STATE OF WASHINGTON

DEPARTMENT OF AGRICULTURE

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WASHINGTON STATE
METHIDATHION USE SUMMARY

- Methidathion is a non-systemic organophosphorous insecticide and acaricide with stomach and contact action. The compound is used to control a variety of insects and mites in many crops such as fruits, vegetables, alfalfa, and sunflowers, and also in greenhouses and on rose cultures. It is especially useful against scale insects. It works by inhibiting certain enzyme actions in the target pests.
- Methidathion is a Restricted Use Pesticide (RUP), except when used in nurseries and on sunflowers.
- Methidathion may be found in formulations with many other pesticide active ingredients.
- Methidathion formulations are available in emulsifiable concentrate, wettable powder, and ultra-low volume (ULV) liquid formulations.
- Methidathion is classified toxicity category I – highly toxic. Products containing methidathion must bear the signal word, "Danger." It belongs to the organophosphate chemical class.
- Major crop uses in Washington State, listed alphabetically, are as follows:

CROP	WASS* 2002 EST. ACRES	EST. % ACRES TREATED	EST. LBS. A.I./ACRE	# OF APPS	EST. ACRES TREATED	EST. LBS. A.I. APPLIED
Apple **	164,000	5	2	1	8,200	16,400
Apricot	1,300	Not used in Washington State. See narrative below.				
Artichoke, globe	< 50	Acreage is not statistically relevant. See narrative below.				
Cherry	25,000	10	2	1	2,500	5,000
Peaches & nectarines	4,300	50	2	1	2,150	4,300
Plums & prunes	1,000	1	2	1	10	20
Pears	24,800	1	2	1	250	500
Timothy	35,000	5	0.75	1	1,750	1,300

* Washington Agricultural Statistics Service

** Commodities noted in **BLUE** have not had peer review input.

MAJOR USES (listed alphabetically):

The major use listing supplies the most commonly used formulations of the active ingredient. No discrimination or endorsement is intended.

The pesticide labels take precedence over any information contained herein. It is the responsibility of the user to comply with the label directions provided.

The following pesticide use summary reflects the general pesticide practices for the listed commodities. The use information is not intended to reflect the pesticide application practices of any individual.

NOTE: Typically, growers use horticultural mineral oil alone to control scale insects in tree fruit. If scale insects pose a serious problem, Lorsban or Supracide are used as spot treatments for control.

APPLES:

- Apples are grown primarily in Yakima (75,264 acres), Grant (33,615 acres), Okanogan (24,164 acres), Benton (18,425 acres), Chelan (17,096 acres), Douglas (14,383 acres), Franklin and Walla Walla counties.
- Methiodathion is not commonly used on apples in Washington State.
- Methidathion (Supracide 25E) may be applied at a rate of 1 to 2 pints active ingredient (3 to 12 pints of product) per acre in 100 gallons of water to control aphids.
    - Applications occur only during delayed-dormant period.
    - For rates less than 2 pints active ingredient per 100 gallons of water, mix insecticide with horticultural mineral oil at a rate of 1 gallon per 100 gallons of water (4 to 5 gallons per acre).
    - None of the materials listed for aphid control has given good results in Washington. In some cases, they have caused more damage than good by reducing beneficial insects. For best results, apply insecticides before leaves begin to curl and before petal fall.

APRICOTS:

- Washington State has approximately 1, 300 acres in apricot production. The top producing counties are: Benton, Douglas, Grant and Yakima (in eastern Washington).
- Methidathion (Supracide 25E) is not used on apricots in Washington State per discussion with crop consultants and growers.
- If used at all, methidathion (Supracide 25E) may be applied at a rate of 1 to 2 pints active ingredient (3 to 12 pints of product) per acre in 100 gallons of water to control aphids.
    - Applications occur only during delayed-dormant period (Stage 1 of bud development - late March).
    - For rates less than 2 pints active ingredient per 100 gallons of water, mix insecticide with horticultural mineral oil at a rate of 1 gallon per 100 gallons of water (4 to 5 gallons per acre). Apply before any blossoms open.
    - None of the materials listed for aphid control has given good results in Washington. In some cases, they have caused more damage than good by reducing beneficial insects. For best results, apply insecticides before leaves begin to curl and before petal fall.

ARTICHOKE (GLOBE):

- There are less than 50 acres of globe artichoke produced in Washington State. Globe artichokes are grown in Clallam and Jefferson counties in western Washington and Yakima County in eastern Washington.
- Artichokes produced in Washington State are grown as annuals since artichokes are very susceptible to winter kill. Plants are started in the greenhouse in mid-March and transplanted to the field in late April or early May. Harvest occurs in late August or early September.
- Methidathion (Supracide 25W) may be applied at a rate of 1 pound active ingredient per acre to control artichoke plume moth.
    - Applications should not occur after bud formation.
    - Artichoke plume moth is typically a problem where artichokes are grown as perennials and it is the most sever insect pest in California. Larvae feed on all parts of the plant, but economic damage occurs when they feed on the floral buds and render them unmarketable. The most effective insecticides for artichoke plume moth control are those that kill the adult moths and the larval stage.

CHERRIES:

- Cherries are grown in Yakima (6,129 acres), Chelan (3,704 acres), Grant (3,470 acres), Benton (3,219 acres), Franklin (2,165 acres), Douglas (1,842 acres) and Okanogan (1,003 acres) counties.
- Methidathion (Supracide 25W) may be applied without horticultural oil to control San Jose scale.
    - Applications occur only during delayed-dormant period (Stage 1 of bud development - late March).
    - A tank mix with horticultural oil is necessary to control other pests.
    - Apply at a rate of 2 pounds active ingredient (8 pounds product) in 100 gallons of water per acre.
    - Supracide (liquid formulations) may also be used and are preferred when used in combination with horticultural oil.

PEACHES & NECTARINES:

- Peaches & nectarines are produced in central Washington State with approximately 2,800 acres of peaches and 1,500 acres of nectarines planted in 2002.
- Methidathion (Supracide 25E) may be applied to control scale insects and aphids.
    - Applications occur only during delayed-dormant period (Stage 1 of bud development - late March).
    - Apply at a rate of 1 to 2 pints active ingredient (3 to 12 pints product) per 100 gallons of water. For control of San Jose scale, when using rates less than 2 pounds per 100 gallons of water, tank mix with horticultural mineral oil.
    - Methidathion is no longer used on peaches and nectarines in the Wenatchee district due to lack of efficacy. It is still used in the Yakima district.

PEARS:

- Pears are grown in Yakima (10,190 acres), Chelan (8,298 acres), Okanogan (3,280 acres), Douglas (1,104 acres), Grant (998 acres) and Klickitat (923 acres) counties.
- Pears are grown for fresh market (packing) or for cannery. All of the pears grown in the Wenatchee area are fresh market since there are no canneries left in the Wenatchee area. The cannery pears are grown primarily in the Yakima area.
- Methidathion (Supracide 25E) may be applied to control scale insects.
- Applications occur only during delayed-dormant period (Stage 1 of bud development – first week of April).
    - Apply at a rate of 1 to 2 pints active ingredient (3 to 12 pints product) per 100 gallons of water, tank mixed with horticultural mineral oil.

PLUMS & PRUNES:

- Prunes & plums are produced in central Washington State with an estimated 1,000 acres planted in 2001.
- Methidathion (Supracide 25W) may be applied at a rate of 2 pounds active ingredient (8 pounds of product) in 100 gallons of water per acre to control San Jose scale.
    - Applications occur only during delayed-dormant period.
    - May be used without oil, but will control only San Jose scale.

TIMOTHY:

- Approximately 85 percent of the 35,000 acres of timothy produced in Washington State is grown in Kittitas County.
- Mites are the primary insect pest in timothy, specifically the timothy mite and the winter grain mite.
- Methidathion (Supracide 2E - Washington 24(c) Special Local Needs registration #WA-000006) may be applied at a rate of 2 – 4 pints (0.49 - .98 pounds active ingredient) per acre to control grass scale, thrips and spider mites. Supracide should be applied in a minimum of 10 gallons of water for ground applications and a minimum of 2 gallons of water for aerial applications. Typical rate reported from growers, rate applied is 0.75lb a.i./acre. No more than 4 pints (0.98 pounds active ingredient) should be applied per acre per cutting.

PRODUCT NAMES AND LABELED CROPS:

A complete list of all products currently registered for use in Washington State and their respective labeled crops is attached.

PRODUCT NAME	CROP
SUPRACIDE 25-W INSECTICIDE-MITICIDE	APPLE
SUPRACIDE 25-W INSECTICIDE-MITICIDE	APRICOT
SUPRACIDE 25-W INSECTICIDE-MITICIDE	ARTICHOKE (GLOBE)
SUPRACIDE 25-W INSECTICIDE-MITICIDE	CHERRY
SUPRACIDE 25-W INSECTICIDE-MITICIDE	NECTARINE
SUPRACIDE 25-W INSECTICIDE-MITICIDE	NURSERY
SUPRACIDE 25-W INSECTICIDE-MITICIDE	PEACH
SUPRACIDE 25-W INSECTICIDE-MITICIDE	PEAR
SUPRACIDE 25-W INSECTICIDE-MITICIDE	PLUM

SUPRACIDE 25-W INSECTICIDE-MITICIDE	PRUNE
SUPRACIDE 25-W INSECTICIDE-MITICIDE	SAFFLOWER
SUPRACIDE 25-W INSECTICIDE-MITICIDE	WALNUT
SUPRACIDE 2E (SLN: TIMOTHY/TIMOTHY-ALFALFA STANDS)	TIMOTHY
SUPRACIDE 2E INSECTICIDE-MITICIDE	APPLE
SUPRACIDE 2E INSECTICIDE-MITICIDE	APRICOT
SUPRACIDE 2E INSECTICIDE-MITICIDE	ARTICHOKE (GLOBE)
SUPRACIDE 2E INSECTICIDE-MITICIDE	CHERRY
SUPRACIDE 2E INSECTICIDE-MITICIDE	NECTARINE
SUPRACIDE 2E INSECTICIDE-MITICIDE	NURSERY
SUPRACIDE 2E INSECTICIDE-MITICIDE	PEACH
SUPRACIDE 2E INSECTICIDE-MITICIDE	PEAR
SUPRACIDE 2E INSECTICIDE-MITICIDE	PLUM
SUPRACIDE 2E INSECTICIDE-MITICIDE	PRUNE
SUPRACIDE 2E INSECTICIDE-MITICIDE	SAFFLOWER
SUPRACIDE 2E INSECTICIDE-MITICIDE	SUNFLOWER
SUPRACIDE 2E INSECTICIDE-MITICIDE	WALNUT
SUPRACIDE 2E LIQUIPAC	APPLE
SUPRACIDE 2E LIQUIPAC	APRICOT
SUPRACIDE 2E LIQUIPAC	ARTICHOKE (GLOBE)
SUPRACIDE 2E LIQUIPAC	CHERRY
SUPRACIDE 2E LIQUIPAC	NECTARINE
SUPRACIDE 2E LIQUIPAC	NURSERY
SUPRACIDE 2E LIQUIPAC	PEACH
SUPRACIDE 2E LIQUIPAC	PEAR
SUPRACIDE 2E LIQUIPAC	PLUM
SUPRACIDE 2E LIQUIPAC	PRUNE
SUPRACIDE 2E LIQUIPAC	SAFFLOWER
SUPRACIDE 2E LIQUIPAC	SUNFLOWER
SUPRACIDE 2E LIQUIPAC	WALNUT

References:

2003 Farm Chemicals Handbook, Meister Pro Information Resources

2003 Pacific Northwest Insect Management Handbook, Extension Services of OSU, WSU, and UI

*2002 Pest Management Guide for Commercial Small Fruits***,** Cooperative Extension, College of Agriculture & Home Economics, Washington State University, EB1491.

Schreiber, Alan and Laurie Ritchie. "Washington Minor Crops." 1994. Food and Environmental Quality Lab, Washington State University.

2003 Washington State registered pesticide labels

CDMS Label Database: http://www.cdms.net/manuf/manuf.aspwebsite
ExToxNet Pesticide Information Profiles: http://ace.orst.edu/info/extoxnet/pips/pips.html
Greenbook, Chemical & Pharmaceutical Press Inc.: http://www.greenbook.net/
National Agricultural Statistics Service – Agricultural Chemical Use Database: http://www.pestmanagement.info/nass/
National Center for Food & Agricultural Policy: http://www.ncfap.org/database/ingredient/default.asp
National Pesticide Use Database: http://www.ncfap.org/database/ingredient/default.asp
NW Berry and Grape Information Network: http://berrygrape.orst.edu/

Pesticide Action Network Pesticide Database: http://www.pesticideinfo.org/index.html
U.S. Department of Agriculture National Agricultural Statistics Service: http://www.usda.gov/nass/
U.S. Department of Agriculture Pest Management Centers Crop Profiles: http://www.pmcenters.org/cropprofiles/
U.S. Department of Agriculture Crop Profiles: http://pestdata.ncsu.edu/cropprofiles/
Washington 2003 Annual Bulletin, Washington Agricultural Statistics Service , http://www.nass.usda.gov/wa/annual03/content3.htm
Washington State Pesticide Management Practices: http://www.tricity.wsu.edu/~cdaniels/wapiap.html
WSU PICOL Label/Crop Profile Database: http://picol.cahe.wsu.edu/LabelTolerance.html
WSU Pesticide Notification Network, http://ext.wsu.edu/pnn/user/blank.php

E-mail communication – Tom Auvil, March 10, 2004, Tree Fruit Research Commission (tree fruit)
E-mail communication – John Kugler, March 4, 2004, WSU Grant-Adams Area Cooperative Extension (timothy)
E-mail communication – Herb Teas, March 10, 2004, WSCPR Commissioner, Wenatchee (tree fruit)

Personal communication and e-mail correspondence – Tom Auvil, October 17, 2003, Washington Tree Fruit Research Commission
Personal communication – Glen Dahman, GS Long Dealership, Yakima (tree fruit)
Personal communication – John Dunley, WSU Tree Fruit Research Entomologist, Wenatchee (tree fruit)
Personal communication – Richard Leitz, Fieldman, Wilbur-Ellis Company, Mattawa (apples)
Personal communication – Doug Merriman, Orchardist, Orondo (apples)
Personal communication – Chris Peters, Fieldman, CM Holtzinger Fruit Co., Yakima (tree fruit)
Personal communication – James Ramer, Orchardist/Fieldman, Mattawa (apples)
Personal communication – Edsel Reeves, Orchardist, Baker Flat, East Wenatchee (peaches & nectarines)
Personal communication – Tim Smith, WSU Cooperative Extension, Wenatchee (tree fruit)
Personal communication – Herb Teas, WSCPR Commissioner, Wenatchee (tree fruit)
Personal communication and e-mail correspondence with Tom Waliser, Orchardist (apples)
Personal Communication – James Zahand, CCA, Sales Representative, Dow Agro Sciences (tree fruit)