

**GROUP M5 FUNGICIDE**



**BRAVO® ZNC**  
Agricultural Fungicide

COMMERCIAL – AGRICULTURAL

SUSPENSION

**ACTIVE INGREDIENT:**

Chlorothalonil ..... 500 grams per litre

Contains 1,2-benzisothiazolin-3-one at 0.01% as a preservative.

**KEEP OUT OF REACH OF CHILDREN  
READ THE LABEL AND ATTACHED BOOKLET BEFORE USING**

CAUTION



POISON

**WARNING: EYE IRRITANT  
POTENTIAL SKIN SENSITIZER**

**WHEN USING THIS PRODUCT, MIXERS AND LOADERS CANNOT HANDLE MORE THAN  
340 KG A.I. CHLOROTHALONIL (680 L) PER PERSON PER DAY**

REGISTRATION NO. **33515**  
PEST CONTROL PRODUCTS ACT

NET CONTENTS: **5 L to 25 L**

**Syngenta Canada Inc.**  
140 Research Lane, Research Park  
Guelph, Ontario N1G 4Z3  
Telephone: 1-877-964-3682

Label

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## 1.0 NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the 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.

## 2.0 FIRST AID

**IF POISONING IS SUSPECTED, IMMEDIATELY** contact a physician or a poison control centre. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**If swallowed**, call a poison control centre or doctor **IMMEDIATELY** for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**If in eyes**, hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

**If on skin or clothing**, take off contaminated clothing. Rinse skin **IMMEDIATELY** with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

**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.

## 3.0 TOXICOLOGICAL INFORMATION

Treat symptomatically.

Persons having an allergic reaction respond to treatment with antihistamines or steroid creams and/or systemic steroids.

## 4.0 PRECAUTIONS

**WARNING - Causes eye irritation. Harmful if inhaled. Potential skin sensitizer.**

**KEEP OUT OF REACH OF CHILDREN.**

DO NOT get in eyes.

**Restricted Entry Interval:** DO NOT re-enter treated areas within 12 hours except for following activities for crops listed:

Crop	Activity	Restricted Entry Interval (REI) (days)
Carrot	Hand harvesting	22
	Scouting	7
Parsnip	Hand harvesting	21
	Scouting	5
Onions (dry bulb and green bunching)	Hand weeding	6
	Scouting	1
Cole crops (broccoli, Brussels sprouts, cauliflower)	Topping (Brussels sprouts)	5
	Scouting	5
Cabbage	Scouting, thinning	2
	Hand weeding	1
Chickpeas	Scouting	2
Peas (dry)	Scouting	1
Lentils	Scouting	3
Tomatoes, processing	Scouting	7
Asparagus	Scouting	4
Highbush blueberries	Handset irrigation	3
Cherry (sweet and sour)	Thinning	8
Corn, sweet	Hand harvesting	18
	Mechanical harvesting	14
	Scouting	1
Peach and nectarine	Thinning	11
Cranberry	Scouting	5
Filberts (hazelnuts)	Scouting	18
	Transplanting	10
	Orchard maintenance	2

Do not hand harvest processing tomatoes.

AVOID contact with skin or clothing. Wash exposed areas of skin with soap and warm water after handling or using. DO NOT take internally. AVOID breathing spray mist. This product may produce temporary allergic side effects, characterized by redness of the eyes, mild bronchial irritation and redness or rash on exposed skin areas. DO NOT store near feed or foodstuffs. Store in a cool place. Protect from excessive heat. Apply only to areas specified on label.

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

If this pest control product is to be used on a commodity that may be exported to other countries in the world and you require information on acceptable residue levels in these countries, please contact Syngenta Canada Inc. at 1-87-SYNGENTA / 1-877-964-3682.

**DO NOT apply using aerial application equipment.**

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## 5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Wear coveralls over long pants, and a long-sleeved shirt, chemical resistant gloves and socks and shoes during mixing, loading, clean-up and repair activities. Wear pants, a long-sleeved shirt, chemical resistant gloves, and socks and shoes during application. Gloves are not required during application within a closed cab.

Mixers/loaders/applicators in greenhouses and mushroom houses must wear a respirator with a NIOSH-approved organic vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH-approved canister approved for pesticides.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves with soap and water before removing.

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

Wear freshly laundered clothes daily.

Do not wear contaminated shoes.

All users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

## 6.0 ENVIRONMENTAL PRECAUTIONS

TOXIC to aquatic organisms. Observe buffer zone specified under DIRECTIONS FOR USE. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil or clay.

Avoid application when heavy rain is forecast.

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

## 7.0 STORAGE

Keep in original container, tightly closed, during storage. Store in a cool, dry, well ventilated area away from feed and foodstuffs, and out of the reach of children and animals. If frozen, allow to thaw and agitate thoroughly prior to use.

## 8.0 DISPOSAL

For information on 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.

**For Recyclable Containers**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,  
CALL 1-800-327-8633 (FASTMED)***

BRAVO® and Weather Stik® are trademarks of a Syngenta Group Company.

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Pamphlet

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## Table of Contents

	<u>Section Number</u>
NOTICE TO USER.....	1.0
FIRST AID .....	2.0
TOXICOLOGICAL INFORMATION.....	3.0
PRECAUTIONS.....	4.0
PERSONAL PROTECTIVE EQUIPMENT (PPE).....	5.0
ENVIRONMENTAL PRECAUTIONS .....	6.0
STORAGE .....	7.0
DISPOSAL .....	8.0
PRODUCT INFORMATION.....	9.0
DIRECTIONS FOR USE.....	10.0
General Information.....	10.1
Ground Application.....	10.2
General Precautions.....	10.2.1
Mixing Instructions.....	10.2.2
Spraying Instructions.....	10.2.3
Equipment Clean-Up.....	10.2.4
Airblast Application.....	10.3
Vegetative Filter Strips.....	10.4
Spray Buffer Zones.....	10.5
CROP USE DIRECTIONS.....	11.0
Carrot .....	11.1
Parsnip.....	11.2
Onions (Dry Bulb and Green Bunching).....	11.3
Celery .....	11.4
Broccoli, Brussels Sprouts, Cauliflower.....	11.5
Cabbage.....	11.6
Chickpea.....	11.7
Dry Peas.....	11.8
Lentils .....	11.9
Tomato (including processing tomatoes).....	11.10
Cucurbit Vegetables (Cucumber, Cantaloupe, Muskmelon, Honeydew).....	11.11
Watermelon, Squash, Pumpkin.....	11.12
Cherry.....	11.13
Peach and Nectarine.....	11.14
Highbush Blueberry.....	11.15
Strawberry.....	11.16
Cranberry.....	11.17
Wheat.....	11.18
Sweet Corn.....	11.19
Mushroom.....	11.20

2023-1876  
2024-02-16

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<b>MINOR USES .....</b>	<b>12.0</b>
<b>Ginseng .....</b>	<b>12.1</b>
<b>Cucurbit Vegetables .....</b>	<b>12.2</b>
<b>Lowbush (Wild) Blueberry (Sprout Year).....</b>	<b>12.3</b>
<b>Evening Primrose.....</b>	<b>12.4</b>
<b>Asparagus.....</b>	<b>12.5</b>
<b>Filberts (Hazelnuts).....</b>	<b>12.6</b>
 <b>RESISTANCE MANAGEMENT RECOMMENDATIONS.....</b>	 <b>13.0</b>



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## **9.0 PRODUCT INFORMATION**

BRAVO® ZNC Agricultural Fungicide is an excellent fungicide when used according to label directions for control of a broad spectrum of plant diseases. BRAVO ZNC Agricultural Fungicide can be used effectively in dilute or concentrate sprays. Thorough uniform coverage is essential for disease control.

The required amount of BRAVO ZNC Agricultural Fungicide should be added slowly into the spray tank during filling. With concentrate sprays, premix the required amount of BRAVO ZNC Agricultural Fungicide in a clean container and add to the spray tank as it is being filled. Keep agitator running when filling spray tank and during spray operations.

## **10.0 DIRECTIONS FOR USE**

### **10.1 General Information**

As this product is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.

**DO NOT** contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

This product may be tank mixed with a fertilizer, a supplement, or 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 Syngenta Canada Inc. at 1-87-SYNGENTA (1-

877-964-3682) for information before applying any tank mix that is not specifically recommended on this label.

Syngenta Canada Inc. has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) of all potential tank mixes under all environmental conditions or for all crop varieties. Tank mixes that are not specifically listed on this label should be tested on a small area first, under local conditions and using standard practices, to confirm the tank mix is suitable for widespread application.

To determine the physical compatibility of this product with other products, use a jar test.

Always read and follow label directions including WALES mixing order.

**DO NOT** use on greenhouse-grown agricultural crops, with the exception of celery seedbeds.

**DO NOT** allow effluent or runoff from greenhouses and mushroom houses containing this product to enter lakes, streams, ponds or other bodies of water.

Dosage rates on this label indicate litres of BRAVO ZNC Agricultural Fungicide per hectare, unless otherwise stated. Applications should be made in sufficient water to obtain adequate coverage of foliage. Volume of water to be used will vary with crop and amount of plant growth. Spray volume usually will range from 225 - 1,600 litres per hectare for dilute sprays and 50 - 100 litres per hectare for concentrate ground sprays.

## 10.2 Ground Application

### 10.2.1 General Precautions

Wear coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair.

**Field sprayer application:** **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 and Biological Engineers (ASAE) medium classification. Boom height must be 60 cm or less above the crop or ground.

### 10.2.2 Mixing Instructions

1. Ensure that the sprayer interior is clean, then fill the spray tank with  $\frac{1}{2}$  the required amount of water and engage gentle agitation. Good agitation is indicated by a rippling or rolling action on the surface of the water.
2. Add any WG or DF formulation mix partners and agitate to ensure complete mixing.
3. Add BRAVO ZNC (SC) and agitate to ensure complete mixing.
4. Add any additional SC formulation mix partners and agitate to ensure complete mixing.
5. Add any EC formulation mix partners and agitate to ensure complete mixing.
6. Fill the tank to  $\frac{3}{4}$  the required amount of water.
7. Add any solution (SN) formulation mix partners and agitate to ensure complete mixing.
8. Finish filling the sprayer with water, maintaining good agitation.
9. After any break in spraying operations, agitate thoroughly before spraying again.
10. Spray the pesticide suspension the same day as mixing.

11. Do not mix, load or clean spray equipment where there is a potential to contaminate wells or aquatic systems.

**NOTE:** WG and DF formulations are preferentially batch mixed.

**NOTE:** SC, SN, and SL formulations may be inducted or batch mixed.

**NOTE:** EC formulations are preferentially batch mixed.

It is **NOT** recommended to combine solid (WG or DF) formulations with liquid tank mix partners within a single batch. Batch mix WG or DF formulations first, pump into the hopper, and then add liquid tank mix partners by induction or as an additional batch mix. When tank mixing multiple products, follow the mixing order outlined below:

### 10.2.3 Spraying Instructions

1. Water Volume: Specific to crop and disease. Consult the tabulated instructions for use which follow.
2. Spray Nozzles: 80° or 110° pre-orifice flat fan or air induction nozzles are recommended. Use 50 mesh nozzle screens. Do not use flood type nozzles, controlled droplet application equipment, spray foils or hollow cone nozzles.
3. Pressure: As recommended by the nozzle manufacturer.
4. Apply at uniform speed and avoid overlapping. Shut off spray boom while starting, turning, slowing or stopping to avoid potential crop injury from over application.

### 10.2.4 Equipment Clean-Up

#### Clean Up Before Spraying:

- Prior to using BRAVO ZNC Agricultural Fungicide, ensure that the spray tank, lines and filter are thoroughly clean.

#### Clean Up After Spraying:

- Thoroughly clean application equipment immediately after spraying. Do not allow any residue to dry within the spray tank.
- When using tank mixes, consult the tank-mix partner label for additional cleanup instructions.
- The following recommendations are provided:
  1. Drain and flush tank walls, boom and all hoses for ten minutes with a clean water/detergent mixture. Rinse with clean water. **Do not** clean the sprayer near desirable vegetation, wells or other water sources.
  2. Remove all nozzles and screens and wash separately.
  3. Dispose of all rinsate in accordance with provincial regulations.

### 10.3 Airblast Application

Wear coveralls over a long-sleeved shirt and long pants, chemical resistant gloves, socks and shoes during mixing, loading, clean-up, and repair activities. Wear a long sleeved-shirt, long pants, chemical resistant gloves, socks and shoes during application. Gloves are not required during application within a closed cab. Wear chemical-resistant gloves when leaving the cab for clean-up and repair.

In addition, wear chemical-resistant headgear during open cab airblast application. Chemical-resistant headgear includes Sou'Wester hat, chemical-resistant rain hat or large brimmed waterproof hat and hood with sufficient neck protection.

If handling more than 122 kg a.i./day (244 L), an applicator must wear a respirator with a NIOSH-approved organic vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH-approved canister approved for pesticides or use airblast equipment with an enclosed cab.

**Airblast application:** **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.

#### 10.4 Vegetative Filter Strips

A Vegetative Filter Strip (VFS) of at least 10 metres wide must be constructed and maintained. The VFS is required between the field edge and adjacent, downhill aquatic habitats to reduce risk to aquatic organisms from run-off. Aquatic habitats include, but are not limited to, lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, and estuaries.

The VFS is to be composed of grasses and may also include shrubs, trees, or other vegetation. Additional guidance can be found on the PMRA Environmental Risk Mitigation webpages.

Both VFS and spray drift buffer zones must be observed.

#### 10.5 Spray Buffer Zones

Spot treatments using hand-held equipment **DO NOT** require a spray buffer zone.

Spray buffer zones are to protect terrestrial and aquatic habitats from spray drift. Spray buffer zones are a separate requirement from VFS which are required to mitigate risks from run-off.

The spray buffer zones specified in the table 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.

Method of application	Crop	Spray Buffer zones (metres) Required for the Protection of:			
		Freshwater Habit of Depths:		Estuarine/Marine Habitats of Depths:	
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m
Field sprayer	Wheat, evening primrose	2	1	2	1
	Asparagus, carrots, sweet corn, parsnip, dry pea	3	1	3	1
	Celery, chickpeas, lentils, strawberry	3	1	3	2
	Cole crops, cucurbit vegetables, onions, tomatoes, ginseng, cabbage	4	1	4	2

Method of application	Crop		Spray Buffer zones (metres) Required for the Protection of:			
			Freshwater Habit of Depths:		Estuarine/Marine Habitats of Depths:	
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m
	Blueberries (lowbush, highbush)		5	1	5	3
	Cranberries		10	1	10	4
Airblast	Filberts (hazelnuts), blueberries (lowbush, highbush)	Early growth stage	40	15	40	30
		Late growth stage	30	5	30	20
	Stonefruit (cherries, peaches, nectarines)	Early growth stage	40	15	40	30
		Late growth stage	30	10	30	20

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.

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. This tool cannot be used to reduce the vegetative filter strips.



## 11.0 CROP USE DIRECTIONS

Application of any product containing chlorothalonil cannot be made more frequently than the Retreatment Intervals stated below.

### 11.1 Carrot

Crop	Carrot
Maximum Number of Applications per Year	7
Target Disease	Cercospora leaf blight ( <i>Cercospora carotae</i> ) Alternaria leaf blight ( <i>Alternaria dauci</i> )
Use Rate L/ha	2.4-3.2
Application Interval (days)	7-10
Remarks	Start applications when disease threatens and repeat at 7-10 day intervals. Use sufficient water to obtain adequate coverage.  DO NOT apply within 2 days of harvest.  <b>DO NOT apply using aerial application equipment.</b>

### 11.2 Parsnip

Crop	Parsnip
Maximum Number of Applications per Year	7
Target Disease	Root canker ( <i>Phoma complanata</i> )
Use Rate L/ha	2.8
Application Interval (days)	7-10
Remarks	Start applications in mid-August and repeat at 7-10 day intervals.  DO NOT apply within 7 days of harvest.  <b>DO NOT apply using aerial application equipment.</b>

### 11.3 Onions (dry bulb and green bunching)

Crop	Onions (dry bulb and green bunching)
Maximum Number of Applications per Year	2
Target Disease	Botrytis leaf blight ( <i>Botrytis squamosa</i> )
Use Rate L/ha	2.4-4.8
Application Interval (days)	7-10
Remarks	Start applications when disease threatens. Use sufficient water to obtain adequate coverage.  DO NOT apply within 7 days of harvest to dry bulb onions.  DO NOT apply within 14 days of harvest to green bunching onions.  <b>DO NOT apply using aerial application equipment.</b>

### 11.4 Celery

<b>Crop</b>	<b>Celery</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Early blight ( <i>Cercospora apii</i> )
<b>Use Rate L/ha</b>	1.6-2.4
<b>Application Interval (days)</b>	3-5
<b>Remarks</b>	<p>Start applications when transplants are set in the field. Apply BRAVO ZNC Agricultural Fungicide in sufficient water to obtain adequate coverage. DO NOT apply within 7 days of harvest.</p> <p>Start applications shortly after crop emergence. Use the higher rate under severe disease conditions.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>
<b>Target Disease</b>	Late blight ( <i>Septoria apicola</i> )
<b>Use Rate L/ha</b>	2.4-4.0
<b>Application Interval (days)</b>	3-10
<b>Remarks</b>	<p>Start applications when transplants are set in the field. Apply BRAVO ZNC Agricultural Fungicide in sufficient water to obtain adequate coverage. DO NOT apply within 7 days of harvest.</p> <p>Start applications shortly after crop emergence. Use the higher rate under severe disease conditions.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>
<b>Crop</b>	<b>Celery Seedbeds</b>
<b>Maximum Number of Applications per Year</b>	1
<b>Target Disease</b>	Early blight ( <i>Cercospora apii</i> ) and Late blight ( <i>Septoria apicola</i> )
<b>Use Rate L/ha</b>	2.0-2.4
<b>Remarks</b>	<p>For control of early blight and late blight in celery seedbeds, use 2.0-2.4 litres BRAVO ZNC Agricultural Fungicide per 1000 litres of water and apply 1,400 litres per hectare.</p> <p>Apply shortly after crop emergence. Use the higher rate under severe disease conditions.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

### 11.5 Broccoli, Brussels Sprouts, Cauliflower

<b>Crop</b>	<b>Broccoli, Brussels Sprouts, Cauliflower</b>
<b>Maximum Number of Applications per Year</b>	1
<b>Target Disease</b>	Alternaria leaf spot ( <i>Alternaria brassicae</i> ), Downy mildew ( <i>Peronospora parasitica</i> )
<b>Use Rate L/ha</b>	2.5-4.8

2023-1876  
2024-02-16

<b>Remarks</b>	Begin BRAVO ZNC Agricultural Fungicide application after transplants are set in the field (or shortly after emergence of field seeded crop) or when conditions favour disease development. Use sufficient water to obtain adequate coverage.  DO NOT apply within 7 days of harvest.  <b>DO NOT apply using aerial application equipment.</b>
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### 11.6 Cabbage

<b>Crop</b>	<b>Cabbage</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Alternaria leaf spot ( <i>Alternaria brassicae</i> ), Downy mildew ( <i>Peronospora parasitica</i> )
<b>Use Rate L/ha</b>	2.5-4.8
<b>Application Interval (days)</b>	7-10
<b>Remarks</b>	<p>Begin BRAVO ZNC Agricultural Fungicide application after transplants are set in the field (or shortly after emergence of field seeded crop) or when conditions favour disease development. Use sufficient water to obtain adequate coverage.</p> <p>DO NOT apply within 7 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

### 11.7 Chickpea

<b>Crop</b>	<b>Chickpea</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Ascochyta blight ( <i>Ascochyta rabiei</i> )
<b>Use Rate L/ha</b>	3.0-4.0 (first application) 2.0-3.0 (second application)
<b>Application Interval (days)</b>	10
<b>Remarks</b>	<p>Use 3.0-4.0 litres per hectare in first application and 2.0-3.0 litres per hectare in the second application. The first application must be applied before disease is established and no later than the onset of flowering and remaining application 10 days later.</p> <p>DO NOT apply within 14 days of harvest.</p> <p>Application of BRAVO ZNC Agricultural Fungicide in combination with Herbicides could result in phytotoxicity or yellowing of the crop.</p> <p>Apply only with ground application equipment in 220 litres of water per hectare.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

### 11.8 Dry Peas

<b>Crop</b>	<b>Dry Peas</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Ascochyta blight ( <i>Mycosphaerella pinodes</i> )
<b>Use Rate L/ha</b>	2.0 - 3.0
<b>Application Interval (days)</b>	10 - 14
<b>Remarks</b>	<p>The first application must be applied before disease is established and no later than the onset of flowering. Make a second application at early pod set, around 10 days after the first. Always apply the higher rate when conditions are favourable for disease.</p> <p>Application of BRAVO ZNC Agricultural Fungicide in combination with Herbicides could result in phytotoxicity or yellowing of the crop. <b>DO NOT</b> apply within 32 days of harvest.</p> <p>DO NOT feed the hay from treated crop to livestock.</p> <p>DO NOT allow grazing of treated crop.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

### 11.9 Lentils

<b>Crop</b>	<b>Lentils</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Ascochyta blight ( <i>Ascochyta lentis</i> ) Anthracnose ( <i>Colletotrichum truncatum</i> )
<b>Use Rate L/ha</b>	2.0 - 4.0
<b>Application Interval (days)</b>	10 -14
<b>Remarks</b>	<p>Apply BRAVO ZNC Agricultural Fungicide beginning at preflowering prior to row closure, make a second application 10 to 14 days after the first application (during bloom period).</p> <p>DO NOT apply within 48 days of harvest.</p> <p>Application of BRAVO ZNC Agricultural Fungicide in combination with Herbicides could result in phytotoxicity or yellowing of the crop.</p> <p>DO NOT feed the straw from treated crop to livestock.</p> <p>DO NOT allow grazing of treated crop.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

**11.10 Tomato (including processing tomatoes)**

Crop	Tomato (including processing tomatoes)
Maximum Number of Applications per Year	Tomatoes for processing: 2 at higher rate, 7 at lower rate All other tomatoes: 2
Target Disease	Early blight ( <i>Alternaria solani</i> ), Late blight ( <i>Phytophthora infestans</i> ), Septoria leaf spot ( <i>Septoria lycopersici</i> ), Anthracnose ( <i>Colletotrichum coccodes</i> )
Use Rate L/ha	2.4-4.0
Application Interval (days)	8-10 days at the lower rate or 14 days at the higher rate
Target Disease	Botrytis gray mold ( <i>Botrytis cinerea</i> )
Use Rate L/ha	4.8
Application Interval (days)	14
Remarks	Apply BRAVO ZNC Agricultural Fungicide in sufficient water to obtain adequate coverage. Begin applications when disease threatens and spray as per listed interval.  DO NOT apply within two (2) days of harvest.  <b>DO NOT apply using aerial application equipment.</b>

**11.11 Cucurbit Vegetables (Cucumber, Cantaloupe, Muskmelon, Honeydew)**

Crop	Cucumber, Cantaloupe, Muskmelon, Honeydew
Maximum Number of Applications per Year	2
Target Disease	Anthracnose ( <i>Colletotrichum orbiculare</i> ), Powdery mildew ( <i>Sphaerotheca fuliginea</i> ), Scab ( <i>Cladosporium cucumerinum</i> )
Use Rate L/ha	4.8
Application Interval (days)	7
Remarks	Apply BRAVO ZNC Agricultural Fungicide in sufficient water to obtain adequate coverage.  Begin applications when plants are in the first true leaf stage or when conditions are favourable for disease development.  Repeat applications at 7 day intervals.  DO NOT apply within two (2) days of harvest.  <b>DO NOT apply using aerial application equipment.</b>  <b>DO NOT apply via sprinkler irrigation system.</b>

**11.12 Watermelon, Squash, Pumpkin**

<b>Crop</b>	<b>Watermelon, Squash, Pumpkin</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Anthracnose ( <i>Colletotrichum orbiculare</i> )
<b>Use Rate L/ha</b>	3.2
<b>Application Interval (days)</b>	7
<b>Remarks</b>	<p>Apply BRAVO ZNC Agricultural Fungicide in sufficient water to obtain adequate coverage.</p> <p>Begin applications when plants are in the first true leaf stage or when conditions are favourable for disease development.</p> <p>Repeat application 7 days later.</p> <p>DO NOT apply within 2 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p> <p><b>DO NOT apply via sprinkler irrigation system.</b></p>
<b>Target Disease</b>	Scab ( <i>Cladosporium cucumerinum</i> )
<b>Use Rate L/ha</b>	4.8
<b>Application Interval (days)</b>	7
<b>Remarks</b>	<p>Apply BRAVO ZNC Agricultural Fungicide in sufficient water to obtain adequate coverage.</p> <p>Begin applications when plants are in the first true leaf stage or when conditions are favourable for disease development.</p> <p>Repeat application 7 days later.</p> <p>DO NOT apply within 2 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p> <p><b>DO NOT apply via sprinkler irrigation system.</b></p>

11.13 Cherry

<b>Crop</b>	<b>Cherry (Sweet and Sour)</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Blossom blight/Brown rot (Pre-harvest) ( <i>Monilinia fructicola</i> )
<b>Use Rate L/ha</b>	5.0-9.0
<b>Application Interval (days)</b>	10
<b>Remarks</b>	<p>Apply 1-2 applications from pink through shuck split at 10 days apart.</p> <p>DO NOT apply after shuck split to avoid fruit injury.</p> <p>DO NOT make more than 2 pre-harvest applications per season regardless of disease being treated.</p> <p>DO NOT apply within 40 days of harvest.</p> <p>Use higher rate per hectare for trees greater than 6 metres in height, or if weather is warm (above 16°C.) and wet during bloom.</p> <p>Apply in 500-1000 litres of water per hectare.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>
<b>Crop</b>	<b>Cherry (Sour)</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Cherry leaf spot (Pre-harvest) ( <i>Blumeriella jaapii</i> )
<b>Use Rate L/ha</b>	5.0-9.0
<b>Application Interval (days)</b>	10
<b>Remarks</b>	<p>Apply 1-2 applications from pink through shuck split at 10 days apart.</p> <p>DO NOT apply after shuck split to avoid fruit injury.</p> <p>DO NOT make more than 2 pre-harvest applications per season regardless of disease being treated.</p> <p>DO NOT apply within 40 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>
<b>Crop</b>	<b>Cherry (Sour)</b>
<b>Maximum Number of Applications per Year</b>	1
<b>Target Disease</b>	Cherry leaf spot (Post-harvest) ( <i>Blumeriella jaapii</i> )
<b>Use Rate L/ha</b>	5.0-7.2
<b>Remarks</b>	<p>Apply once to foliage 1-7 days after fruit is removed.</p> <p>Apply in 500-1000 litres water per hectare.</p> <p><b>DO NOT</b> make more than 1 post-harvest application per season regardless of disease being treated.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>



<b>Crop</b>	<b>Cherry (Sour)</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Black knot (Pre-harvest) ( <i>Apiosporina morbosa</i> )
<b>Use Rate L/ha</b>	6.0-9.0
<b>Application Interval (days)</b>	10
<b>Remarks</b>	<p>Apply 1-2 applications from pink through shuck split at 10 days apart.</p> <p>DO NOT apply after shuck split to avoid fruit injury.</p> <p>For orchards with a history of black knot disease, prune out, remove and burn all black knots from commercial orchard during the dormant period, before bud break. Remove any infected wild cherry or plum trees surrounding commercial orchard. Follow BRAVO ZNC Agricultural Fungicide spray schedule for blossom blight, including one application at shuck split.</p> <p>DO NOT make more than 2 pre-harvest applications per season regardless of disease being treated.</p> <p>DO NOT apply within 40 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>
<b>Crop</b>	<b>Cherry (Sour)</b>
<b>Maximum Number of Applications per Year</b>	1
<b>Target Disease</b>	Black knot (Post-harvest) ( <i>Apiosporina morbosa</i> )
<b>Use Rate L/ha</b>	6.0-7.2
<b>Remarks</b>	<p>Apply once to foliage 1-7 days after fruit is removed.</p> <p>For orchards with a history of black knot disease, prune out, remove and burn all black knots from commercial orchard during the dormant period, before bud break. Remove any infected wild cherry or plum trees surrounding commercial orchard.</p> <p><b>DO NOT</b> make more than 1 post-harvest application per season regardless of disease being treated.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

### 11.14 Peach and Nectarine

<b>Crop</b>	<b>Peach and Nectarine</b>
<b>Target Disease</b>	Blossom blight/Brown rot ( <i>Monilinia fructicola</i> )
<b>Use Rate L/ha</b>	5.0-9.0
<b>Application Interval (days)</b>	10
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Peach leaf curl ( <i>Taphrina deformans</i> )
<b>Use Rate L/ha</b>	5.0-7.0
<b>Maximum Number of Applications per Year</b>	1 dormant (spring or fall)
<b>Remarks</b>	<p><b>DO NOT APPLY BRAVO ZNC AGRICULTURAL FUNGICIDE WITHIN 10 DAYS OF AN OIL APPLICATION AS IT MAY CAUSE BURNING TO FLOWERS AND LEAF TISSUE.</b></p> <p>For blossom blight/brown rot, apply 1-2 applications from pink through shuck period.</p> <p>Use higher rate per hectare for trees greater than 6 metres in height, or if weather is warm (above 16°C) and wet during bloom. Apply in 500-1000 litres of water per hectare.</p> <p>DO NOT apply after shuck split to avoid fruit injury.</p> <p>For peach leaf curl, apply one application per year either as a fall dormant spray at 75-100% leaf drop or as a spring dormant spray. Apply in at least 1000 litres of water per hectare.</p> <p><b>For both diseases inclusive, DO NOT</b> make more than 3 applications per crop per year including a dormant spray.</p> <p>DO NOT apply within 60 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

### 11.15 Highbush Blueberry

<b>Crop</b>	<b>Highbush Blueberry</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Anthrachnose Fruit Rot ( <i>Colletotrichum acutatum</i> ), Alternaria Fruit Rot ( <i>Alternaria tenuissima</i> ), Phomopsis Canker ( <i>Phomopsis vaccinii</i> )
<b>Use Rate L/ha</b>	7.2
<b>Application Interval (days)</b>	7
<b>Remarks</b>	<p>Apply two applications between green tip and petal fall.</p> <p>After petal fall, a protective schedule using a different registered product may be necessary to ensure continued control of fruit rot.</p> <p>DO NOT apply within 54 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

**11.16 Strawberry**

<b>Crop</b>	<b>Strawberry</b>
<b>Maximum Number of Applications per Year</b>	3 2 (spring) + 1 (post-harvest)
<b>Target Disease</b>	Botrytis Fruit Rot ( <i>Botrytis cinerea</i> )
<b>Use Rate L/ha</b>	3.5
<b>Application Interval (days)</b>	10-12
<b>Remarks</b>	<p>Apply BRAVO ZNC Agricultural Fungicide in sufficient water to obtain coverage.</p> <p>Apply once in the fall.</p> <p>Apply two pre-bloom sprays the following spring, one when new growth appears and again 10-12 days later. Use ground application equipment only.</p> <p><b>DO NOT</b> make more than 3 applications per year.</p> <p>DO NOT apply within 30 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p> <p><b>DO NOT apply via sprinkler irrigation system.</b></p>

**11.17 Cranberry**

<b>Crop</b>	<b>Cranberry</b>
<b>Maximum Number of Applications per Year</b>	1
<b>Target Disease</b>	Fruit rots ( <i>Gloeosporium minus</i> , <i>Penicillium</i> spp. and <i>Pestalotia vaccinii</i> ) Twingleaf blight ( <i>Lophodermium hypophyllum</i> ) Upright dieback ( <i>Phomopsis vaccinii</i> )
<b>Use Rate L/ha</b>	6.8-11.6
<b>Remarks</b>	<p>Apply once per year as needed.</p> <p><b>DO NOT</b> make more than one application per year.</p> <p>DO NOT apply within 50 days of harvest.</p> <p>DO NOT apply BRAVO ZNC Agricultural Fungicide to fields when flooded or allow release of irrigation water from bogs for at least 3 days following application.</p> <p>BRAVO ZNC Agricultural Fungicide may be applied through sprinkler irrigation equipment.</p> <p>Use 3000 litres of water per hectare through solid set systems only. See application and calibration techniques for sprinkler irrigation under Directions for Use.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>
<p><b>APPLICATION AND CALIBRATION TECHNIQUES FOR SPRINKLER IRRIGATION SOLID SET IRRIGATION EQUIPMENT:</b></p> <p>Adjust sprinkler nozzles to prevent direct spray or drift into non-target areas. Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents within desired time periods. Mix desired amount of BRAVO ZNC for acreage to be covered into quantity of water used during calibration. Operate entire system at normal pressures recommended by the manufacturer of injection equipment for amount of time established during calibration.</p> <p>BRAVO ZNC can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed (e.g. as indicated by dye) and continue to operate irrigation system until BRAVO ZNC has been cleared from the last sprinkler head. DO NOT operate irrigation system without safety valves or other devices to prevent back-siphoning of BRAVO ZNC into water source. Tank containing BRAVO ZNC should be connected to the discharge side of irrigation pump or other pressurized equipment attached to irrigation line. Never inject pesticides into the intake line or the suction side of pump. Irrigation water treated with BRAVO ZNC Fungicide should be maintained on the treated area until the water is absorbed by the soil.</p>	

**11.18 Wheat**

<b>Crop</b>	<b>Wheat</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Septoria leafspot ( <i>Septoria tritici</i> ), stagonospora glume blotch ( <i>Stagonospora nodorum</i> ) and tan spot ( <i>Pyrenophora tritici-repentis</i> )
<b>Use Rate L/ha</b>	1.5 - 2.5
<b>Application Interval (days)</b>	10-14
<b>Remarks</b>	Apply BRAVO ZNC Agricultural Fungicide at Zadok's growth stage 37 (flag leaf emergence). A second application up to growth stage 69 (ear fully emerged) may be necessary if conditions favour disease spread.
<b>Target Disease</b>	Fusarium head blight (scab) ( <i>Fusarium graminearum</i> ) suppression
<b>Use Rate L/ha</b>	2.0 - 2.5
<b>Application Interval (days)</b>	10-14
<b>Remarks</b>	<p>DO NOT apply more than two (2) applications per season regardless of disease being treated.</p> <p>Apply BRAVO ZNC Agricultural Fungicide at growth stage 61-65 (early flowering) to suppress Fusarium head blight. For best results, this application must be made prior to conditions favouring infection, i.e. before flowering has started in the majority of tillers and wet weather is due.</p> <p>DO NOT apply within 30 days of harvest.</p> <p>DO NOT feed the straw from treated crop to livestock.</p> <p>DO NOT allow grazing of treated crop.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

**11.19 Sweet Corn**

<b>Crop</b>	<b>Sweet Corn</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Common rust ( <i>Puccinia sorghi</i> )
<b>Use Rate L/ha</b>	3.2
<b>Application Interval (days)</b>	10-14
<b>Remarks</b>	<p>Apply when symptoms are first noticed and repeat again 10-14 days later.</p> <p>DO NOT apply within 14 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

### 11.20 Mushroom

<b>Crop</b>	<b>Mushroom</b>
<b>Maximum Number of Applications per Year</b>	1 (per crop production cycle)
<b>Target Disease</b>	Dry bubble ( <i>Verticillium fungicola</i> )
<b>Use Rate L/ha</b>	254 mL/100 m <sup>2</sup> 128 mL/100 m <sup>2</sup>
<b>Remarks</b>	<p>Apply 254 millilitres per 100 square metres immediately after casing or in the casing mix and 128 millilitres at pinning in 100 to 130 litres of water.</p> <p>Individuals applying BRAVO ZNC Agricultural Fungicide in mushroom facilities should wear a full face respirator during all activities. In addition, if re-entry into mushroom facilities within 48 hours of treatment is required wear a full face respirator.</p> <p>DO NOT apply within 7 days of harvest.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

## 12.0 MINOR USES

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

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than Syngenta Canada Inc. under the User Requested Minor Use Label Expansion program. For these uses, Syngenta Canada Inc. 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.

### 12.1 Ginseng

<b>Crop</b>	<b>Ginseng</b>
<b>Maximum Number of Applications per Year</b>	3 2 + 1 (fall)
<b>Target Disease</b>	Alternaria leaf blight ( <i>Alternaria panax</i> ) Grey mold ( <i>Botrytis cinerea</i> )
<b>Use Rate L/ha</b>	2.4-4.8
<b>Application Interval (days)</b>	10
<b>Remarks</b>	<p>Start applications when disease threatens and make second application 10 days later. A third application may be made in the fall.</p> <p><b>DO NOT</b> make more than three applications per year.</p> <p><b>DO NOT</b> apply within 14 days of harvest.</p> <p>DO NOT feed treated ginseng (roots or foliage) to livestock.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

## 12.2 Cucurbit Vegetables

<b>Crop</b>	<b>Cucurbit Vegetables</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Downy mildew ( <i>Pseudoperonospora cubensis</i> ), Powdery mildew ( <i>Sphaerotheca fuliginea</i> )
<b>Use Rate L/ha</b>	4.8
<b>Application Interval (days)</b>	Begin applications at the first true leaf stage or when conditions are favourable for disease development. Repeat applications at 7 day intervals.
<b>Remarks</b>	Apply BRAVO ZNC Agricultural Fungicide in sufficient water to obtain adequate coverage.  DO NOT apply within two (2) days of harvest.  <b>DO NOT apply using aerial application equipment.</b>  <b>DO NOT apply via sprinkler irrigation system.</b>
<b>Complete list of crops (CG9):</b> Chayote; Chinese waxgourd; Citron melon; Cucumber (field); Gerkin; Gourd, edible; Momordica spp.; Muskmelons (includes cantaloupe); Pumpkin; Squash, summer (includes zucchini); Squash, winter; Watermelon. Including cultivars and/or hybrids of these.	

## 12.3 Lowbush (Wild) Blueberry (Sprout Year)

<b>Crop</b>	<b>Lowbush (Wild) Blueberry (Sprout Year)</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Phomopsis canker ( <i>Phomopsis vaccinii</i> ) Leaf spot diseases (suppression only) including Septoria leaf spot ( <i>Septoria</i> sp.), rust ( <i>Naohidemyces vaccinii</i> ) and Valdensinia leaf spot ( <i>Valdensinia heterodoxa</i> )
<b>Use Rate L/ha</b>	7.2
<b>Application Interval (days)</b>	42  Make the first application in early to mid-June of the sprout year. Follow with a second application in early August. Application should be based on the level of disease pressure in the previous year.
<b>Remarks</b>	Apply BRAVO ZNC Agricultural Fungicide in 200 - 950 L/ha of water.  DO NOT apply within 54 days of harvest.  <b>DO NOT apply using aerial application equipment.</b>

### 12.4 Evening Primrose

<b>Crop</b>	<b>Evening Primrose</b>
<b>Maximum Number of Applications per Year</b>	2
<b>Target Disease</b>	Blight and dieback ( <i>Septoria oenotherae</i> )
<b>Use Rate L/ha</b>	2.3
<b>Application Interval (days)</b>	14-28
<b>Remarks</b>	Fall applications only. Apply to direct seeded fields after emergence when disease symptoms appear. Reapply at the shorter interval if conditions favour disease.  <b>DO NOT apply using aerial application equipment.</b>

### 12.5 Asparagus

<b>Crop</b>	<b>Asparagus</b>
<b>Maximum Number of Applications per Year</b>	3
<b>Target Disease</b>	Purple Spot ( <i>Stemphylium vesicarium</i> ), Rust ( <i>Puccinia asparagi</i> )
<b>Use Rate L/ha</b>	3.4
<b>Application Interval (days)</b>	14
<b>Remarks</b>	Begin applications following final harvest of spears.  Apply BRAVO ZNC Agricultural Fungicide in 100 - 200 L/ha of water.  DO NOT apply within 190 days of harvest.  <b>DO NOT apply using aerial application equipment.</b>

### 12.6 Filberts (Hazelnuts)

<b>Crop</b>	<b>Filberts (Hazelnuts)</b>
<b>Maximum Number of Applications per Year</b>	3
<b>Target Disease</b>	Eastern filbert blight ( <i>Anisogramma anomala</i> )
<b>Use Rate L/ha</b>	6.72
<b>Application Interval (days)</b>	20



<b>Remarks</b>	
	<p>Apply preventatively during bud-break to shoot elongation (in spring and early summer). Do not apply within 120 days of harvest.</p> <p>Apply BRAVO ZNC Agricultural Fungicide in 500 – 3000 L/ha of water.</p> <p>Do not enter or allow worker re-entry into treated areas during the restricted entry interval of 18 days for scouting, 10 days for transplanting and 2 days for orchard maintenance activities.</p> <p><b>DO NOT apply with oils, other pesticides, surfactants or fertilizers.</b></p> <p><b>DO NOT apply within one week of an oil-based pesticide application.</b></p> <p>Apply ground foliar application only. DO NOT apply by chemigation.</p> <p><b>DO NOT apply using aerial application equipment.</b></p>

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### 13.0 RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, BRAVO ZNC Agricultural Fungicide contains a Group M5 fungicide. Any fungal population may contain individuals naturally resistant to BRAVO ZNC Agricultural Fungicide and other Group M5 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

#### **To delay fungicide resistance:**

Where possible, rotate the use of BRAVO ZNC Agricultural Fungicide or other Group M5 fungicides with different groups that control the same pathogens. Avoid application of more than the maximum number listed in the label and consecutive sprays of BRAVO ZNC Agricultural Fungicide or other fungicides in the same group in a season.

Use tank mixtures with fungicides from a different group that is effective on the target pathogen when such use is permitted.

Fungicide use should be based on an integrated disease management program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.

Where possible, make use of predictive disease models to effectively time fungicide applications.

Monitor treated fungal populations for sign of resistance development. Notify Syngenta Canada Inc. if reduced sensitivity of pathogen to BRAVO ZNC is suspected.

If disease continues to progress after treatment with this product, DO NOT increase the use rate. Discontinue use of this product, and switch to another fungicide with a different target site of action, if available.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and disease problems in your area.

For further information or to report suspected resistance, contact company representatives at 1-87-SYNGENTA (1-877-964-3682) or at [www.syngenta.ca](http://www.syngenta.ca).

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