**GROUP** 

1B

INSECTICIDE

[Container Label] DIMETHOATE

### CYGON® 480-AG SYSTEMIC INSECTICIDE

COMMERCIAL- AGRICULTURAL

**Emulsifiable Concentrate - Contains Dimethoate** 

#### WARNING (Skull & Crossbones) POISON

#### KEEP OUT OF REACH OF CHILDREN

 A Systemic Insecticide for the Control of Insects on Listed Vegetable, Fruit and Field Crops

ACTIVE INGREDIENT: dimethoate ......... 480 g/L
READ THE LABEL AND ATTACHED PAMPHLET BEFORE USING
SHIP and STORE BETWEEN 4°C and 30°C
REGISTRATION NUMBER 25651 PEST CONTROL PRODUCTS ACT

#### **EMERGENCY TELEPHONE NUMBER**

In case of medical emergency involving this product, call toll free, day or night, 1-800-331-3148.

FMC of Canada Limited 6755 Mississauga Road, Suite 204 Mississauga, ON L5N 7Y2 1-833-362-7722

®Registered trademark of Cheminova A/S

NET CONTENTS...10L, Bulk

THIS PRODUCT IS NOT TO BE USED AROUND HOMES OR OTHER RESIDENTIAL AREAS SUCH AS PARKS, SCHOOL GROUNDS, AND/OR PLAYING FIELDS. IT IS NOT FOR USE BY HOMEOWNERS OR OTHER UNCERTIFIED USERS.

#### **PRECAUTIONS:**

#### KEEP OUT OF REACH OF CHILDREN

May be harmful or fatal if swallowed, inhaled or absorbed through skin.

Concentrate material may cause eye irritation.

Avoid breathing vapours or spray mist.

Use only in well-ventilated areas.

Avoid contact with skin, eyes or clothing.

Wash thoroughly after using and before eating, drinking or smoking.

Keep the following personal protective equipment immediately available for use in case of emergency (for example, a broken package, spill, or equipment breakdown): chemical-resistant coveralls, chemical-resistant gloves, chemical-resistant head gear and a respirator.

**DO NOT** apply in greenhouses.

**DO NOT** contaminate food or feeds.

Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

**DO NOT** allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with the closed system is permitted.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application. All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

#### **ENVIRONMENTAL PRECAUTIONS:**

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.

TOXIC to birds, bees and other wildlife. Bees may be exposed through direct spray, spray drift, and residues on leaves, pollen and nectar in flowering crops and weeds. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. Avoid applications when bees are foraging in the treatment area in groundcover containing blooming weeds. To further minimize exposure to pollinators, refer to the complete guidance "Protecting Pollinators during Pesticide Spraying – Best Management Practices" on the Health Canada website (www.healthcanada.gc.ca/pollinators). Follow crop specific directions for application timing.

For applications on crops that are highly attractive to pollinators (alfalfa, clovers, canola, safflower, blueberries, cherries, peaches, pears, asparagus, and outdoor ornamentals excluding coniferous evergreens), or when using managed bees for pollination services:

DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.

For applications on all other crops:

Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging.

TOXIC to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland.

TOXIC to birds, mammals and aquatic organisms. Observe spray buffer zones specified under DIRECTIONS FOR USE.

To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to: heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (for example, soils that are compacted or fine textured such as clay).

Avoid application of this product when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

#### **FIRST AID:**

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

CALL A PHYSICIAN OR POISON CONTROL CENTRE IMMEDIATELY IN ALL CASES OF SUSPECTED POISONING.

**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 a poison control centre or doctor. 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, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

#### **TOXICOLOGICAL INFORMATION:**

This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. Treat symptomatically.

Dimethoate is an organophosphate that is a cholinesterase inhibitor. Typical symptoms of overexposure to cholinesterase inhibitors include headache, nausea, dizziness, sweating, salivation, and runny nose and eyes. This may progress to muscle twitching, weakness, tremor, incoordination, vomiting, abdominal cramps and diarrhea in more serious poisonings. A life-threatening poisoning is signified by loss of consciousness, incontinence, convulsions and respiratory depression with a secondary cardiovascular component. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate degree of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote.

Oximes, such as pralidoxime chloride, may be therapeutic if used early; however, use only in conjunction with atropine. In cases of severe acute poisoning, use antidotes immediately after establishing an open airway and respiration. With oral exposure, the decision of whether to induce vomiting or not should be made by an attending physician. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia.

#### **DECONTAMINATION:**

If accidental spillage of CYGON 480-AG SYSTEMIC INSECTICIDE should occur, scrub contaminated area immediately with a strong laundry soap solution or use household lye. Detergents are not satisfactory for this purpose. Repeated scrubbings are necessary on plain wood surfaces.

#### **DISPOSAL** (Re-fillable containers):

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

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.

#### **DISPOSAL** (Disposable containers):

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

#### STORAGE PRECAUTIONS:

Do not use, pour, spill or store near heat or open flame.

Keep out of direct sunlight.

Ship and store between 4°C and 30°C.

#### **NOTICE TO USER:**

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[Booklet Label] DIMETHOATE

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#### **DISPOSAL** (Re-fillable containers):

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#### **STORAGE PRECAUTIONS:**

Do not use, pour, spill or store near heat or open flame.

Keep out of direct sunlight.

Ship and store between 4°C and 30°C.

#### CYGON 480-AG SYSTEMIC INSECTICIDE CAN BE USED TO CONTROL:

- Aphids, mites and tarnished plant bugs on pears, peaches and strawberries
- Pear psylla on pears
- Fruit fly maggots on cherries
- Aphids and leafhoppers on beans, leafy vegetables, potatoes and tomatoes (field)
- Aphids on cole crops, peas and peppers
- Bean beetles, leaf miners, mites and tarnished plant bugs on beans and tarnished plant bug on eggplant
- Aphids and grasshoppers on certain field crops

### FOR RATES AND TIMES OF APPLICATION SEE THE ADDITIONAL INFORMATION IN THIS PAMPHLET

#### **VEGETABLE, FIELD AND FRUIT CROPS:**

- 1. CYGON 480-AG SYSTEMIC INSECTICIDE is a true systemic insecticide. A systemic insecticide is absorbed into the system of the plant upon application and, as with all systemic materials, may in specific plants cause reactions which are neither predictable nor common to all members of the species.
- 2. FOR PROPER TIMING of treatments for the control of specific pests on crops, consult local agricultural authorities. In general, apply adequate spray for good coverage when pests appear or when damage is first observed, unless otherwise indicated. Do not overdose or overspray.

3. Do not apply foliar sprays during the heat of the day or when temperatures are exceedingly high.

#### APPLICATION DIRECTIONS FOR USE:

<u>TANK MIXES</u>: This product may be tank mixed with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact FMC of Canada Limited at 1-833-362-7722 for information before applying any tank mix that is not specifically recommended on this label. OK

<u>FIELD SPRAYER APPLICATION:</u> **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) fine classification. Boom height must be 60 cm or less above the crop or ground.

<u>AIRBLAST APPLICATION:</u> **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated.

Turn off outward pointing nozzles at row ends, and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

<u>AERIAL APPLICATION:</u> **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 16 km/h at the application site at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) fine classification. Reduce drift caused by turbulent wingtip vortices. The nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

#### **AERIAL APPLICATION DIRECTIONS FOR USE:**

Use special care in aerial applications where damage from drift can be greater.

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

#### **Use Precautions:**

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual, developed by the Federal/ Provincial/ Territorial Committee on Pest Management and Pesticides*.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Appropriate spray buffer zones should be established between treatment areas and aquatic systems and treatment areas and significant wildlife habitat. Do not contaminate water through spray drift or by cleaning of equipment or disposal of wastes.

Do not apply this product directly to, or otherwise permit it to come into direct contact with non-target crops or other non-target species and do not permit spray mists to drift onto them. Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that result in fine particles (mist). Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. Apply only when there is little or no hazard from spray drift. Small quantities of the spray, which may not be visible, may contaminate and damage sensitive non-target habitat. A method must be used to detect air movement, lapse conditions, or temperature inversions (stable air) such as the use of balloons or a continuous smoke column at or near the spray site or a smoke generator on the spray equipment. If the smoke develops into layers or indicates a potential for hazardous spray drift, do not spray. Do not spray in winds exceeding 8 km/hour. Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

#### ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

#### Mixing/loading, clean-up and repair:

Wear chemical-resistant coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, chemical-resistant footwear, protective eyewear (goggles or face shield) and suitable respiratory protection. Suitable respiratory protection is defined as either a respirator with a NIOSH-approved organic-vapour-removing cartridge (with a prefilter) approved for pesticides or a NIOSH-approved canister approved for pesticides.

#### Applying by air:

Wear coveralls over a long-sleeved shirt, long pants, socks and chemical-resistant footwear.

#### Applying by groundboom and/or airblast:

Use a closed cab that provides both a physical barrier and respiratory protection (for example, dust/mist filtering and/or vapour/gas purification system). The closed cab must have a chemical-resistant barrier that totally surrounds the occupant and prevents contact with pesticides outside the cab. Wear coveralls over a long-sleeved shirt, long pants, socks and chemical-resistant footwear.

#### Applying by handheld equipment:

Wear chemical-resistant coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, chemical-resistant footwear and suitable respiratory protection. Suitable respiratory protection is defined as either a respirator with a NIOSH-approved organic-vapour-removing cartridge (with a prefilter) approved for pesticides or a NIOSH- approved canister approved for pesticides. Wear eye and head protection when applying above waist height, including overhead. Limit the amount of active ingredient handled per day to 2.8 kg per person (for example, approximately 2950 L of product at a rate of 0.96 g a.i./L) when applying by handheld equipment.

#### Applying by right-of-way sprayer:

Wear chemical-resistant coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, chemical-resistant footwear, protective eyewear (goggles or face shield) and suitable respiratory protection. Suitable respiratory protection is defined as either a respirator with a NIOSH-approved organic-vapour-

removing cartridge (with a prefilter) approved for pesticides OR a NIOSH-approved canister approved for pesticides. Wear head protection when applying above waist height, including overhead.

#### Applying by soil drench, soil injection or chemigation:

Wear chemical-resistant coveralls over a long-sleeved shirt, long pants, chemical-resistant gloves, socks, chemical-resistant footwear and suitable respiratory protection. Suitable respiratory protection is defined as either a respirator with a NIOSH-approved organic-vapour-removing cartridge (with a prefilter) approved for pesticides or a NIOSH-approved canister approved for pesticides.

#### **Product Specific Precautions:**

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at 1-833-362-7722 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following:

Volume: Apply the recommended rate in a minimum of 30 L of spray solution per hectare. Use boom pressure of 235 kPa or less. Avoid placing nozzles where spray will enter wing tip vortices.

#### RESISTANCE MANAGEMENT

For resistance management, please note that CYGON 480-AG SYSTEMIC INSECTICIDE contains a Group 1B insecticide. Any insect population may contain individuals naturally resistant to CYGON 480-AG SYSTEMIC INSECTICIDE and other Group 1B insecticides. The resistant individuals may dominate the insect population if this group of insecticides are 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 resistance:

- Where possible, rotate the use of CYGON 480-AG SYSTEMIC INSECTICIDE or other Group 1B insecticides with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that is effective on the target pest when such use is permitted.
- Insecticide 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 or to report suspected resistance contact FMC of Canada Limited at 1-833-362-7722 or at www.fmccrop.ca.

#### **NOTICE TO USER:**

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NOT FOR APPLICATION TO VEGETABLE CROPS BY AERIAL APPLICATION EQUIPMENT, EXCEPT FOR PEAS.

Vegetable Crops*	Insects Controlled	RATE OF CYG SYSTEMIC INSE		Remarks
		10 L water	Hectare	
Asparagus	Asparagus aphids	35 mL	2.3 L	Ground application only. Do not apply during the crop bloom period or during the 5-day period before the crop blooms.  For mature asparagus, applications can be made post-harvest only, until plant defoliation.  For immature asparagus: begin applications mid-May. Apply by boom or field sprayer using 675 L of water per hectare. For immature asparagus; <b>DO NOT</b> harvest for feed or food.  Max Number of Applications per Year – 2  Minimum Application Interval – 3-4 weeks  Restricted Entry Interval (REI) – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Beans	Aphids, bean beetles, leafhoppers, leaf miners, lygus bugs, mites, tarnished plant bugs	7 - 10 mL	0.7 - 1 L	Do not feed or allow livestock to graze treated forage. Do not apply within 7 days of harvest.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 14  Restricted Entry Interval (REI) – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Soybeans	Spider mites	10 mL	1 L	Do not feed or allow livestock to graze treated forage. Do not apply within 30

				days of harvest.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 7  Restricted Entry Interval (REI) – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Cole Crops: Broccoli, Brussels sprouts, cauliflower	Aphids	7 - 10 mL	0.7 - 1 L	Required interval before harvest:  Brussels sprouts - 21 days Broccoli, cauliflower - 7days  Max Number of Applications per Year - 2 Minimum Application Interval (Days) - 7  Restricted Entry Interval (REI) - 5 days  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Chinese broccoli, pak choi, chicory	Aphids	-	0.6 - 1 L	; pre-harvest interval 7 days; apply when aphids are present; ground application to foliage.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 7  Restricted Entry Interval (REI) – 4 days  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Eggplant	Tarnished plant bug	-	500 - 700 mL	Apply when bugs are found and flowering is seen. Treat again in 7 to 10 days if bugs are found. Consult local authorities for proper timing. Do not apply when

				bees are foraging. Do not apply within 7 days of harvest.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 7  Restricted Entry Interval (REI) – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Leafy Vegetables: Beet greens, turnip greens, kale, lettuce**, Swiss chard	Aphids, leafhoppers	7 mL	700 mL	**Do not use on Head Lettuce.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 7  Minimum 14-day PHI (Pre-Harvest Interval)  Restricted Entry Interval (REI) – 3 days  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Peas	Aphids	2.5 – 3.6 mL	275 - 380 mL	May be applied by air or ground equipment. Do not feed or allow livestock to graze treated vines within 21 days after application. Do not apply within 3 days of harvest.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 14  Restricted Entry Interval (REI) – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.

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Peppers	Aphids, pepper maggots	7 - 10 mL	0.7 - 1 L	Do not apply within 3 days of harvest.
				Max Number of Applications per Year – 2
				Minimum Application Interval (Days) – 7
				Restricted Entry Interval (REI) – 12 hours
				To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
				TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Potatoes Tomatoes (field)	Aphids, leafhoppers	5 - 9 mL	0.55 - 1 L	Consult local agricultural authorities for proper timing. Do not apply within 7 days of harvest.
Tolliatoes (field)				
				Max Number of Applications per Year – 2
				Minimum Application Interval (Days) – 7
				Restricted Entry Interval (REI) – 12 hours
				To protect pollinators, follow the instructions regarding bees in the
				Environmental Precautions section.
				TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.

<sup>\*</sup> NOTE: For each of the vegetable crops, apply CYGON 480-AG SYSTEMIC INSECTICIDE in sufficient water for good coverage. Repeat applications as necessary, except that label directions concerning required interval before harvest must be observed.

Field Crops	Insects Controlled	Rate of CYGON 480- AG SYSTEMIC	Remarks **
		INSECTICIDE / HA	

<sup>\*</sup> NOTE: For each of the vegetable crops: Apply at the recommended rate; do not exceed a maximum spray volume of 1000 L per hectare unless otherwise stated.

Alfalfa			
	Aphids, leafhoppers, reduction of alfalfa weevil larvae, lygus bugs	425 mL	Use a water volume of at least 200 L/ha with ground equipment. Do not graze or harvest for forage within 2 days after treatment.
	Blotch leaf miners  Grasshoppers - nymphs	550 mL	Do not graze or harvest for forage within 10 days after treatment.  OR  When using a rate of 850 mL or higher: Do not graze or harvest for forage within 28 days after
	Grasshoppers - adults	850 - 900 mL	treatment. Do not apply during bloom. Do not apply more than once per season.
Alfalfa (seed production)	Lygus bugs, plant bugs	1.1 L	Ground or aerial application.
			Restricted Entry Interval (REI) – 12 hours
			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
			TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Canary seed	Aphids	500 mL	Apply when more than 50 aphids per canary seed head between heading and the soft dough stage. Do not harvest within 21 days after application. Ground or aerial application.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 30
			Restricted Entry Interval (REI) – 12 hours
			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
			TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Canola (rape)	Aphids, leafhoppers, grasshoppers	850 - 900 mL	Repeat application only when necessary and do not treat within 21 days of harvest. Ground or aerial application.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 7
	Lygus Bugs	450 – 900 mL	Restricted Entry Interval (REI) – 12 hours
			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.

			TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Forage crops, grain	Lygus bugs, plant bugs	425 mL	Do not graze or harvest for forage within 2 days after treatment.
	Grasshoppers - low infestations	425 - 550 mL	Use a higher rate on grain. Do not graze or harvest for forage within 2 days after treatment.
	- nymphs	550 mL	Do not graze or harvest for forage within 2 days after treatment.
	- adults	850 mL - 1 L	Do not graze or harvest for forage within 28 days after treatment.  Ground or aerial application.
			Max Number of Applications per Year – 2 Minimum Application Interval (Days) – 7
			Restricted Entry Interval (REI) – 12 hours
			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
			TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Safflower	Grasshoppers (nymphs, adults)	550 mL - 1 L	Apply when damage is apparent and more than 15 grasshoppers per square metre are found in the crop. Repeat only when necessary. Use sufficient water for good coverage using ground or aerial application. Do not apply within 21 days of harvest.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 7
			Restricted Entry Interval (REI) – 12 hours
			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
			TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Sweet clover, red	Sweet clover weevils	850 mL - 1.1 L	Do not graze or harvest for forage within 28 days after treatment. Ground or aerial application.

clover, alsike clover			Max Number of Applications per Year – 2
clovel, aisike clovel			Minimum Application Interval (Days) – 7
			Transman representation interval (Sujo)
			Restricted Entry Interval (REI) – 12 hours
			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
			TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Pastures, wasteland	Grasshoppers - nymphs - adults	550 mL 850 mL - 1 L	Do not graze or harvest for forage within 2 days after treatment.  Do not graze or harvest for forage within 28 days after treatment.  Use higher rate for adult grasshopper control on wasteland.  Max Number of Applications per Year – 2
			Minimum Application Interval (Days) – 7
			Restricted Entry Interval (REI) – 12 hours
			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
			TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Wheat	Orange blossom wheat midges	1 L If midge population persists at 3 days apply a second treatment.	If adult midges are present (1 midge / 4-5 wheat heads), sprays should be applied when 25% of the wheat head has fully emerged from the boot but before flowering has begun. At this stage, wheat first becomes susceptible to attack by the egg-laying females. Applications should be made in the late afternoon or evening when temperatures exceed 15°C and the wind speed is less than 10 km/h. High volume sprays will improve penetration of the crop. Proper timing of application is essential for control.
	Say's stinkbug	Use a water volume of at least 100 L/ha with ground equipment and 50 L/ha by air. Higher volume will provide more thorough	DO NOT apply to areas where bees are actively foraging or near apiaries as product is toxic to bees.  Consult proper authorities for further information concerning rates and time of application.  Ground or aerial application.
		coverage.	Max Number of Applications per Year – 2
			Minimum Application Interval (Days) – 7
			Minimum 35-day PHI (Pre-Harvest Interval) and 14-day PGI (Pre-Grazing Interval)
			Restricted Entry Interval (REI) – 12 hours
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			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
Wheat, oats, barley	Thrips	1 L	Ground or aerial application: Use sufficient water to obtain good coverage, (usually 110 - 275 L/ha).
	Aphids	425 mL	(Russian wheat aphids - suppression only.)
			Max Number of Applications per Year – 2 Minimum Application Interval (Days) – 7 Minimum 35-day PHI (Pre-Harvest Interval) and 14-day PGI (Pre-Grazing Interval)  Restricted Entry Interval (REI) – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.
Flax	Potato aphids	437 mL	One application per season; apply from late flowering to early green bole stage in sufficient water to provide good coverage; allow a pre-harvest interval of 21 days; may be applied by either ground or aerial methods.  Restricted Entry Interval (REI) – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.

#### **CAUTIONS:**

Remove cattle prior to spraying.

#### DO NOT APPLY TO FRUIT CROPS BY AERIAL APPLICATION EQUIPMENT.

Fruit Crops	Insects Controlled	RATE OF CYGON 480-AG SYSTEMIC INSECTICIDE PER	Remarks
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<sup>\*\*</sup> NOTE: Use sufficient water for good coverage when utilizing ground or aerial equipment.

This formulation is not suited to application in oil.

\*\* NOTE: For each of the Field Crops: Apply at the recommended rate; do not exceed a maximum spray volume of 1000 L per hectare unless otherwise stated.

		10 L water	1,000 L water	Hectare	
Pears	Aphids, mites, pear psyllas	10 - 12.5 mL	1 - 1.25 L	-	Apply when insects first appear, using sufficient water for good coverage. Repeat as necessary.  Apply at the recommended rate; do not exceed a maximum spray volume of 3000 L per hectare unless otherwise stated.
	Tarnished plant bugs	6.25 mL	625 mL	-	Maximum rate is 1.44 kg a.i./ha (or max of 3 L of product per hectare) Apply at pre-bloom. Minimum 28-day PHI (Pre-Harvest Interval) Max Number of Applications per Year – 2 Minimum Application Interval (Days) – 10  Restricted Entry Intervals (REI): Thinning – 28 days Hand-line irrigation – 17 days All other activities – 1 day  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Blueberry (lowbush)	Blueberry maggots	-	-	580 - 830 mL	Apply pesticide in sufficient water for good coverage one week after first berries ripen. Do not apply foliar spray when daytime temperatures exceed 25°C. Use no more than 1,000 L spray/ha. Apply a maximum of two applications per season. Date of first application should usually occur between July 5 and 15 depending on area and season. Apply second spray in 10 - 12 days if needed.  Minimum 21-day PHI (Pre-Harvest Interval)  Restricted Entry Intervals (REI) – 12 hours  Apply pesticide in sufficient water for good coverage one week after first berries ripen. Do
(highbush)	Blueberry maggots  Spotted Wing Drosophila (SWD) Drosophila suzukii			830 mL	not apply foliar spray when daytime temperatures exceed 25°C. Use no more than 1,000 L spray/ha. Apply a maximum of two applications per season. Date of first application should usually occur between July 5 and 15, depending on area and season. Apply second spray in 10 - 12 days if needed.  Minimum 21-day PHI (Pre-Harvest Interval)  Restricted Entry Intervals (REI) – 12 hours
					Use an air-blast orchard sprayer to apply the pesticide. Weather conditions should be checked frequently (every 15 minutes) during application of CYGON 480-AG SYSTEMIC INSECTICIDE by air-blast sprayer as wind speed and direction, air temperature and

					relative humidity all affect the spray application of pesticides. Wind speed should be from 2 to 10 km/h. Relative humidity should not be less than 50%. Air temperature should not exceed 25°C.  For control of Spotted Wing Drosophila Apply post-harvest only, to control spotted wing Drosophila (adults and larvae in fruit) that may otherwise infest adjacent crops. Timing varies, depending on variety of highbush blueberry.  Foliar application only, using conventional ground application equipment. Use sufficient water volume to ensure thorough coverage, to a maximum of 1000 L/ha.  Maximum 2 applications per year with a reapplication interval of 15 days.  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Peaches (non-bearing)	Tarnished plant bugs  Aphids, mites	5 mL 10 - 15 mL	500 mL 1 - 1.5 L	1.7 L	Spray when insects first appear and repeat as necessary using sufficient water for good coverage.  Apply at the recommended rate; do not exceed a maximum spray volume of 3000 L per hectare unless otherwise stated.  Some defoliation may occur under cold wet soil and/or slow drying conditions during and following application. Least injury has occurred when sprays were applied in the morning while temperatures are moderate and drying conditions are fairly good.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 10  Minimum 40-day PHI (Pre-Harvest Interval)  Restricted Entry Intervals (REI): Thinning – 32 days Hand-line irrigation – 20 days All other activities – 3 days  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Strawberries (bearing)	Tarnished plant bugs	12.5mL	1.25 L	2.75 L	Apply first spray when first blooms appear and the second application 10 to 12 days after if needed. Do not spray within 7 days of harvest.  Apply at the recommended rate; do not exceed a maximum spray volume of 1000 L per

					hectare unless otherwise stated.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 10  Restricted Entry Interval (REI) – 2 days  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are
					not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Strawberries (bearing, non- bearing)	Aphids, mites	10 mL	1 L	2.25 L	Spray when insects first appear and repeat as necessary using sufficient water for good coverage. Do not apply within 7 days of harvest.  Apply at the recommended rate; do not exceed a maximum spray volume of 1000 L per hectare unless otherwise stated.  Max Number of Applications per Year – 2  Minimum Application Interval (Days) – 10  Restricted Entry Interval (REI) – 2 days  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
Sweet cherries	Black and western cherry fruit fly maggots	5 mL	500 mL	2.25 L	Apply no later than 6 days after the first adult fly has been trapped. Apply once only. Apply at the recommended rate; do not exceed a maximum spray volume of 3000 L per hectare unless otherwise stated.  Max Number of Applications per Year – 2  Do not spray within 21 days of harvest.  Restricted Entry Intervals (REI): Thinning – 20 days Hand-line irrigation – 9 days All other activities – 12 hours

					To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.
Sour cherries	Black and western cherry fruit fly maggots	5 mL	500 mL	2.25 L	Apply no later than 6 days after the first adult fly has been trapped and repeat in 14 days if required.  Apply at the recommended rate; do not exceed a maximum spray volume of 3000 L per hectare unless otherwise stated.  Do not spray within 21 days of harvest.  Restricted Entry Intervals (REI): Thinning – 20 days Hand-line irrigation – 9 days All other activities – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. DO NOT apply during the crop blooming period or during the 5-day period before the crop blooms.

DO NOT APPLY TO NUT CROPS BY AERIAL APPLICATION EQUIPMENT.

Nut Crop	Insects Controlled	Rate of CYGON 480-AG SYSTEMIC INSECTICIDE per Hectare	Remarks
Filberts, hazelnuts	Aphids	5 L	One application per season; apply when aphids appear; preharvest interval - 45 days; primarily for use on young plantlings.
			Apply at the recommended rate; do not exceed a maximum spray volume of 1000 L per hectare unless otherwise stated.
			Restricted Entry Intervals (REI): Thinning – 34 days Hand-line irrigation – 21 days All other activities – 5 days
			To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.

	TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.
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The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than FMC of Canada Limited under the User Requested Minor Use Label Expansion program. For these uses, FMC of Canada Limited has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

Field Crops	Insects Controlled	Rate of CYGON 480- AG SYSTEMIC INSECTICIDE / HA	Remarks **
Annual canarygrass	Aphids	500 mL	Apply when more than 50 aphids per canary seed head between heading and the soft dough stage. Do not harvest within 21 days after application. Ground or aerial application.  Max Number of Applications per Year – 1  Restricted Entry Interval (REI) – 12 hours  To protect pollinators, follow the instructions regarding bees in the Environmental Precautions section.  TOXIC to bees. Avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.  Annual canarygrass seeds can be harvest for human consumption.

#### **SPRAY BUFFER ZONES**

Spot treatments using hand-held equipment do not require a spray buffer zone. Use of soil drench or soil incorporation do not require a spray buffer zone.

The sprayer buffer zones specified in Table 1 below are required between the point of direct application and the closest downwind edge of sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

**Table 1 Buffer zones** 

			Spray Buffer Zones (metres) Required for the Protection of:				
Method of	Crop	Freshwater Habitat	of Depths:	Estuarine/Marine Habitat of Depths:			
application		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m		
Field sprayer	Field crops						
	Canary grass (seed production	1	0	1	0		
	Canola (rape)	1	1	1	1		
	Alfalfa (forage and seed pro-	duction), clover (sweet, red,					
	alsike), cereals (barley, oats,						
		non-cropland (fence rows, field	2	1	1	1	
		egistered crops), pastures and					
	wastelands, safflower, soybe	eans					
	Vegetables						
	Peas (field and/or canning)		1	0	1	0	
		lery, eggplant, leafy vegetables	1	1	1	1	
		e, Swiss chard, turnip greens)	-	-		-	
		, Chinese broccoli, cole crops	2	1	1	1	
	(brussel sprouts), peppers, pe						
	Cole crops (broccoli, caulifle	ower)	2	1	2	1	
	Asparagus		3	1	2	1	
	Berries						
	Blueberry (low and highbush	1)	1	1	1	1	
	Strawberries		3	2	3	1	
Airblast	Orchards	T.					
	Cherries (sour, sweet)	Early growth stage	10	4	10	3	
		Late growth stage	5	2	4	2	
	Tree nuts (filberts, hazelnuts)  Pears	Early growth stage	15	5	20	10	
		Late growth stage	5	3	10	4	
		Early growth stage	15	5	15	5	
		Late growth stage	10	3	5	3	
	Peaches	Early growth stage	20	10	15	5	
		Late growth stage	10	4	10	4	
	Berries		1	1	1	1	
	Blueberry (low and	Early growth stage	4	1	3	1	
	highbush)	Late growth stage	2	1	2	1	
Aerial	Field crops		1	1	1	1	
	Canary grass (seed	Fixed wing	1	0	1	0	
	production), flax	Rotary wing	1	0	1	0	
	Canola (rape)	Fixed wing	5	1	2	1	
		Rotary wing	3	1	1	1	
	Alfalfa (forage and seed	Fixed wing	10	1	5	1	
	production), clover (sweet, red, alsike)	Rotary wing	5	1	3	1	
	Cereals (barley, oats, rye,	Fixed wing	10	1	5	1	
	wheat), forage crops (clover, grasses, hay, grain), non-cropland (fence rows, field edges except adjacent to unregistered crops), pastures and wastelands, safflower, soybeans Vegetables	Rotary wing	5	1	1	1	

	Peas (field and/or canning)	Fixed wing	1	0	1	0	
	reas (field and/or canning)	Rotary wing	1	0	1	0	
	Beans (pole, snap),	Fixed wing	5	1	5	0	
	soybeans	Rotary wing	3	1	1	0	
	Berries						
	Blueberry (low and	Fixed wing	4	1	1	1	
	highbush)	Rotary wing	1	1	1	1	

The spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.