

<b>GROUP</b>	<b>4</b>	<b>INSECTICIDE</b>
<b>GROUP</b>	<b>3 4 7</b>	<b>FUNGICIDES</b>

## **CRUISER MAXX® VIBRANCE® CEREALS Seed Treatment**

### **FUNGICIDES AND INSECTICIDE**

#### **SUSPENSION**

#### **AGRICULTURAL**

A seed treatment for the control of listed insect pests and seed- and soil-borne diseases of cereal crops.

#### **ACTIVE INGREDIENTS:**

Thiamethoxam .....	30.7 g/L
Difenoconazole .....	36.9 g/L
Metalaxyl-M (and S-isomer) .....	9.5 g/L
Sedaxane .....	8.0 g/L

Contains 1,2-benzisothiazolin-3-one at 0.014% as a preservative.

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

REGISTRATION NUMBER: **30436**  
PEST CONTROL PRODUCTS ACT

NET CONTENTS: **1 L to 1050 L**

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

#### **Special Use Restrictions:**

**All seed treated with this product must be conspicuously coloured at the time of treatment.**

**No open transfer is permitted for commercial seed treatment of barley, wheat, oats, rye and triticale.**

## 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 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 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.

## 3.0 TOXICOLOGICAL INFORMATION

NOTE TO PHYSICIAN: There is no specific antidote for this product if ingested. Treat symptomatically. Contains petroleum distillate – vomiting may cause aspiration pneumonia.

## 4.0 PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN AND DOMESTIC ANIMALS. Wash hands and face after handling and before eating, using tobacco (including smoking), applying cosmetics, or using the toilet. Wear a dust mask when transferring seed to a storage bin. Avoid contamination of feed and foodstuffs.

CRUISER MAXX® VIBRANCE® CEREALS Seed Treatment is for use on-farm and in closed transfer commercial seed treatment facilities only on barley, wheat, oats, rye, and triticale. Closed transfer includes closed mixing, loading, calibrating and closed treatment equipment.

Treat seed in a well-ventilated area.

**NOTE:** In case of accident, take the product label to the emergency facility or physician.

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.

## **5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

### **In closed transfer commercial seed treatment facilities:**

Cleaners must wear chemical-resistant coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, work boots and socks. Treaters, baggers, sewers, stackers, forklift operators and others must wear cotton coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, work boots and socks. In addition, wear a NIOSH/MSHA-approved dust mask when bagging or sewing bags of treated seed or when transferring seed to a storage bin.

### **For on-farm treating:**

When treating seeds on-farm, all workers must wear coveralls over a long sleeved shirt, long pants, chemical-resistant gloves, work boots, socks and a NIOSH/MSHA-approved dust mask. In addition, wear a NIOSH/MSHA-approved dust mask when transferring seed to a storage bin.

### **For planting:**

When planting (including loading, sowing, maintenance, and clean-up) wear a long-sleeved shirt, long pants, chemical-resistant gloves, work boots, socks and NIOSH/MSHA-approved dust mask. When using closed-cab planting equipment, chemical-resistant gloves and NIOSH/MSHA-approved dust mask are not required inside cab. For good hygiene practice, it is also recommended to wear a suitable dust mask during all other job activities.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Wash splashes from skin IMMEDIATELY with plenty of water. Remove PPE immediately after handling this product. Wash the outside of gloves with soap and water before removing. As soon as possible, wash thoroughly and change into clean clothing. After spraying, wash hands and shower thoroughly with soap and water.

Heavily contaminated or drenched clothing and other absorbent materials contaminated with this product should be discarded. Do not reuse them.

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.

## **6.0 ENVIRONMENTAL PRECAUTIONS**

TOXIC to aquatic organisms.

Treated seed is toxic to birds and small wild mammals. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.

Thiamethoxam is toxic to bees. Bees can be exposed to product residues in flowers, leaves, pollen and/or nectar resulting from seed treatment applications. When used according to label directions minimal exposure or risk is expected. Dust generated during planting of treated seed may be harmful to bees and other pollinators. To help minimize the dust generated during planting, refer to the "Pollinator Protection and Responsible Use of Treated Seed - Best Management Practices" on the Health Canada webpage on pollinator protection at [www.canada.ca/pollinators](http://www.canada.ca/pollinators). When using a seed flow lubricant with this treated seed, only a dust reducing fluency agent is permitted. Talc and graphite are not permitted to be used as a seed flow lubricant for corn or soybean seed treated with this insecticide. Carefully follow use directions for the seed flow lubricant. Do not load or clean planting equipment near bee colonies, and avoid places where bees may be foraging, such as flowering crops or weeds. When turning on the planter, avoid engaging the system where emitted dust may contact honey bee colonies.

## 7.0 USE RESTRICTIONS

1. Treated seed must not be used for food, feed or oil processing.
2. To prevent contamination, store away from food and feed.
3. For seed treated with CRUISER MAXX VIBRANCE CEREALS Seed Treatment, do not graze or feed livestock on treated areas for 45 days after planting.
4. Do not plant any crop other than cereals within 60 days to fields in which seeds treated with CRUISER MAXX VIBRANCE CEREALS Seed Treatment were planted.
5. All bags containing treated seed for sale or use in Canada must be labelled or tagged as follows: **"This seed has been treated with the insecticide, thiamethoxam and difenoconazole, metalaxyl-M (and S-isomer) and sedaxane fungicides. Wear long-sleeved shirt, long pants, chemical-resistant gloves, and NIOSH/MSHA-approved dust mask when handling treated seed, and during planting (including loading, sowing, maintenance, and clean-up). When using closed-cab planting equipment, chemical-resistant gloves and NIOSH/MSHA-approved dust mask are not required inside cab. Do not graze or feed livestock on seeded area for 45 days after planting. Do not use for food, feed or oil processing. Store away from food and feed. Thiamethoxam is toxic to bees. Dust generated during planting of treated seed may be harmful to bees and other pollinators. To help minimize the dust generated during planting, refer to the "Pollinator Protection and Responsible Use of Treated Seed- Best Management Practices" on the Health Canada webpage on pollinator protection at [www.canada.ca/pollinators](http://www.canada.ca/pollinators). Do not load or clean planting equipment near bee colonies, and avoid places where bees may be foraging, such as flowering crops or weeds. When turning on the planter, avoid engaging the system where emitted dust may contact honey bee colonies. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface."**

## 8.0 STORAGE

To prevent contamination, store this product away from food or feed.

## 9.0 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.

**For Returnable Containers:**

Do not reuse this container for any purpose. For disposal, the empty container may be returned to the point of purchase (distributor/dealer).

**For Refillable 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.

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

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**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 treatment advice.

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### **For planting:**

When planting (including loading, sowing, maintenance, and clean-up) wear a long-sleeved shirt, long pants, chemical-resistant gloves, work boots, socks and NIOSH/MSHA-approved dust mask. When using closed-cab planting equipment, chemical-resistant gloves and NIOSH/MSHA-approved dust mask are not required inside cab. For good hygiene practice, it is also recommended to wear a suitable dust mask during all other job activities.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Wash splashes from skin IMMEDIATELY with plenty of water. Remove PPE immediately after handling this product. Wash the outside of gloves with soap and water before removing. As soon as possible, wash thoroughly and change into clean clothing. After spraying, wash hands and shower thoroughly with soap and water.

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4. Do not plant any crop other than cereals within 60 days to fields in which seeds treated with CRUISER MAXX VIBRANCE CEREALS Seed Treatment were planted.
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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.

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

## **10.0 PRODUCT INFORMATION**

CRUISER MAXX VIBRANCE CEREALS Seed Treatment is a combination of the insecticide thiamethoxam and the fungicides difenoconazole, metalaxyl-M (and S-isomer) and sedaxane that controls or suppresses certain insect pests and seed- and soil-borne diseases of cereal crops, as listed below.

When seed is treated for post-planting protection against registered pests, CRUISER MAXX VIBRANCE CEREALS Seed Treatment will also provide protection during post-treatment storage of the seed against damage from many storage insect pests. Seed treated with thiamethoxam has been tested and found to be effective against rusty grain beetle, saw-toothed grain beetle, red flour beetle, rice weevil, lesser grain borer, European corn borer and Indian meal moth. It is recommended that seed with existing populations of storage pests be fumigated prior to treating and storage of that seed.

Thiamethoxam is a Group 4 Insecticide. Do not make any subsequent application of a Group 4 Insecticide (i.e., in-furrow or foliar application) following treatment with CRUISER MAXX VIBRANCE CEREALS Seed Treatment.

**Note:** Treatment of highly mechanically scarred or damaged seed, or seed known to be of low vigour and poor quality, may result in reduced germination and/or reduction of seed and seedling vigour. Treat a small quantity of seed using equipment similar to that planned for treating the total seed lot. Conduct germination tests on a small portion of the seed before

committing the total seed lot to a selected seed treatment. Due to seed quality and seed storage conditions beyond the control of Syngenta Canada Inc., no claims are made to guarantee the germination of carry-over seed.

**Note:** Experience has shown that strains of fungus resistant to metalaxyl-M (and S-isomer) may develop. Failure to control the disease will result in crop damage and/or yield losses. Since the occurrence of the resistance cannot be foreseen, Syngenta Canada Inc. accepts no responsibility for any loss of, or damage to, crops resulting from the failure of CRUISER MAXX VIBRANCE CEREALS Seed Treatment to control the resistant fungus strains. If disease appears in a treated field, consult the government extension specialist immediately.

## 11.0 DIRECTIONS FOR USE

### 11.1. 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.

CRUISER MAXX VIBRANCE CEREALS Seed Treatment is a ready-to-use water-based formulation for use in commercial seed treatment facilities or on-farm. Treatment equipment must provide uniform coverage of CRUISER MAXX VIBRANCE CEREALS Seed Treatment on the seed. Thorough seed coverage will offer the best protection of the seed from insect damage and disease. Uneven seed coverage may not give the desired level of disease/insect protection.

This product does not require the addition of water for application. Consult the manufacturer of the application equipment planned to be used for suitability for this application and for instructions on operation and calibration of the equipment.

Ideal storage temperature is above freezing and below 30°C. Repeated freeze-thawing of CRUISER MAXX VIBRANCE CEREALS Seed Treatment will not affect the physical integrity of the product. If the product should freeze, bring the product back to room temperature and ensure the contents are mixed well prior to application.

**This product contains a pigment, which will adequately colour the treated seed. However, users are responsible for ensuring that the treated seed, when dried and ready for bagging, has an unnatural colour. If the pigment contained in the formulation does not colour the seed adequately, additional colourant must be added to the mixture while treating the seed. Follow instructions on the colourant package for mixing. Regulations pertaining to colouration of treated seed enforced under the “Seeds Act” must be strictly adhered to when using this product.**

## 12.0 CROP USE DIRECTIONS

For control or suppression of certain seed- and soil-borne diseases and insects on small-grained cereals, apply 325 mL – 650 mL of CRUISER MAXX VIBRANCE CEREALS Seed

Treatment per 100 kg of seed to the crops listed below. Thiamethoxam is a Group 4 Insecticide. Do not make any subsequent application of a Group 4 Insecticide (i.e., in-furrow or foliar application) following treatment with CRUISER MAXX VIBRANCE CEREALS Seed Treatment.

Apply 325 mL of CRUISER MAXX VIBRANCE CEREALS Seed Treatment per 100 kg of seed to the crops listed below. At this rate, CRUISER MAXX VIBRANCE CEREALS Seed Treatment delivers 12 g of difenoconazole, 10 g of thiamethoxam, 3 g of metalaxyl-M (and S-isomer) and 2.6 g of sedaxane per 100 kg of seed. Use the higher rate of 650 mL/100 kg seed if (a) there is a history of high disease pressures in the field due to short rotations, (b) where high levels of seed-borne infections like smuts are high and field conditions favour seed- and soil-borne pathogens, (c) for extended control of post-emergent damping-off, (d) when controlling seed-borne *Septoria* or early season *Septoria* leaf blotch or (e) if control of wireworm is required or if wireworm populations are expected to be moderate to high.

Alternatively, for additional disease control, the 325 mL/100 kg seed rate of CRUISER MAXX VIBRANCE CEREALS Seed Treatment may be mixed with 325 mL of DIVIDEND XL RTA<sup>®</sup> Fungicide if a) there is a history of high disease pressures in the field, b) where field conditions favour seed-borne and soil-borne pathogens, or c) when controlling seed-borne *Septoria*. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.

**12.1. Barley**

<b>CROP</b>	<b>BARLEY</b>
<b>INSECTS</b>	Wireworms <sup>1</sup> European Chafer <sup>2</sup>
<b>DISEASES CONTROLLED</b>	General Seed Rots <sup>3</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Septoria</i> <sup>4</sup> Covered Smut False Loose Smut True Loose Smut
<b>DISEASES SUPPRESSED<sup>5</sup></b>	Common Root Rot ( <i>Cochliobolus</i> spp.) <i>Fusarium</i> Crown and Foot Rot Take-All
<b>USE RATE (per 100 kg seed)</b>	325 - 650 mL
<b>NOTES</b>	<ol style="list-style-type: none"> <li>1. The 325 mL/100 kg seed rate of CRUISER MAXX VIBRANCE CEREALS Seed Treatment provides suppression of wireworm activity. If pressure is moderate to high or control is required, use 650 mL/100 kg seed to apply 20 g thiamethoxam per 100 kg seed. Alternatively, CRUISER MAXX VIBRANCE CEREALS Seed Treatment can be tank mixed with CRUISER® 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 20 – 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>2. For control of European chafer activity on wheat and barley, mix CRUISER MAXX VIBRANCE CEREALS Seed Treatment with CRUISER 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>3. General seed rots controlled include those caused by saprophytic organisms such as <i>Fusarium</i>, <i>Pythium</i>, <i>Rhizoctonia</i>, <i>Penicillium</i> and <i>Aspergillus</i>.</li> <li>4. Use the 650 mL rate for control of this disease.</li> <li>5. Suppression means consistent control at a level which is not optimal but is still of commercial benefit.</li> </ol>

**12.2. Oats**

<b>CROP</b>	<b>OATS</b>
<b>INSECTS</b>	Wireworms <sup>1</sup>
<b>DISEASES CONTROLLED</b>	General Seed Rots <sup>2</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> spp. Covered Smut Loose Smut
<b>DISEASES SUPPRESSED<sup>3</sup></b>	Common Root Rot ( <i>Cochliobolus</i> spp.)
<b>USE RATE (per 100 kg seed)</b>	325 - 650 mL
<b>NOTES</b>	<ol style="list-style-type: none"> <li>1. The 325 mL/100 kg seed rate of CRUISER MAXX VIBRANCE CEREALS Seed Treatment provides suppression of wireworm activity. If pressure is moderate to high or control is required, use 650 mL/100 kg seed to apply 20 g thiamethoxam per 100 kg seed. Alternatively, CRUISER MAXX VIBRANCE CEREALS Seed Treatment can be tank mixed with CRUISER® 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 20 – 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>2. General seed rots controlled include those caused by saprophytic organisms such as <i>Fusarium</i>, <i>Pythium</i>, <i>Rhizoctonia</i>, <i>Penicillium</i> and <i>Aspergillus</i>.</li> <li>3. Suppression means consistent control at a level which is not optimal but is still of commercial benefit.</li> </ol>

**12.3. Rye**

<b>CROP</b>	<b>RYE</b>
<b>INSECTS</b>	Wireworms <sup>1</sup>
<b>DISEASES CONTROLLED</b>	General Seed Rots <sup>2</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Septoria</i> <sup>3</sup> Common Bunt <sup>4</sup> Dwarf Bunt <sup>4</sup>
<b>DISEASES SUPPRESSED<sup>5</sup></b>	Common Root Rot ( <i>Cochliobolus</i> spp.) <i>Fusarium</i> Crown and Foot Rot Take-All
<b>USE RATE (per 100 kg seed)</b>	325 - 650 mL
<b>NOTES</b>	<ol style="list-style-type: none"> <li>1. The 325 mL/100 kg seed rate of CRUISER MAXX VIBRANCE CEREALS Seed Treatment provides suppression of wireworm activity. If pressure is moderate to high or control is required, use 650 mL/100 kg seed to apply 20 g thiamethoxam per 100 kg seed. Alternatively, CRUISER MAXX VIBRANCE CEREALS Seed Treatment can be tank mixed with CRUISER® 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 20 – 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>2. General seed rots controlled include those caused by saprophytic organisms such as <i>Fusarium</i>, <i>Pythium</i>, <i>Rhizoctonia</i>, <i>Penicillium</i> and <i>Aspergillus</i>.</li> <li>3. Use the 650 mL rate for control of this disease.</li> <li>4. Controls both seed- and soil-borne bunts (common, dwarf).</li> <li>5. Suppression means consistent control at a level which is not optimal but is still of commercial benefit.</li> </ol>



**12.4. Triticale**

<b>CROP</b>	<b>TRITICALE</b>
<b>INSECTS</b>	Wireworms <sup>1</sup>
<b>DISEASES CONTROLLED</b>	General Seed Rots <sup>2</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> spp. Loose Smut
<b>DISEASES SUPPRESSED<sup>3</sup></b>	Common Root Rot ( <i>Cochliobolus</i> spp.) <i>Fusarium</i> Crown and Foot Rot Take-All
<b>USE RATE (per 100 kg seed)</b>	325 - 650 mL
<b>NOTES</b>	<ol style="list-style-type: none"> <li>1. The 325 mL/100 kg seed rate of CRUISER MAXX VIBRANCE CEREALS Seed Treatment provides suppression of wireworm activity. If pressure is moderate to high or control is required, use 650 mL/100 kg seed to apply 20 g thiamethoxam per 100 kg seed. Alternatively, CRUISER MAXX VIBRANCE CEREALS Seed Treatment can be tank mixed with CRUISER® 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 20 – 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>2. General seed rots controlled include those caused by saprophytic organisms such as <i>Fusarium</i>, <i>Pythium</i>, <i>Rhizoctonia</i>, <i>Penicillium</i> and <i>Aspergillus</i>.</li> <li>3. Suppression means consistent control at a level which is not optimal but is still of commercial benefit.</li> </ol>

**12.5. Winter Wheat**

<b>CROP</b>	<b>WINTER WHEAT</b>
<b>INSECTS</b>	Wireworms <sup>1</sup> European Chafer <sup>2</sup>
<b>DISEASES CONTROLLED</b>	General Seed Rots <sup>3</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Septoria</i> <sup>4</sup> <i>Septoria</i> Leaf Blotch <sup>4,5</sup> Common Bunt <sup>6</sup> Dwarf Bunt <sup>6</sup> Loose Smut
<b>DISEASES SUPPRESSED<sup>7</sup></b>	Common Root Rot ( <i>Cochliobolus</i> spp.) <i>Fusarium</i> Crown and Foot Rot Take-All
<b>USE RATE (per 100 kg seed)</b>	325 - 650 mL
<b>NOTES</b>	<ol style="list-style-type: none"> <li>1. The 325 mL/100 kg seed rate of CRUISER MAXX VIBRANCE CEREALS Seed Treatment provides suppression of wireworm activity. If pressure is moderate to high or control is required, use 650 mL/100 kg seed to apply 20 g thiamethoxam per 100 kg seed. Alternatively, CRUISER MAXX VIBRANCE CEREALS Seed Treatment can be tank mixed with CRUISER® 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 20 – 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>2. For control of European chafer activity on wheat and barley, mix CRUISER MAXX VIBRANCE CEREALS Seed Treatment with CRUISER 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>3. General seed rots controlled include those caused by saprophytic organisms such as <i>Fusarium</i>, <i>Pythium</i>, <i>Rhizoctonia</i>, <i>Penicillium</i> and <i>Aspergillus</i>.</li> <li>4. Use the 650 mL rate for control of this disease.</li> <li>5. Early season foliar disease control for first 4 weeks after planting. For full season control, apply a foliar fungicide according to label directions.</li> <li>6. Controls both seed- and soil-borne bunts (common, dwarf).</li> <li>7. Suppression means consistent control at a level which is not optimal but is still of commercial benefit.</li> </ol>

### 12.6. Spring Wheat

<b>CROP</b>	<b>SPRING WHEAT</b>
<b>INSECTS</b>	Wireworms <sup>1</sup> European Chafer <sup>2</sup>
<b>DISEASES CONTROLLED</b>	General Seed Rots <sup>3</sup> Seedling Blight, Root Rot, and Damping-Off caused by seed- and soil-borne <i>Fusarium</i> spp. or <i>Rhizoctonia</i> spp. Seedling Blight, Root Rot, and Damping-Off caused by soil-borne <i>Pythium</i> spp. Seed-borne <i>Septoria</i> <sup>4</sup> Common Bunt <sup>5</sup> Loose Smut
<b>DISEASES SUPPRESSED<sup>6</sup></b>	Common Root Rot ( <i>Cochliobolus</i> spp.) <i>Fusarium</i> Crown and Foot Rot Take-All
<b>USE RATE (per 100 kg seed)</b>	325 - 650 mL
<b>NOTES</b>	<ol style="list-style-type: none"> <li>1. The 325 mL/100 kg seed rate of CRUISER MAXX VIBRANCE CEREALS Seed Treatment provides suppression of wireworm activity. If pressure is moderate to high or control is required, use 650 mL/100 kg seed to apply 20 g thiamethoxam per 100 kg seed. Alternatively, CRUISER MAXX VIBRANCE CEREALS Seed Treatment can be tank mixed with CRUISER® 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 20 – 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>2. For control of European chafer activity on wheat and barley, mix CRUISER MAXX VIBRANCE CEREALS Seed Treatment with CRUISER 5FS/350FS Seed Treatment Insecticide to achieve a total use rate of 30 g of thiamethoxam per 100 kg seed. THIS TANK MIX MAY BE APPLIED IN COMMERCIAL SEED TREATMENT FACILITIES ONLY. Consult each product label for registered use rates and follow all label use instructions. Read the label directions for each product and follow the most restrictive label precautions and limitations.</li> <li>3. General seed rots controlled include those caused by saprophytic organisms such as <i>Fusarium</i>, <i>Pythium</i>, <i>Rhizoctonia</i>, <i>Penicillium</i> and <i>Aspergillus</i>.</li> <li>4. Use the 650 mL rate for control of this disease.</li> <li>5. Controls both seed- and soil-borne bunts (common, dwarf).</li> <li>6. Suppression means consistent control at a level which is not optimal but is still of commercial benefit.</li> </ol>

### 13.0 RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, please note that CRUISER MAXX VIBRANCE CEREALS Seed Treatment contains Group 3, Group 4 and Group 7 fungicides and a Group 4 insecticide. Any fungal and (or) insect population may contain individuals naturally resistant to CRUISER MAXX VIBRANCE CEREALS Seed Treatment and other Group 3, Group 4 and Group 7 fungicides and Group 4 insecticides. A gradual or total loss of pest control may occur over time if these fungicides/insecticides 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 insecticide and fungicide resistance:**

Where possible, rotate the use of CRUISER MAXX VIBRANCE CEREALS Seed Treatment or other Group 3, Group 4 and Group 7 fungicides, Group 4 insecticides with different groups that control the same pathogens/insect pests.

Fungicide and insecticide use should be based on an Integrated Pest Management (IPM) program that includes scouting, historical information related to pesticide use and crop rotation and considers cultural, biological and other chemical control practices.

Monitor treated fungal and insecticide populations for sign of resistance development. 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 and insecticide product 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 and to report suspected resistance, contact Syngenta Canada Inc. at 1-877-SYNGENTA (1-877-964-3682) or at [www.syngenta.ca](http://www.syngenta.ca).

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