

POTATOES - DISEASES

General Information

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT AND/OR DISEASE CONTROL, AND/OR ILLEGAL RESIDUES.

Treatment of highly mechanically scarred, excessively sprouted, bruised, or damaged seed or seed pieces, or seed known to be of low vigor, “physiologically old” (that has multiple sprouts) and poor quality, except for the purpose of curative control of existing disease pests, may result in reduced germination and/or reduction of seed and seedling vigor. 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 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, no claims are made to guarantee the germination of carry-over seed or propagating material for all crop seed.

USE INFORMATION

CruiserMaxx Vibrance Potato seed treatment contains thiamethoxam insecticide and fludioxonil, difenoconazole and sedaxane fungicides.

Thiamethoxam is a systemic seed treatment insecticide belonging to the neonicotinoid class of chemistry. Thiamethoxam protects against certain chewing and sucking insects through contact and ingestion. These insects include: aphids, Colorado potato beetles, flea beetles, leafhoppers, leaf miners, and psyllids.

Fludioxonil protects against damage from certain soil-borne and seed-borne diseases of crop plants. Fludioxonil is active against Fusarium dry rot seed decay, seedborne Rhizoctonia that causes stem canker and tuber black scurf and seed-borne Helminthosporium solani, the causal agent of silver scurf diseases on potato tubers.

Difenoconazole is a triazole fungicide added to enhance Fusarium control and compliments resistance management of some of these pathogens.

Sedaxane is a SDHI fungicide added to enhance Rhizoctonia control.

CruiserMaxx Vibrance Potato does not control bacterial disease or diseases present within the seed or protect against bacteria that may infect and decay the seed after planting.

Use CruiserMaxx Vibrance Potato as an integral part of a potato pest management strategy. This strategy includes the use of high quality certified seed, suitable planting conditions, good sanitation, proper crop rotation, insect population thresholds, appropriate control measures, optimal harvest time for tubers and proper handling of tubers without bruising. Consult your local agricultural extension agent for more detailed information on insect management practices.

The expected length of protection against the labeled pests depends on the accuracy of application of the products to ensure the seed tubers receive the target rate of the active ingredients and also the prevailing weather and other extraneous factors that can impact pest pressure. Consult your local University Extensions Centers or Syngenta representative or dealer for information relative to your area.

CROP USE PRECAUTIONS

Resistance Management

CruiserMaxx Vibrance Potato contains thiamethoxam, a Group 4A insecticide.

Some insect pests are known to develop resistance to products after repeated use.

Because resistance development cannot be predicted, the use of this product should conform to sound resistance management strategies established for the crop and use area. Syngenta encourages responsible product stewardship to ensure effective longterm control of the insects on this label.

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 or pathogen 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 your area.

Insect biotypes with acquired or inherent resistance to Group 4A insecticides may eventually dominate the insect population if Group 4A insecticides are used repeatedly as the predominant method of control for targeted species. This may result in partial or total loss of control of those species by CruiserMaxx Vibrance Potato or other Group 4A insecticides.

In order to maintain susceptibility to this class of chemistry:

- Avoid using Group 4A insecticides exclusively for season long control of insect species with more than one generation per crop season.
- For insect species with successive or overlapping generations, apply CruiserMaxx Vibrance Potato and other Group 4A insecticides using a “treatment window” approach. A treatment window is a period of time as defined by the stage of crop development and/or the biology of the pests of concern. Within the treatment window, depending on the length of residual activity, there may either be single or consecutive applications (seed treatment, soil, foliar, unless otherwise stated) of the Group 4A insecticides. Do not exceed the maximum CruiserMaxx Vibrance Potato allowed per growing season.
- Following a treatment window of Group 4A insecticides, rotate to a treatment window of effective products with a different mode of action before making additional applications of Group 4A insecticides.
- A treatment window rotation, along with other IPM practices for the crop and use area, is considered an effective strategy for preventing or delaying a pest’s ability to develop resistance to this class of chemistry.

- If resistance is suspected, do not reapply CruiserMaxx Vibrance Potato or any other Group 4A insecticides.

Other Insect Resistance Management (IRM) practices include:

- Incorporating IPM techniques into your insect control program.
- Monitoring treated insect populations for loss of field efficacy.
- Using tank-mixtures or premixes with insecticides from a different target site of action group as long as the involved products are all registered for the same crop and effective rates are applied.

For additional information on Insect Resistance Management:

- Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations.

- Visit the Insecticide Resistance Action Committee (IRAC) on the web at:

<http://www.irac-online.org>

CruiserMaxx Vibrance Potato contains difenoconazole, a Group 3 fungicide; sedaxane, a Group 7 fungicide; and fludioxonil, a Group 12 fungicide.

Difenoconazole belongs to the triazole class of chemistry and is a demethylation inhibitor of sterol biosynthesis (DMI). DMI's disrupt membrane synthesis by blocking demethylation. Sedaxane belongs to the carboxamide class of chemistry and is a succinate dehydrogenase inhibitor (SDHI). SDHI's inhibit fungal metabolism by binding to the succinate dehydrogenase enzyme thereby disrupting cellular respiration and energy generation. Fludioxonil belongs to the phenylpyrrole class of chemistry and has a unique mode of action which prevents fungal respiration.

Fungal populations may contain individuals naturally resistant to Group 3, 7 or 12 fungicides. If Group 3, 7 or 12 fungicides are 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 established for the crop and use area.

Seed treatment 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.

Where possible, rotate or mix the use of Group 3, 7 or 12 fungicides with different fungicide groups to which resistance has not developed.

Syngenta encourages responsible product stewardship to ensure effective long term control of the fungal diseases on this 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 CONTAINER LABEL REQUIREMENTS

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

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

In addition, the U.S. Environmental Protection Agency requires the following statements on containers containing potato tuber seed treated with CruiserMaxx Vibrance Potato:

- Ground Water Advisory: Thiamethoxam has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into the ground water if used in areas where soils are permeable, particularly where the water table is shallow.

- Pollinator Precautions: Thiamethoxam is highly toxic to bees exposed to direct treatment, and effects are possible as a result of exposure to translocated residues in blooming crops.
- Store away from feeds and foodstuffs.
- Do not store CruiserMaxx Vibrance Potato treated seed in burlap bags or impervious bags/containers or in areas that are poorly ventilated.
- Wear long-sleeved shirt, long pants and chemical resistant gloves: barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride [PVC] ≥ 14 mils, or VitonR ≥ 14 mils 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 contaminate water bodies when disposing of planting equipment wash waters.
- In the event of crop failure or harvest of a crop grown from seed potatoes treated with CruiserMaxxR VibranceR Potato, crops may be replanted according to the following schedule:
 - No seed potatoes treated with Sedaxane may be planted for a 12-month period following planting of seed potatoes treated with Sedaxane.
 - For any other crops, the minimum plantback interval is 8 months from the date the seed potatoes treated with CruiserMaxx Vibrance Potato 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 allow children, pets, or livestock to have access to treated seed.

- 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 washwaters.
- Treated seed must be planted into the soil at a depth greater than 2 inches.
- Do not use at a seed treatment rate that will result in more than 0.1 lb ai sedaxane per acre per 24 months. Therefore, CruiserMaxx Vibrance Potato treated seed potatoes cannot be planted to the same field in successive years. A sedaxane application rate of 0.1 lb ai per acre is equal to 4000 lb of potato planted per acre and treated with 0.5 fl oz of CruiserMaxx Vibrance Potato product per 100 lb of potato seed.
- Regardless of type of application (seed treatment, soil or foliar), do not apply more than 0.46 lb difenoconazole per acre (208.7 grams ai/A) per calendar year.
- Do not use at a seed treatment rate that will result in more than 0.188 lb fludioxonil per acre (85.3 grams ai/A) per year. Regardless of type of application (seed treatment, soil or foliar), do not apply more than 0.9 lb fludioxonil per acre (408.2 grams ai/A) per calendar year.
- Regardless of type of application (seed treatment, soil or foliar), do not apply more than 0.125 lb thiamethoxam per acre (56.7 grams ai/A) per calendar year.

MIXING PROCEDURES

Important: Always re-circulate CruiserMaxx Vibrance Potato thoroughly before using. Apply CruiserMaxx Vibrance Potato seed treatment using only Syngenta-approved equipment that is designed to apply liquid seed treatments to potatoes. Follow the equipment manufacturers' instructions for set-up and calibration.

CruiserMaxx Vibrance Potato will require dilution prior to atomization and application to potatoes. Consult the manufacturer of the application equipment you plan to use for instructions on operation and calibration of the equipment.

Thoroughly mix the specified amount of CruiserMaxx Vibrance Potato and any additional MaximR 4FS, DynastyR or CruiserR 5FS into the required amount of water for the dilution rate required and following the most restrictive label language and

the most restrictive rates for each chemical.

Other tank mix partners may be used with CruiserMaxx Vibrance Potato; however, the user must consider the use rate, formulation, seed and crop safety factors and compatibility of each product to be mixed when determining total application volume.

The total quantity of water and product volume must be adjusted based upon the amount of seed to be treated. It is mandatory that the equipment be calibrated to deliver a maximum of 2 - 4 fluid ounces of mixture per 100 pounds of seed consistently.

Applying excess moisture may predispose the seed to rotting, resulting in poor emergence and stand.

APPLICATION PROCEDURES

Apply CruiserMaxx Vibrance Potato utilizing Syngenta-approved seed treating systems designed to apply liquid seed treatments of potatoes. Uneven or incomplete seed coverage may not give the desired level of insect control. For slurry treatment, thoroughly mix the labeled rate of CruiserMaxx Vibrance Potato into the required amount of water for the slurry treater and dilution rate to be used. Maintain constant agitation of the slurry during the seed treatment process. Follow the manufacturer's application instructions for the seed treatment equipment being used with appropriate set-up and calibration. Calibrate the equipment so that every potato seed tuber is uniformly coated with a fine layer of the slurry mix without any excess dripping out of the treated seed.

If inert dust (fir bark, talc, etc.) or a dust-based fungicide is to be applied, apply the CruiserMaxx Vibrance Potato seed treatment before applying the dust.

Registered dust based fungicides can be applied as a supplemental treatment after the CruiserMaxx Vibrance Potato application. Follow label instructions for these products and ensure that the maximum allowable rates for an active ingredient are not exceeded.

Apply CruiserMaxx Vibrance Potato seed treatment only in well ventilated areas. In high humid areas it is advisable to use drying fans on the treated potato seeds. Ensure that spray nozzles are properly hooded and shielded to prevent spray from

moving off target.

Apply the mixture as a fine spray over the cut or whole seed tubers.

Where necessary for additional control of certain seed- and soil-borne pathogens, CruiserMaxx Vibrance Potato may be combined with MaximR 4FS, Maxim-MZ or Maxim PSP. For additional insect protection, CruiserMaxx Vibrance Potato may be tank mixed with CruiserR 5FS. In all cases the total product applied must stay within the maximum rates for each active ingredient listed below. Always follow label procedures.

Restrictions:

- Do not use at a seed treatment rate that will result in more than 0.1 lb ai sedaxane per acre per 24 months. Therefore, CruiserMaxx Vibrance Potato treated seed potatoes cannot be planted to the same field in successive years. A sedaxane application rate of 0.1 lb ai per acre is equal to 4000 lb of potato planted per acre and treated with 0.5 fl oz of CruiserMaxx Vibrance Potato product per 100 lb of potato seed.
- Regardless of type of application (seed treatment, soil or foliar), do not apply more than 0.46 lb difenoconazole per acre (208.7 grams ai/A) per calendar year.
- Do not use at a seed treatment rate that will result in more than 0.188 lb fludioxonil per acre (85.3 grams ai/A) per year. Regardless of type of application (seed treatment, soil or foliar), do not apply more than 0.9 lb fludioxonil per acre (408.2 grams ai/A) per calendar year.
- Regardless of type of application (seed treatment, soil or foliar), do not apply more than 0.125 lb thiamethoxam per acre (56.7 grams ai/A) per calendar year.

Treatment of highly damaged or bruised potato seed, or seed known to be of low vigor and poor quality, or potato seed that is deemed “physiologically old” may result in reduced germination and/or reduction of seed and seedling vigor and multiple stems from germination of the seed. When in doubt, or if the status/condition of the potato seed tubers is unknown, then treat a small sample batch of the same potato seed load with CruiserMaxx Vibrance Potato using specified rates, equipment and application procedures; before treating the total seed lot. Conduct this test on a small batch of the potato seed and observe the germination, emergence, stem count from the germinating seed. Consult the data

with local experts in the region or conduct the test with University or area experts. Only if the data confirms that the seed treated with CruiserMaxx Vibrance Potato is acceptable then proceed treating the rest of the seed lot from which the sample was taken.

DO NOT BAG POTATO SEED THAT IS TREATED WITH ANY LIQUID SEED TREATMENTS.

Treated Seed Storage

If the treated seed needs to be stored or held for a few days, make sure that the seed is stored in well ventilated areas that would allow air to move through and out the treated seed. An ideal air temperature is 60 degrees Fahrenheit at a relative humidity of 85 to 90 percent. Avoid free moisture to form within or around the treated seed during the storage time.

Note: Best results are obtained if treated potatoes are allowed to dry during transit and planted the same day of treatment.

If an inert dust (fir bark or talc etc.) or a dust-based fungicide is applied, apply CruiserMaxx Vibrance Potato prior to applying the dust treatments. In high humid areas it is advisable to use drying fans on the treated potato seeds.

Limitations, Restrictions, and Exceptions

Application Restrictions: Shake or mix CruiserMaxx Vibrance Potato well before using. Apply using standard seed treatment equipment that provides uniform seed coverage. Uneven or incomplete seed coverage may not give the desired level of disease control. Follow the manufacturer's application instructions for the seed treatment equipment being used.

Method

[Seed Treatment](#)

Rates

[field_rates 0](#)

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Restricted Entry Interval

12 hours

Exception: If the seed is treated with the product and the treated seed is soil-injected or soil-incorporated, the Worker Protection Standard, under certain

circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Timings

[N.A.](#)