# **MALATHION 500 E**

**INSECTICIDE** 

**COMMERCIAL** 

CAUTION POISON

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

GUARANTEE: Malathion 500 g/L

REGISTRATION NO. 4709 PEST CONTROL PRODUCTS ACT

UNITED AGRI PRODUCTS CANADA INC. 789 Donnybrook Drive Dorchester, Ontario N0L 1G5 1-800-265-4624

**NET CONTENTS: 10L** 

08/07

### **GENERAL DIRECTIONS**

MALATHION 500 E is generally effective in controlling the insects and mites listed below. MALATHION 500 E will work more effectively if the temperature is 20° C or more or when temperatures will reach or exceed this minimum. Use the rate of MALATHION 500 E in the full volume of water. DO NOT APPLY BY AIR.

### RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, please note that MALATHION 500 E Insecticide contains a Group 1B insecticide/acaricide. Any insect/mite population may contain individuals naturally resistant to MALATHION 500 E Insecticide and other Group 1B insecticide/acaricide. The resistant individuals may dominate the insect/mite population if this group of insecticides/acaricides is used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay insecticide/acaricide resistance:

- Where possible, rotate the use of MALATHION 500 E Insecticide or other Group 1B insecticides/acaricides with different groups that control the same pathogens.
- Avoid application of more than the indicated number of sprays of MALATHION 500 E Insecticide or other insecticides/acaricides in the same group in a season.
- Use tank mixtures with insecticides/acaricides from a different group when such use is permitted.
- Insecticide/acaricide use should be based on an IPM program that includes scouting, record keeping and considers cultural, biological and other chemical control practices.
- Monitor treated pest populations for resistance development.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information and to report suspected resistance, contact Technical Service, at 1-800-265-4624 or at www.uap.ca.

# **DIRECTIONS FOR USE**

# **VEGETABLES**

Apply the concentration listed below for each crop using enough spray mixture to ensure thorough coverage. Repeat as necessary but not closer to harvest than listed below.

| VEGETABLE<br>CROPS  | Pests  | Rate per hectare | Number of<br>Applications | Days<br>Before<br>Harvest | Note<br>Reference<br>Number |
|---|--|------------------|---------------------------|---------------------------|-----------------------------|
| Asparagus   | Asparagus Beetle   | 2.5 L            | 1+                        | 1                         | 1                           |
| Beans   | Aphids, Leafhoppers,<br>Mexican bean beetle,<br>Spider Mites         | 1.5 -<br>2.75 L  | 1+                        | 3                         |                             |
| Broccoli, Brussels<br>Sprouts, Cabbage,<br>Cauliflower,<br>Kale, Kohlrabi | Aphids, Cabbage loopers,<br>Imported cabbageworms                    | 1.1 -<br>2.75 L  | 1+                        | 3                         |                             |
| Beets (table)   | Aphids, Leafhoppers,<br>Leafminers, Spider mites                     | 1.1 -<br>2.75 L  |                           | 7                         |                             |
| Carrots   | Aphids   | 1.8–2 L          | 1+                        | 7                         |                             |
| Celery  | Aphids, Six-Spotted<br>Leafhoppers, Spider<br>mites                  | 2.25 L           |                           | 7                         |                             |
| Collards, Swiss<br>Chard,<br>Watercress                                   | Aphids, Leafminers   | 2.25 L           |                           | 7                         |                             |
| Cucumbers,<br>Squash,   | Aphids, Spider mites,<br>Leafhoppers                                 | 1.8 L            | 1+                        | 3                         |                             |
| Pumpkins  | Do not apply to cucurbits unless plants are dry.                     |                  |                           |                           |                             |
| Dandelion   | Aphids   | 2.25 –<br>2.75 L |                           | 7                         |                             |
| Eggplants   | Aphids, Spider mites   | 1.1 –<br>2.75 L  |                           | 3                         |                             |
| Endive  | Aphids, Spider mites   | 1.1 –<br>2.75 L  |                           | 7                         |                             |
| Garlic  | Aphids, Thrips   | 1.1 –<br>2.75 L  |                           | 3                         |                             |
| Horseradish   | Aphids   | 1.1 –<br>2.75 L  |                           | 7                         |                             |
| Leek, Shallot   | Aphids, Thrips   | 2.25 -<br>2.75 L |                           | 3                         |                             |
| Field Lettuce   | Aphids, Cabbage loopers,<br>Spider mites, Six Spotted<br>Leafhoppers | 1.5 –<br>2.75 L  | 1+                        | 14 (leaf)<br>3 (head)     |                             |

| Aphids Spider mites                   | 15_   | 1+  | 7  | 2  |
|---------------------------------------|---|---|--|--|
|                                       |   |   | ,  |  |
|                                       | 2.73 L  |   |  |  |
|                                       | 2 25 –  |   | 3  |  |
|                                       |   |   |  |  |
|                                       | 2.73 L  |   |  |  |
| 1                                     | ınlass nlant  | a ara dra   |  |  |
|                                       |   | s are dry.  | 1.2  | 3  |
| · · · · · · · · · · · · · · · · · · · | _   |   | 2  | 3  |
|                                       |   |   |  |  |
| Thrips                                | 2.25 L  | 1+  | 3  |  |
|                                       |   |   |  |  |
| Aphids                                |   |   | 20   |  |
|                                       |   |   |  |  |
| Aphids                                | 1.1 –   | 1+  | 7  |  |
|                                       | 2.75 L  |   |  |  |
| Pea aphid, Leafhoppers,               | 2.25 L  | 1+  | 3  | 4  |
| 1 1 1 1 1 1 1                         |   |   |  |  |
| 1                                     | 1.25 –  | 1+  | 3  |  |
|                                       |   |   |  |  |
| 11 00                                 |   | 1+  | 3  |  |
|                                       |   |   |  |  |
| _                                     | 2.23  |   |  |  |
| -                                     | 1 1   | 1_  | 7  |  |
|                                       |   | 1 +   | /  |  |
| 1.1                                   |   | 1.  | 2  |  |
| 1 1                                   |   | 1+  | 3  |  |
| 1 1                                   | 2.73 L  |   |  |  |
|                                       |   |   |  |  |
|                                       |   |   | _  |  |
| Aphids                                |   |   | 1  |  |
|                                       |   |   |  |  |
| *                                     |   |   |  |  |
|                                       | 1.5-2 L   | 1+  | 3  |  |
| Cucumber beetles,                     |   |   |  |  |
| Leafhoppers, Leafminers,              |   |   |  |  |
| Tomato russet mites                   |   |   |  |  |
|                                       | Mites, Phorid flies, Sciarid flies Thrips  Aphids  Aphids  Pea aphid, Leafhoppers, Pea weevil, Spider mites Aphids, Leafhoppers, Pepper weevils, Maggots Aphids, Leafhoppers, Colorado potato beetles, Spider mites Aphids, Flea beetles, Leafhoppers Aphids, Turnips Cabbage loopers, Imported cabbageworms, Spider mites Aphids Aphids Aphids Aphids Aphids Aphids Aphids, Spider mites, Cucumber beetles, Leafhoppers, Leafminers, | Armyworms, Thrips, Greenhouse White flies  Aphids, Cucumber beetles, Leafhoppers, Leafminers, Spider mites  Do not apply to cucurbits unless plant Mites, Phorid flies, Sciarid flies  Thrips  2.25 L  Aphids  Aphids  Aphids  Pea aphid, Leafhoppers, Pea weevil, Spider mites  Aphids, Leafhoppers, Pepper weevils, Maggots  Aphids, Leafhoppers, Colorado potato beetles, Spider mites  Aphids, Flea beetles, Leafhoppers  Aphids, Turnips Cabbage loopers, Imported cabbageworms, Spider mites  Aphids  Aphids  1.1 – 2.75 L  Aphids  Aphids, Turnips Cabbage loopers, Imported cabbageworms, Spider mites  Aphids  Aphids  1.1 – 2.75 L  Aphids  1.1 – 2.75 L  Aphids, Turnips Cabbage loopers, Imported cabbageworms, Spider mites  Aphids  Aphids  1.1 – 2.75 L  Aphids  Aphids  1.1 – 2.75 L  Aphids  Aphids  1.1 – 2.75 L  Aphids  Aphids, Spider mites, Cucumber beetles, Leafhoppers, Leafminers, | Armyworms, Thrips, Greenhouse White flies  Aphids, Cucumber beetles, Leafhoppers, Leafminers, Spider mites  Do not apply to cucurbits unless plants are dry.  Mites, Phorid flies, Sciarid flies  Thrips  2.25 L  Aphids  2.25 L  Aphids  2.25 L  Aphids  1.1 - 2.75 L  Pea aphid, Leafhoppers, Pea weevil, Spider mites  Aphids, Leafhoppers, Pepper weevils, Maggots  Aphids, Leafhoppers, Colorado potato beetles, Spider mites  Aphids, Flea beetles, Leafhoppers  Aphids, Turnips Cabbage loopers, Imported cabbageworms, Spider mites  Aphids  Aphids  Aphids  Aphids  1.1 - 2.75 L  Aphids  Aphids, Turnips Cabbage loopers, Imported cabbageworms, Spider mites  Aphids  Aphids  Aphids  1.1 - 2.75 L  Aphids  Aphids  Aphids  Aphids, Spider mites, Cucumber beetles, Leafhoppers, Leafminers, Cucumber beetles, Leafhoppers, Leafminers, Cucumber beetles, Leafminer | Armyworms, Thrips, Greenhouse White flies       2.75 L         Aphids, Cucumber beetles, Leafhoppers, Leafminers, Spider mites       2.25 - 2.75 L         Do not apply to cucurbits unless plants are dry.         Mites, Phorid flies, Sciarid flies       25- 40 mL         Thrips       2.25 L       1+ 3         Aphids       2.25 - 2.75 L       20         Aphids       1.1 - 1+ 7       7         Pea aphid, Leafhoppers, Pea weevil, Spider mites       2.25 L       1+ 3         Aphids, Leafhoppers, Pepper weevils, Maggots       1.25 - 1+ 3       3         Aphids, Leafhoppers, Colorado potato beetles, Spider mites       2.25 L       1+ 3         Aphids, Flea beetles, Leafhoppers       2.75 L       1+ 3         Aphids, Turnips Cabbage loopers, Imported cabbageworms, Spider mites       1.1 - 1+ 3       1+ 3         Aphids       1.1 - 2.75 L       7         Aphids       2.75 L       1+ 3         Aphids       1.1 - 2.75 L       7         Aphids       2.75 L       1+ |

## **VEGETABLES**

## **NOTES**

## Reference Numbers

- 1. Repeat as necessary.
- 2. Repeat if necessary but use no more than two applications.
- 3. Use 25-40 mL MALATHION 500 E in 11 litres per 100 m2. Apply immediately after picking. Repeat about twice a week or as required. The same concentration of MALATHION 500 E may be sprayed or painted on wooden surfaces in mushroom houses to the point of runoff as needed. Avoid spraying on bed surfaces when time of application differs from that recommended for beds.
- 4. Do not apply unless foliage is dry.

| FRUIT<br>CROPS              | Pests   | Rate per 1000L                       | Number of Application | Days<br>Before | Note<br>Reference |
|-----------------------------|---|--------------------------------------|-----------------------|----------------|-------------------|
|                             |   | (unless<br>specified per<br>hectare) |                       | Harvest        | Number            |
| Apples, Crab-               | Wooly apple aphid   | 1.25 L                               | 1+                    | 3              |                   |
| apples                      | Bud Moth  | 1.8 L                                | 1+                    | 3              | 1                 |
|                             | Green Apple Aphid,<br>Rosy Apple Aphid                                    | 1.25 – 1.8 L                         | 1+                    | 3              |                   |
|                             | Mealybug  | 1.25 – 2.5 L                         | 1+                    | 3              | 1                 |
|                             | Clover Mite, European<br>Red mite, Two-spotted<br>mite, *Yellow mite      | 1.25 – 2.5 L                         | 2+                    | 3              |                   |
|                             | Codling Moth, Plum<br>Curculio  | 2.5 L                                | 1+                    | 3              | 1                 |
|                             | Red-banded Leaf Roller  | 1.8 – 2.5 L                          | 2+                    | 3              | 1                 |
|                             | Malathion 500 E may caus  | e injury to McI                      | Intosh and Cou        | ırtland var    | ieties if         |
|                             | spray is applied within4 we   |                                      |                       |                |                   |
|                             | *To control yellow mites, summer.   | make at least 2                      | applications 1        | 0 - 12 day     | s apart in        |
| Apricots                    | Aphids, Codling moths,  | 2 – 2.5 L                            | 1+                    | 7              | 1                 |
| 1                           | Orange tortrix, Scale   |                                      |                       |                |                   |
|                             | insects   |                                      |                       |                |                   |
| Blackberry,                 | Aphids, Leafhoppers,  | 1.25 – 2 L                           |                       | 7              |                   |
| Boysenberry,                | Rose Chafers, Spider  |                                      |                       |                |                   |
| Dewberry,                   | mites, Thrips   |                                      |                       |                |                   |
| Loganberry                  |   |                                      |                       |                |                   |
| Cherries                    | Black Cherry Aphid,<br>Fruit Tree Leaf Roller                             | 1.25 – 1.8 L                         | 1+                    | 3              |                   |
|                             | Injury may occur on certain   |                                      | weet cherries in      |                | Columbia.         |
| Cranberry                   | Blackheaded fireworms,<br>Cranberry fruitworms,<br>Leafhoppers,Meadow     | 1.25 -2.25 L                         |                       | 3              |                   |
|                             | spittle bugs(nymphs)  |                                      |                       |                |                   |
| Grapes                      | Aphids, Leaf hoppers,<br>Mealy bugs, Scale                                | 1.8 L                                |                       | 3              |                   |
|                             | crawlers, Spider mites  |                                      |                       |                |                   |
|                             | Injury may occur on Ribier  | r Grapes                             |                       |                |                   |
| Grape Vines (Nursery stock) | Grape phylloxera  |                                      |                       |                | 2                 |
| Peaches                     | Oriental fruit moth, Plum curculio, Mites                                 | 1 - 1.75 L                           | 2+                    | 7              | 3                 |
| Pears                       | Aphids, Leafrollers,<br>Mealybugs, Pear Psylla<br>(suppression only),Pear | 1.25 - 2.5 L                         | 2+                    | 3              | 3                 |

|                      | slugs, Scale crawlers, Spider mites, Tent caterpillars                      |              |    |   |  |
|----------------------|---|--------------|----|---|--|
|                      | Codling moth, Plum curculio, Fruit tree leaf roller, Red-banded leaf roller | 2.5 L        | 1+ | 3 |  |
| Plums<br>Prune Plums | Mealy plum aphid,<br>Spider mites   | 1 – 1.75 L   | 1+ | 3 |  |
|                      | Plum curculio   | 1.25 – 1.8 L | 1+ | 3 |  |
| Raspberries          | Thrips, Leafhoppers,<br>Sapbeetles  | 1.8 L/ha     | 1+ | 1 |  |
|                      | Adult bud weevil  | 2.75 L/ha    |    | 1 |  |
| Strawberries         | Aphids, Spider mites,<br>Leafhoppers, strawberry<br>leafrollers             | 2 L/ha       | 1+ | 3 |  |
|                      | Adult strawberry root weevil(B.C. only)                                     | 2.75 L/ha    | 2+ | 3 |  |

# FRUIT CROPS

# NOTES

## Reference Numbers

- 1. Repeat as necessary, or, at intervals of 10-12 days.
- 2. Use 0.1-0.2% (200-400 mL/100L) solution. Remove excess soil from roots and dip in solution for 5 minutes. Two hundred and twenty five (225) litres treats about 500 plants.
- 3. Repeat as required or at intervals of 10 to 12 days.

| FIELD<br>CROPS                                  | Pests   | Rate per hectare                        | Number of Application | Days<br>Before<br>Harvest | Note<br>Reference<br>Number |
|---|---|---|-----------------------|---------------------------|-----------------------------|
| Alfalfa   | Alfalfa weevil larvae,<br>Aphids,Grasshoppers,<br>Leafhoppers, Lygus<br>bugs, Spider mites,<br>Spittlebugs (adult)                              | 2.25 - 2.75 L                           | 1+                    | 7                         | 1, 2                        |
|   | Alfalfa blotch<br>leafminer   | 2.75 Lin a<br>minimum of<br>275 L water |                       | 7                         | 3                           |
| Canary Grass (for seed)                         | Aphids  | 1.4 L                                   |                       | 14                        | 4                           |
| Clover  | Aphids,<br>Grasshoppers,<br>Leafhoppers, Spider<br>mites, Spittle bug   | 2.25 - 2.75 L                           | 1+                    | 7                         | 5                           |
| Corn (grain and forage)                         | Earworms, European corn borers  | 2.25 - 2.75 L                           |                       | 5                         | 6                           |
| Flax  | Grasshoppers  | 1.1 – 1.75 L                            |                       | 7                         | 7                           |
| Grain Crops<br>(Wheat, Oats,<br>Rye and Barley) | Armyworms, English grain aphids, Grasshoppers, Greenbugs, Winter grain mites  | 2.25 - 2.75 L                           | 1+                    | 7                         |                             |
| T 411   | Cereal leaf beetle  | 2.2 L                                   | 1+                    | 1.4                       | 0                           |
| Lentils   | Grasshoppers  | 1.7 L                                   |                       | 14                        | 8                           |
| Mustard, Rape, including                        | Flea Beetles,<br>Grasshoppers   | 1.1 – 1.75 L                            |                       | 7                         | 7                           |
| Canola  | Diamondback moth (larvae)   | 550 – 850 mL                            |                       | 7                         | 7                           |
| Sugar Beets                                     | Flea Beetles  | 1.1 L                                   |                       |                           | 9                           |
| Sweet Clover                                    | Sweet Clover weevils  | 1.5 – 2.5 L                             |                       |                           | 10                          |
| Tobacco   | Aphids, Leafhoppers,<br>Tobacco hornworms   | 1.5 – 2 L/ha                            | 1+                    | 7                         |                             |
| Wild Rice                                       | Wild riceworm   | 2.25 L                                  | 1+                    | 10                        | 11                          |
|   | For cultivated wild rice. Use knapsack sprayer or similar applicator.<br>Limitation: Do not use on fish-bearing waters such as rivers or lakes. |   |                       |                           |                             |

# YOUNG GRASSHOPPER CONTROL IN PASTURES

Use 1.7 litres of MALATHION 500 E per 1000 litres of water to cover one hectare of pasture range. For pasture and range grass repeat as necessary. Do not apply to fields occupied by dairy animals, but may be grazed or harvested on the day of application. In alfalfa, use at the rate of 2 to 3 litres in 1000 litres of water per hectare. Repeat treatments as necessary. Do not apply within 7 days of harvest. Do not apply when crop is in bloom. Apply when 75% of alfalfa foliage shows feeding damage.

## FIELD CROPS NOTES

## Reference Number

- 1. Do not apply to alfalfa in bloom. Apply when 75% of foliage shows feeding damage.
- 2. Repeat as necessary.
- 3. Apply as soon as pinholes in leaves are noted, usually mid to late May. A repeat application may be necessary.
- 4. Apply when more than 50 aphids per canary seed head between heading and soft dough stage.
- 5. Do not apply to clover in bloom.
- 6. Apply when 10% of ears show silk. Repeat at 3 to 5 day intervals until 4 to 5 applications are made. Check with local agricultural authorities for correct timing.
- 7. Treat when bees are absent from field and temperature is above 18 degrees C.
- 8. Two applications, with 7 day intervals between.
- 9. Apply at the 3 5 leaf stage when insects or damage first appears.
- 10. Spray field margins of first year clover in late summer or early fall when migration of adults is occurring. Remove cattle while treating; cattle may return immediately after spraying.
- 11. For control in nonfish-bearing waters such as wild rice paddies one application/year.

# NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS:

The DIRECTIONS FOR USE for this product for the use described below were developed by persons other than United Agri Products Canada Inc. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. United Agri Products Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) or crop tolerance (phytotoxicity) claims for this product when used on the crop listed below.

Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold United Agri Products Canada Inc. harmless from any claims based on efficacy or phytotoxicity in connection with the use described below.

### **DIRECTIONS FOR USE**

### **GRAPES**

For foliar application only, using conventional ground application equipment. Ensure sufficient water volume is used to guarantee thorough coverage. Use a minimum of 500 L of water per hectare. Apply prior to harvest when treatment thresholds have been reached, as determined by local monitoring. Consult extension specialists for timing.

| Crop   | Pest   | Rate per Ha | Maximum No.     | Days Before |
|--------|--|-------------|-----------------|-------------|
|        |  |             | of Applications | Harvest     |
| Grapes | Adult<br>Multicoloured<br>Asian Lady<br>Beetle | 1.8 L       | 1               | 3           |

| ORNAMENTALS  | Rate in 1000L of water/ha |  |  |  |
|--|---------------------------|--|--|--|
| Thorough, full coverage applications should be made and repeated as necessary. Apply |                           |  |  |  |
| at first appearance of pests.  |                           |  |  |  |
| Aphids, mealy bugs, spider mites   | 1.8 L                     |  |  |  |
| Oyster shell scale*  | 1.25 L                    |  |  |  |
| Lace bug   | 1.25 – 1.8 L              |  |  |  |
| Leafminers   | 2.5 L                     |  |  |  |
| Bagworms   | 2.5 L                     |  |  |  |
| Tent caterpillar   | 2.5 L                     |  |  |  |
| Pine needle scales*  | 5 L                       |  |  |  |
| Spruce Budworm   | 6 L                       |  |  |  |
| Four-lined leaf bug, leafhoppers, tarnished  | 1.8 L                     |  |  |  |
| plant bug, thrips, European pine shoot   |                           |  |  |  |
| moths, Sawflies  |                           |  |  |  |
| *Apply when scale crawlers have settled on foliage.                                  |                           |  |  |  |

NOTE: Injury may occur on African violet, Boulan fern, Crassula, Ilex, Juniper (Canaerti & Sabina), Maidenhair fern, Petunia, Pteris fern, and youngplants.

**GREENHOUSE ORNAMENTALS:** Carnation, Chrysanthemum, Geranium, Rose, Snapdragon. Foliar Spray - to control Aphids, Mealybugs, Spidermites, Thrips, Whitefly. Mix 15 - 16 mLof MALATHION 500 E with sufficient water to cover 100 m<sup>2</sup>. Repeat as necessary.

**GARDEN AND YARDS:** To control Ants, Clover mites, Grasshoppers, Millipedes, Spiders, and Sowbugs. Mix at the rate of 30 mLper litre of water.Repeat at 9 - 10 day intervals. Do not spray edible plants. Apply when insects congregate. For Clover mites, apply to exterior wall surfaces and grasses along building foundation.

**MOSQUITO LARVAE IN STANDING WATER:** Apply 1.1 L/ha of MALATHION 500 E (added to a suitable amount of water or oil as dilutant) as a coarse droplet spray to fish, farm ponds or dugouts. For use in water wholly confined within the property of the user and where there is no outflow beyond the property limits.

FLY CONTROL (HOUSE AND STABLE FLIES): MALATHION 500 E can be used in sprays alone or baited with sweetening agents to attract flies to their death. For the control of flies in and around buildings which house domestic animals, around yards, homes, processing plants, and other buildings, mix 2 L of MALATHION 500 E in 100 L of water. If the fly population is severe, also add 4 kg of sugar to the spray. In most areas adding molasses or sugar to the spray prolongs the insecticidal activity of MALATHION 500 E and serves as a fly attractant. Apply the spray at the rate of 5 L/100 m² on painted surfaces or 10L/100 m² on unpainted surfaces where flies congregate, (walls, ceilings, stanchions, windows, fences, garbage cans, floors, manure piles, etc.). Repeat applications as necessary.

Mosquitoes, flies (house or stable flies) and small flying insects for use outdoors such as farm yard areas (pens, manure piles, garbage areas), feedlots, pastures, stabling areas and around buildings and undergrowth, apply as 2% space spray, mist or fog at the rate of 26-40 L/ha. For use in ULV cold aerosol applicators, apply MALATHION 500 E at full strength at the rate of 0.85-1.125 L/ha.

DO NOT APPLY AS A FOG, AEROSOL, MIST OR SPACE SPRAY IN RESIDENTIAL AREAS.

Residential areas are defined as sites where bystanders including children may be potentially exposed during or after spraying. This includes around homes, schools, parks, playgrounds, playing fields, public buildings or any other areas where the general public including children could be exposed.

### LIVESTOCK AND FARM BUILDINGS

**IN BACKRUBBERS FOR DAIRYAND BEEF CATTLE:** (including lactating animals): To control hornflies and as an aid to controlling lice on both dairyand beef cattle, provide a 2% mixture of MALATHION 500 E by mixing 1 litre MALATHION 500 E with 25 litres of diesel or fuel oil.

**IMPORTANT:** DO NOT apply to animals under one month of age. Do not apply to cattle within 30 days of slaughter.

**TO SPRAY BEEF CATTLE, NON LACTATING DAIRY COWS, SWINE, SHEEP AND GOATS:** To control hornflies and lice, spray animals thoroughly with a solution of 1 litre of MALATHION 500 E to 100 litres of water (or 10 mLto 10 Lof water). To control ticks on these animals, double the above concentration i.e. 2 litres to 100 litres of water. DO NOT apply to adult animals nursing young. Avoid contamination of feed and water troughs. Avoid treating eyes, ears and nose.

**CAUTION:** Do not spray milking cows, beef cattle or swine within 2 weeks of freshening, or 30 days of slaughter.

**CAUTION:** Wait 14 days before using MALATHION 500 E on freshly white-washed surfaces. Do not use in milk rooms. Avoid contamination of feed and food products, drinking fountains and feed troughs. Remove lactating animals and calves under 1 month of age from buildings before treating.

TO SPRAY BARNS, PIG PENS, POULTRY HOUSES, OUTBUILDINGS: To control flies, poultry lice, Northern Fowl Mites and Chicken Red Mites, spray walls or paint roosts with a mixture of 120 to 190 mL of MALATHION 500 E to 10 litres of water. To rid poultry houses of ticks, mix 500 mL of MALATHION 500 E to 10 litres of water and spray liberally on walls, ceilings and into all crevices. Spray roosts, floor litter, cages and shipping crates, also spray poultry houses from the outside, paying special attention to doors, windows, manure heaps, etc. Repeat as necessary. Allow 14 daysbefore applying to freshly whitewashed surfaces.

**TO RID POULTRY OF MITES AND LICE:** Mix 90 to 120 mL of MALATHION 500 E to 10 litres of water and spray at the rate of 10 litres per 200 to 300 birds to rid poultry of Northern Fowl Mites and lice, and aid in the control of Red Mites. Repeat in 4 to 8 weeks. Do not apply within 1 week of slaughter. Avoid use in cold or drafty conditions.

**HOGS:** To control Sarcoptic mange mites, make a 1% spray by mixing 200 mL of MALATHION 500 E with 10 litres of water. Apply 2 litres of the diluted spray per animal. Repeat in 12 days, if necessary. Do not apply to animals under one month of age. Do not apply to adult animals nursing young. May be used up to time of slaughter.

**KENNELS:** Clear the area of bedding and debris before treating. Spray animals quarters thoroughly at the rate of 250 - 500 mL of MALATHION 500E per 10 litres of water, paying special attention to cracks, crevices, etc. Apply 5 litres of spray per 100m<sup>2</sup>. Provide fresh bedding after treatment.

# FLOUR MILLS, GRAIN ELEVATORS, GRANARYBINS (EMPTY) AND GRAIN BOX CARS

<u>Pests controlled:</u> Confused flour beetles, flat grain beetles, granary weevils, grain mites, Indian meal moths, lesser grain borers, red flour beetle, rice weevils, rusty grain beetles, saw toothed grain beetles.

<u>Spray Mixture:</u> One litre of MALATHION 500 E in either 15 litres of water or 15 litres of deodorized kerosene (The deodorized kerosene solution should be made up of 4 parts kerosene type solvent plus one part aromatic hydrocarbon type solvent).

<u>Directions for Use:</u> Before storing new grain, clean premises thoroughly, including floors, walls, under and behind machinery or equipment. Remove and burn all sweepings and debris. Re-clean before re-treatment. Maintain good sanitation at all times. Spray to the point of run-off or at the rate of approximately 5 litres of spray mixture per  $100 \, \text{m}^2$ . Use spray equipment and nozzles that will produce a coarse spray. This same spray should be applied around the outside of bins and elevators to help prevent re-infestation.

<u>Flour Mills:</u> Spray floors, walls, ceilings, under and behind milling machines, bins and areas where insects may hide and breed. Pay particular attention to cracks and crevices from which insects emerge. Clean and spray floors and walls of the warehouse before stockpiling of sacked or boxed flour or sack bundles.

Grain Elevators, Granary Bins: Whenever these areas become empty, clean and then spray. Every three weeks, clean and spray the work floor, walls and surrounding areas. Grain Box Cars: Before loading, clean, then starting at a point on the car wall approximately 60 cm above the estimated sack line level, spray the walls and floor, using 4 - 5 litres of spray per car. Allow sprayed cars to stand empty with door open until the spray has thoroughly dried. Line the walls and floor of the car with kraft paper and then load.

### **Precautions**

Use a respirator when spraying in closed areas. Do not apply directly to grain or flour. Application must be made by an experienced or trained person. Wait until spray has thoroughly dried before storing grain in treated areas. MALATHION 500 E must be applied only to empty grain holding facilities. It must not be sprayed directly on grain milling equipment while the mill is in operation.

### STORED GRAIN PROTECTION

**WHEAT, RYE, CORN, BARLEYAND OATS:** For the protection of stored grain such as wheat, oats, corn, rye, or barley against confused flour beetle, granary weevil, rice weevil, saw-toothed grain beetle, flat grain beetle, red flour beetle, rusty grain beetle, lesser grain borer, Indian meal moth and grain mites, apply as follows:

WHEAT, RYE AND CORN 20 mL/1000 kg in 10 - 20 L water BARLEY 24 mL/1000 kg in 10 - 20 L water OATS 34 mL/1000 kg in 10 - 20 L water

Grain treated with MALATHION 500 E should not be offered for sale until seven (7) days after treatment. To protect stored grain from attack by Indian meal moth, apply MALATHION 500 E to the surface of clean or un-infested grain at the rate of 600 mL in 5 - 10 L of water per 100 m² of grain surface area. Apply spray evenly over the surface of the grain and rake to a depth of 15 cm. Apply immediately after grain is loaded into storage.

Any of the standard spray applicators on the market which can be calibrated to deliver a known volume of liquid are suitable for applying MALATHION500 E.

For small amounts of grain in farm storage, where special application equipment is not available, any type of low pressure sprayer holding 5 L or more can be used. The spray can be applied to the grain stream as the grain is being elevated into storage. The first step would be to test spray in a tank of water to determine the rate at which the sprayer is discharging - then regulate the flow of grain to get the proper amount of spray.

**MUNICIPAL DUMPS, REFUSE AREAS, SEWAGE LINES:** To control cockroaches apply 60 mL of MALATHION 500 E in one litre of oil or water to wet the area requiring treatment. Repeat as necessary.

### **PRECAUTIONS**

### KEEP OUT OF REACH OF CHILDREN.

Harmful if swallowed. Avoid breathing of spray mist. Avoid repeated or prolonged contact with skin, eyes and clothing. Wash thoroughly. Avoid contamination of feed and foods. DO NOT use in dwellings. Do not contaminate drinking troughs. Wash after handling or using. Avoid contamination of ponds, lakes, streams and other bodies of water which contain fish life or which may be used for irrigation or domestic purposes. Do not use in milk rooms. Remove lactating animals and calves under 1 month of age from buildings before treating. Do not apply oil-based sprays to ornamentals as injury may occur. Use a respirator when spraying in closed areas. This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning equipment. If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's website at: www.croplife.ca/.

#### **FIRST AID**

TERMINATE EXPOSURE - Remove patient from area. Remove all contaminated clothing. Wash skin with liberal quantities of soapy water. CLEAN UNDER FINGER AND TOE NAILS.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

IF SWALLOWED: Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by poison control centre or doctor. This product contains a petroleum distillate. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

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

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

### TOXICOLOGICAL INFORMATION

MALATHION 500 E may cause cholinestenase inhibition.

Signs and Symptoms:

MILD CASES - headache, fatigue, giddiness, sweating.

MODERATE CASES - blurring of vision, nausea, vomiting, tightness of chest, difficulty in breathing, abdominal cramps, diarrhea, salivation. MEDICAL TREATMENT-ATROPINE IS ANTIDOTAL.

SEVERE CASES - Atropine 4 mg or 8 mg each intravenously at intervals of 10 - 15 minutes until atropinization achieved.

LESS SEVERE CASES - Atropine 2 mg to 4 mg intramuscularly at 30 minute intervals. When signs of full atropinization appear, reduce dosage and frequency to 1 mg every 2 to 4 hours. Full atropinization should be maintained for at least 24 hours from beginning of treatment.

For children, administer proportionately lower doses based on body weight.

### **DISPOSAL**

- 1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
- 2. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
- 3. Make the empty container unsuitable for further use.
- 4. Dispose of the container in accordance with provincial requirements.

5. For information on the disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on this label. It is an offence under the *PEST CONTROL PRODUCTS ACT* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.