet Potato Tomato Tobacco Herbs and Spices Basil Lemon Balm Mexican Oregano Spearmint	Aphids Mites Beetle Larvae Leafminers Thrips Leafhopper Whitefly	1 - 2	Do not exceed 4 applications in a growing season. A 2 week application interval is recommended. Due to varietal differences in response to a treatment of Sunspray 6E Plus at the recommended rate, we recommend conducting a small test on 1 or 2 plants of the specific variety to be treated.

Disease Control on Vegetables

Apply a rate of 1 - 2 gallons Sunspray 6E Plus per 100 gallons water to control powdery mildew on cucurbits, melons and squash; gummy stem blight and *Alternaria* leaf blight on melons. Application should be made when the disease is first noticed and continue on a weekly basis to both the upper and lower leaf surfaces. If application to other vegetables listed above is desired, we recommend first conducting a small scale test spray. Greenhouse applications should be at the 1 gallon rate.

20/28

TABLE 4 Vegetables: Outdoor and Greenhouse

Crop	Pest	Application Rate Ounces Oil per 25 Gallons Water	Time of Application
Asparagus Beans Beets Cabbage Cauliflower and other cole crops Celery Corn Cucurbit Eggplant Lettuce Melon Pepper Potato Radish Squash Sweet Potato Tomato Tobacco Herbs and Spices Basil Lemon Balm Mexican Oregano Spearment	Aphids Mites Beece Larvae Leafminers Thrips Leafhopper Whitefly	32 - 64	Do not exceed 4 applica- tions in a growing season. A 2 week application inter- val is recommended. Due to varietal differences in response to a treatment of Sunspray 6E Plus at the recommended rate, we recommend conducting a small test on 1 or 2 plants of the specific variety to be treated.

Disease Control on Vegetables

Apply a rate of 32 - 64 ounces Sunspray 6E Plus per 25 gallons water to control powdery mildew on cucurbits, melons and squash; gummy stem blight and Alternaria leaf blight on melons. Application should be made when the disease is first noticed and continue on a weekly basis to both the upper and lower leaf surfaces. If application to other vegetables listed above is desired, we recommend first conducting a small scale test spray. Greenhouse applications should be at the 32 ounce/ 25 gallon rate.

1 oz. = 2 Tablespoons

21/28

TABLE 5 FIELD CROPS

Crop	Pest	Application Rate Gallons Oil per 100 Gallons Water	Time of Application
Alfalfa	Aphids	2	Do not exceed 4 applications in a growing season. A 2 week application interval is recommended.
Corn (sweet & field)	Mites	2	
Cotton	Leafminers	2	
Peanuts	Corn Earworm, Rootworm	1 - 2	
Soybeans	Whitefly	2	
Sugar Beets		2	

Crop	Pest	Application Rate Ounces Oil per 25 Gallons Water	Time of Application
Alfalfa	Aphids	64	Do not exceed 4 applications in a growing season. A 2 week application interval is recommended.
Corn (sweet & field)	Mites	64	
Cotton	Leafminers	64	
Peanuts	Corn Earworm, Rootworm	32 - 64	
Soybeans	Whitefly	64	
Sugar Beets		64	

1 oz. = 2 Tablespoons

TABLE 6 GREENHOUSE

Crop or Plant	Pest	Application Rate Gallons Oil per 100 Gallons Water	Specific Comments
Ageratum Crown of Thorns Dieffenbachia Ferns Ficus Lisianthus Orchid Palms Petunia Poinsettia Schefflera Sunflower	Aphids Fungus Gnats Leafminers Mealybugs Scales (soft & hard) Spider Mites Thrips Whitefly	1	Due to varietal differences in response to a treatment of Sunspray 6E Plus 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.		1	

Some plants grown in greenhouses are more sensitive to oil treatments if any of the following conditions are present when application is made:

- High Humidity
- A heavy overcast or cloudy day or during rainy periods
- Inadequate air flow
- Intense sun and/or heat build up that stresses plant
- Night time
- Plants under water or temperature stress

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.

TABLE 6 Greenhouse

Crop or Plant	Pest	Application Rate Ounces Oil per 25 Gallons Water	Specific Comments
Ageratum Crown of Thorns Dieffenbachia Ferns Ficus Lisianthus Orchid Palms Petunia Poinsettia Schefflera Sunflower	Aphids Fungus Gnats Leafminers Mealybugs Scales (soft & hard) Spider Mites Thrips Whitefly	32	Due to varietal differences in response to a treatment of Sunspray 6E Plus 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.		32	

Some plants grown in greenhouses are more sensitive to oil treatments if any of the following conditions are present when application is made:

- High Humidity
- A heavy overcast or cloudy day or during rainy periods
- Inadequate air flow
- Intense sun and/or heat build up that stresses plant
- Night time
- Plants under water or temperature stress

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.

1 oz. = 2 Tablespoons

TABLE 6 GREENHOUSE (CONTINUED)

Crop or Plant	Pest	Application Rate Gallons Oil per 100 Gallons Water	Specific Comments
<p>Aglaonema Aster Azaleas Begonias Browallia Camellias Carnation Celosia Chrysanthemum Coleus Cosmos Dusty Miller Easter Lilies Gardenias Geranium Gerbera Helichrysum Hibiscus Foliage Hydrangea Impatiens Jade Plant Marigold New Guinea Impatiens Nicotonia Philodendron Portulaca Reiger Begonias Snapdragon Vinca Zinnias</p>	<p>Aphids Fungus Gnats Leafminers Mealybugs Scales (soft & hard) Spider Mites Thrips Whitefly</p>	<p>1 - 2</p>	<p>Due to varietal differences in response to a treatment of Sunspray 6E Plus at the recommended rate, we recommend conducting a small test on 1 or 2 plants of the specific variety to be treated.</p>

TABLE 6 Greenhouse (continued)

Crop or Plant	Pest	Application Rate Ounces Oil per 25 Gallons Water	Specific Comments
Aglaonema Aster Azaleas Begonias Browallia Camellias Carnation Celosia Chrysanthemum Coleus Cosmos Dusty Miller Easter Lilies Gardenias Geranium Gerbera Helichrysum Hibiscus Foliage Hydrangea Impatiens Jade Plant Marigold New Guinea Impatiens Nicotonia Philodendron Portulaca Reiger Begonias Snapdragon Vinca Zinnias	Aphids Fungus Gnats Leafminers Mealybugs Scabies (sof & hard) Spider Mites Thrips Whitefly	32 - 64	Due to varietal differences in response to a treatment of Sunspray 6E Plus at the recommended rate, we recommend conducting a small test on 1 or 2 plants of the specific variety to be treated.

1 oz. = 2 Tablespoons

TABLE 7 INTERIORSCAPES*

Plant	Pest	Application Rate Gallons Oil per 100 Gallons Water	Comments
Dieffenbachia Dracaena Ferns Palms Schefflera	Aphids Leafminers Mealybugs Scales Spider Mites Whitefly	1	Do not apply to plants in direct sunlight behind glass. Due to varietal differences in response to a treatment of Sunspray 8E Plus at the recommended rate, we recommend the applicator conduct a small test on 1 or 2 plants of the specific variety to be treated.
Chrysanthemum Gardenias Jade Plant Philodendron		1 - 2	

* Protect floor, floor coverings and furnishings from overspray

Miscellaneous:

Figs: Dormant or Delayed Dormant: Fig Scale - Use 3 Gals. in 100 Gals. water as a foliar spray:
Mites, Mealybug, Scale - Use 2 Gals. per 100 Gals. Water.

Olives: Postbloom through August and Postharvest : Scales - Use 1.5 gals. per 100 Gals. water.
Apply at 400 to 1500 Gals. per acre.

Banana, Plantains: Use as needed to control Yellow Sigatoka Disease - Use 1 - 1.5 Gal. per 100 Gals. water. 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.

Avocado (Haas Only) and Mangos: Use 1 - 1.5 Gals. per 100 Gals. water as needed to control Aphids, Mealybugs, Mites, Scales and Whitefly.

Persimmons: Use 1 Gal. per 100 Gals. water for control of Leafrollers, Scale and Booklice (psocids)

TABLE 7 Interiorscapes*

Plant	Pest	Application Rate Ounces Oil per 25 Gallons Water	Comments
Dieffenbachia Dracaena Ferns Palms Schefflera	Aphids Leafminers Mealybugs Scales Spider Mites Whitefly	32	Do not apply to plants in direct sunlight behind glass. Due to varietal differences in response to a treatment of Sunspray 6E Plus at the recommended rate, we recommend the applicator conduct a small test on 1 or 2 plants of the specific variety to be treated.
Chrysanthemum Gardenias Jade Plant Philodendron		32 - 64	

* Protect floor, floor coverings and furnishings from overspray

Miscellaneous:

Figs: Dormant or Delayed Dormant: Fig Scale - Use 96 oz. in 25 Gals. water as a foliar spray; Mites, Mealybug, Scale - Use 64 oz. per 25 Gals. Water.

Olives: Postbloom through August and Postharvest : Scales - Use 48 oz. per 25 Gals. water. Apply at 400 to 800 Gals. per acre.

Banana, Plantains: Use as needed to control Yellow Sigatoka Disease - Use 32 - 48 oz. per 25 Gals. water. 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.

Avocado (Haas Only) and Mangos: Use 32 - 48 oz. per 25 Gals. water as needed to control Aphids, Mealybugs, Mites, Scales and Whitefly.

Persimmons: Use 32 oz. per 25 Gals. water for control of Leafrollers, Scale and Book Lice (psococids)

1 oz. = 2 Tablespoons

NOTES

