

# **BARLEY - DISEASE CONTROL**

## General Information

### PRODUCT INFORMATION

CruiserMaxx Vibrance Cereals is a seed treatment product containing the active ingredients: thiamethoxam (insecticide) and sedaxane, difenoconazole and mefenoxam (fungicides). CruiserMaxx Vibrance Cereals seed treatment protects against damage from wireworm and European chafer early season insects and also protects against certain seed-borne, soil-borne, and early season foliar diseases of cereal crops.

Thiamethoxam protects against certain chewing and sucking insects through contact and ingestion. Sedaxane enhances the protections against *Ustilago* spp. and *Rhizoctonia* spp. Difenoconazole provides protection against several seed and seedling diseases of cereals. Mefenoxam provides protection against damping-off caused by *Pythium* spp.

### RESISTANCE MANAGEMENT

CruiserMaxx Vibrance Cereals contains thiamethoxam, a Group 4A insecticide. Thiamethoxam is a systemic insecticide belonging to the neonicotinoid class of chemistry which includes nicotinic acetylcholine receptor (nAChR) agonists. Insect populations may contain individuals naturally resistant to Group 4A insecticides and if used repeatedly in the same fields, then resistant members may eventually dominate the population. Because resistance development cannot be predicted, use sound resistance management strategies established for the crop and use area.

Base seed treatment on an integrated pest management program that includes field sanitation, historical information related to pesticide use, careful selection of pest-tolerant crop varieties, scouting, and management practices which optimize populations of natural enemies of insect pests such as within-field refugia (untreated areas). Sound management programs also consider cultural and biological control practices.

In order to maintain susceptibility to this class of chemistry:

- Use products at their full, recommended doses.

- Use appropriate, well-maintained equipment. Use recommended water volumes and apply at optimal temperatures in order to obtain optimal treatment.
- When rate ranges are given, use the higher rate within the listed rate range when insect pressure is expected to be high.
- Avoid using a single active ingredient or mode of action (same insecticide group) exclusively for season long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, use a treatment window approach. A treatment window is a period of time defined by the stage of crop development and the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, single or consecutive applications may be made using seed, in-furrow, or foliar treatments unless otherwise excluded by product labels. Do not exceed the maximum amount of this insecticide's mode of action allowed per growing season.
- Following a treatment window of this insecticide's mode of action, rotate to a treatment window of effective products with a different mode of action before making additional applications of this insecticide.

If resistance to this product develops in your area, this product or other products with a similar mode of action may not provide adequate control. If poor performance cannot be attributed to improper application or weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for the crop and use area.

Syngenta encourages responsible product stewardship to ensure effective long term control of the insect pests on the label.

For additional information on Insect Resistance Management:

- Contact Syngenta representatives at 1-800-334-9481
- Contact your local Cooperative Extension Service specialist, pest control advisor, or certified crop advisor
- Visit the Insecticide Resistance Action Committee (IRAC) on the web at:  
<http://www.irc-online.org>

CruiserMaxx Vibrance Cereals contains difenoconazole, a Group 3 fungicide; mefenoxam, a Group 4 fungicide; and sedaxane, a Group 7 fungicide.

Difenoconazole belongs to the triazole class of chemistry and is a demethylation inhibitor of sterol biosynthesis (DMI) which disrupts membrane synthesis of the fungal cell. Mefenoxam belongs to the phenylamide class of chemistry which interferes with fungal RNA synthesis. Sedaxane is a succinate dehydrogenase inhibitor (SDHI) and belongs to the carboxamide class of chemistry which disrupts cellular respiration and energy generation.

Fungal populations may contain individuals naturally resistant to Group 3, 4, or 7 fungicides and if used repeatedly in the same fields, then resistant members may eventually dominate the population. Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies such as alternation with fungicides with a different mode of action and/or tank mixes established for the crop and use area.

Use should be based on an IPM program that includes field sanitation, scouting, historical information related to pesticide use, and crop rotation. The IPM program should also consider cultural, biological, and other chemical control practices.

Syngenta encourages responsible product stewardship to ensure effective long term control of the fungal diseases on the label.

For additional information on Fungicide Resistance Management:

- Contact Syngenta representatives at 1-800-334-9481
- Contact your local extension specialist or certified crop advisor
- Visit the Fungicide Resistance Action Committee (FRAC) on the web at:  
<http://www.frac.info>

## SEED BAG LABEL REQUIREMENTS

The Federal Seed Act requires that bags containing treated seeds shall be labeled with the following statements:

- This seed has been treated with sedaxane, difenoconazole, and mefenoxam fungicides and thiamethoxam insecticide.
- Do not use for feed, food, or oil purposes.

In addition, the following statements are required on bags containing seeds treated with CruiserMaxx Vibrance Cereals:

- Pollinator Precaution: Thiamethoxam is highly toxic to bees, and effects are possible as a result of exposure to translocated residues in blooming crops.

- Groundwater Advisory: Mefenoxam is known to leach through soil into groundwater under certain conditions as a result of label use. Thiamethoxam has properties and characteristics associated with chemicals detected in groundwater. These chemicals may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.
- Store away from food and feedstuffs.
- Wear long-sleeved shirt, long pants and chemical resistant gloves when handling treated seed.
- Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading.
- Do not allow children, pets, or livestock to have access to treated seed.
- Treated seed must be planted into the soil at a depth greater than 1 inch.
- Dispose of all excess treated seed. Leftover treated seed may be doublesown around the headland or buried away from water sources in accordance with local requirements.
- Do not contaminate water bodies when disposing of planting equipment wash waters.
- Dispose of seed packaging in accordance with local requirements.
- In the event of crop failure or harvest of a crop grown from seed treated with CruiserMaxx Vibrance Cereals, crops may be replanted according to the schedule given in the label.
- For any other crops the minimum plantback interval is 120 days from the date the seeds treated with CruiserMaxx Vibrance Cereals were planted. A cover crop other than the crops listed above that is planted for erosion control or soil improvement may be planted sooner than the 120 day interval; however, the crop may not be grazed or harvested for food or feed.
- Do not make any soil or foliar application of products containing thiamethoxam to crops grown from seed treated with CruiserMaxx Vibrance Cereals.
- Do not use at a rate that will result in more than 0.08 lb thiamethoxam per acre (36.3 grams ai/A) per season.
- Excess treated seed may be used for ethanol production only if (1) by-products are not used for livestock feed, and (2) no measurable residues of pesticide remain in the ethanol by-products that are used in agronomic practice.

Limitations, Restrictions, and Exceptions

## BARLEY

General Seed Rots: Protection against general seed rots. This includes rots caused by saprophytic organisms such as Fusarium, Pythium, Rhizoctonia, Penicillium and Aspergillus.

Seed-borne Septoria: Use the 5 fluid oz/100 lb rate for protection against this disease.

For additional Pythium protection, add 0.0425 fl oz Apron XLR/100 lb seed.

Method

[Seed Treatment](#)

Rates

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Timings

[N.A.](#)