

Heads Up[®] Plant Protectant

Preplant seed and pretransplant seedling treatment for the prevention of fungal and bacterial diseases of plants (including **Sudden Death Syndrome** (*Fusarium virguliforme*) on soybeans, **Rhizoctonia Root Rot/Damping Off** (*Rhizoctonia solani*) on soybeans and **White Mold** (*Sclerotinia sclerotiorum*) on soybeans and dry beans)

ACTIVE INGREDIENT

Extract of *Chenopodium quinoa* saponins (containing approximately equimolar amounts of triterpene bidesmosidic glycosides of oleanolic acid, hederagenin, and

phytolaccagenic acid)	61.3%
OTHER INGREDIENTS	38.7%
TOTAL	100.0%

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

See pages 2 and 3 for First Aid and Precautionary Statements.



FOR ORGANIC PRODUCTION



headsUP[®]
PLANT PROTECTANTS INC.

Heads Up Plant Protectants, Inc.

3002 Millar Avenue

Saskatoon, Saskatchewan S7K 5X9

Telephone (Toll-Free): 1-866-368-9306

Website: www.headsupst.com

Net Weight: 0.13 lbs (58 grams)

EPA Registration Number 81853-1

EPA Establishment Number 81853-CAN-1

Product of Canada Printed in Canada 5163 02.20

US Patent Numbers 6,743,752 and 6,482,770

FIRST AID

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 five minutes, then continue rinsing eye.
- Call a poison control center 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 mouth-to-mouth if possible.
- Call a poison control center or doctor for further treatment advice.

HOT LINE NUMBER

For 24-hour Medical Emergency Treatment Information

1-866-368-9306

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals. Caution:

Causes moderate eye irritation. Harmful if inhaled. Avoid contact with eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE) Requirements:

Applicators and handlers must wear: long-sleeved shirt and long pants, shoes, socks and waterproof gloves. For spray applications, wear protective eye wear. Follow manufacturer's instructions for maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

- Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards:

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. This pesticide is toxic to fish and aquatic invertebrates. Do not use seed or seedlings treated with this product for animal feed. Do not use treated seed for food, feed or oil purposes. Treat only those seeds needed for immediate use and planting. Do not store excess treated seed beyond planting time. Dispose of excess treated seed by burial away from streams and bodies of water.

Directions for Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product through any type of irrigation system.

Use this product only in accordance with the directions for use on the label.

Use this product thoroughly dissolved and only when mixed with water. Read entire directions for use and conditions of sale and warranty before using, and if said terms are not acceptable, return the product unused in its unopened container immediately.

Seed treatment on agricultural establishments in hopper-box, or other seed treatment application at or immediately before planting is within the scope of WPS.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirement specific to your State and Tribe, consult the State/Tribal agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about the Personal Protective Equipment (PPE), notification to workers, and restricted-entry interval. The requirements of this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

Exception: If the product 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.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water) is: coveralls, socks and shoes and waterproof gloves.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticide (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. There are no restrictions.

General Information

Heads Up® Plant Protectant is a preplant seed and pretransplant seedling treatment for the prevention of fungal and bacterial diseases of plants.

Heads Up® Plant Protectant is made from plant sources. Apply this product as directed to seeds, roots of transplants, or sprayed on tomato seedlings in trays, as part of a general disease management program.

TREAT ONLY HEALTHY VIGOROUS SEED OR SEEDLINGS:

Application of **Heads Up® Plant Protectant** to damaged or diseased seed or seed of low quality or vigor will not improve seed performance. Always apply to healthy seed or seedlings that are vigorous and actively growing under stress-free conditions.

Mixing Directions

Apply dissolved into solution with water, and thoroughly coat the surface of the seed, roots or leaves. Do not apply in packaged powder form. Ensure that the product is thoroughly dissolved in solution and the solution agitated before application. Return any unused powder to original container.

Clean application equipment. Prepare only the amount of solution needed to be applied to treat the seeds. Once in solution the product will be subject to bacterial degradation. Mix only enough product that is required for use. Use the solution IMMEDIATELY AFTER COMPLETE MIXING and no longer than 4 to 6 hours after mixing. Unused solution should be disposed according to the Storage and Disposal section of this label.

Preplant Seed Treatment

SITES

Soybean, Dry Bean, Corn, Chick Pea, Field Pea and Wheat

APPLICATION WITH OTHER SEED TREATMENTS

Follow the pre-slurry instructions below to make 100-ounce solution of Heads Up® ready to apply liquid concentrate for use on soybeans, dry beans, corn, peas, and wheat.

To Make 100 Ounce Solution of Heads Up® ready to apply Liquid Solution Concentrate

Pre Slurry Method:

1. Choose a suitable clean container that holds at least one gallon (128 ounces) of liquid and will allow for vigorous shaking or stirring of solution.
2. Empty the full package (58 grams) of Heads Up® into approximately 50 ounces of water (non-chlorinated preferred).
3. Shake or stir this mixture until all the product is dissolved, usually in a few minutes.
4. Top up the container with water to make 100-oz. solution. Shake well.

In this method, the 100-ounce solution of Heads Up® ready to apply liquid concentrate will carry to treat 400 units (20,000 lbs. of seed) at a rate of 0.5 oz. per 100 lbs. of seed for soybeans, dry beans, field peas, and wheat. For corn, chickpeas, and soybeans 100-ounces solution of Heads Up® ready to apply liquid concentrate will treat 200 units (10,000 lbs. of seed.) Adding Heads Up® to a tank with agitation at the treater is recommended. Pre-slurry can be mixed with other products (seed treatments or inoculants) or applied in a separate tank with pump to treater. Use the following chart to verify use rates per CWT. (100 lbs. of seed.)**

Use the solution IMMEDIATELY AFTER COMPLETE MIXING and no longer than 4 to 6 hours after mixing. **If kept refrigerated the unused solution can be stored and used within 7-10 days. Always shake solution well before use.**

Preplant Seed Treatment (cont.)

WHEN APPLYING HEADS UP® PLANT PROTECTANT ALONE

1. Follow pre-slurry instructions (above) to make 100-ounce solution of Heads Up® ready to apply liquid concentrate.
2. For soybean, dry bean, field peas, and wheat 100-ounce solution must be further diluted with water to achieve thorough liquid coverage of seed ensuring and final application rate of 5-8 fl. oz. / CWT. (100 lbs. of seed.)

For corn, chick peas and soybeans**, 100-ounce solution must be further diluted with water to achieve thorough liquid coverage of seed and final application rate of 5-8 fl oz. / CWT (100 lbs. of seed.)

** For high *Pythium spp.* pressure, use the high rate at 1 oz. / 100 lbs of seed. See chart below.

Note* For application/mixing instructions for potato and tomato root and foliar treatments follow instructions in their respective sections on the following pages.

Stability on Seed

Once Heads Up® is applied to the seed, the product is totally stable. There are no restrictions on the number of days prior to planting when the Heads Up® product can be applied or requirements for special storage or treated seed.

FURTHER APPLICATION INSTRUCTIONS

Seeds must be prepared and ready for seeding. The objective is to achieve a wet shiny appearance to the seed. This will dry off or be absorbed by the seed; however, the treatment will remain in effect. Treat the seeds by dipping, spraying or dribbling the solution into a rotating auger conveyor or some other approved seed treatment device. Spray applications to seeds within an enclosed spray booth or other enclosed spray device are also acceptable providing thorough coverage is achieved.

Proper calibration and operation of application equipment is essential. Treat only the seed that you intend to plant and ensure all treated seed is used for planting purposes.

Preplant Seed Treatment (cont.)

Application Rates - for 100-ounce solution of Heads Up® ready to apply liquid concentrate.

CROP	TARGET DISEASE	PRODUCT USE RATE fl. oz. / CWT (100 lbs of seed)	REMARKS/ RESTRICTIONS
Soybean	Rhizoctonia Root Rot / Damping off (Rhizoctonia solani); White Mold (Sclerotinia sclerotiorum); Sudden Death Syndrome (Fusarium virguliforme)	0.5 oz.	**Total volume of all liquid / all products being applied must achieve 5-8 fl. oz. / 100 lbs of seed
Soybean**	Pythium spp.	0.5 oz. - 1.0 oz.	*Total volume of all liquid / all products being applied must achieve 5-8 fl. oz. / 100 lbs of seed **Under high Pythium spp. pressure use the high rate (1.0 fl. oz. / 100 lbs of seed)
Dry Bean	Rhizoctonia Root Rot / Damping off (Rhizoctonia solani); White Mold (Sclerotinia sclerotiorum)	0.5 oz.	*Total volume of all liquid / all products being applied must achieve 5-8 fl. oz. / 100 lbs of seed
Corn (includes Field Corn, Sweet Corn)	Common rust - Puccinia sorghi	1.0 oz.	*Total volume of all liquid / all products being applied must achieve 5-8 fl. oz. / 100 lbs of seed
Chick Peas	Seedling diseases caused by Fusarium and Rhizoctonia spp.	1.0 oz.	*Total volume of all liquid / all products being applied must achieve 5-8 fl. oz. / 100 lbs of seed

Preplant Seed Treatment (cont.)

Field Peas	Seedling diseases caused by Fusarium and Rhizoctonia spp.	0.5 oz	*Total volume of all liquid/ all products being applied must achieve 5-8 fl. oz. / 100 lbs of seed
Wheat	Seedling diseases caused by Fusarium and Rhizoctonia spp.	0.5 oz	*Total volume of all liquid/ all products being applied must achieve 5-8 fl. oz. / 100 lbs of seed
Potato (cut or whole tubers used for planting purposes)	Rhizoctonia Canker and Black Scurf (Rhizoctonia solani); Brown Spot (Alternaria alternata)	*See Remarks	*See instructions on following page
Tomato	Early Blight; Bacterial Spot; White Mold (Sclerotinia sclerotiorum)	*Pretransplant seedling root and foliar treatment only	*See instructions on following page

Preplant Seed Treatment (cont.)

SITES

Potatoes

APPLICATION RATES

Seed Potatoes (as cut or whole tubers used for planting purposes)

Mix at a ratio of 0.035 oz. (1 gram) of **Heads Up® Plant Protectant** per 34 ounces (1 liter) of water. 34 ounces (one liter) of this solution will treat 220-582 lbs (100-264 kgs) of potato seeds.

APPLICATION

Seeds must be prepared and ready for seeding. The objective is to achieve a wet shiny appearance to the seed. This will dry off or be absorbed by the seed; however, the treatment will remain in effect. Treat the seeds by dipping, spraying or dribbling the solution into a rotating auger conveyor or some other approved seed treatment device. Spray applications to seeds within an enclosed spray booth or other enclosed spray device are also acceptable providing thorough coverage is achieved.

For seed potatoes, whether fresh cut or suberized, the **Heads Up®** solution **must be applied to germinating seed potatoes**, as indicated by obvious sprouting activity coming from the potato eyes. This sprouting activity can be from peeking to full spout length, but before green leaves appear.

Proper calibration and operation of application equipment is essential. Treat only the seed that you intend to plant and ensure all treated seed is used for planting purposes.

Pretransplant Seedling Root Treatment

SITES

Tomato seedlings

APPLICATION RATES

Carefully read and understand this label for use information and restrictions. Mix at a ratio of 0.035 oz. (1 gram) of **Heads Up® Plant Protectant** per 34 ounces (1 liter) of water.

Root dip or spray bare roots of transplants until solution is exhausted.

APPLICATION

FOR ROOT AREAS ONLY. For tomato seedlings also to receive foliar treatment, see directions below.

Plants should be actively growing and free of stress conditions.

Seedlings must be prepared and ready for transplanting. Treat roots by dipping the exposed root mass completely and holding submerged for sixty (60) seconds in the **Heads Up®** solution. It is not necessary to completely remove all adhering soil from the root mass; however, for best results, gently shake roots to remove excess adhering soil. When seedlings are started in flats, dip and hold the root area of the whole plant in the flat for 60 seconds in a shallow tray of **Heads Up®** solution. The tray must be deep enough to immerse the plant's roots. Individual seedlings may be treated by removing them from the starter soil and shaking off excess soil, placing them in a container holding the **root mass area only** submerged in **Heads Up®** solution for 60 seconds, and then transplanted. Treat individual seedlings by spraying the exposed root mass until they are completely wet with the **Heads Up®** solution. After root treatment, the individual tomato seedlings may be planted either in flats before being taken to the field or may be taken directly to the field, but the seedlings should be planted immediately. Seedlings planted in flats may be root treated up to four days prior to transplanting. Treat only the seedlings that you wish to plant and insure all treated seedlings are used for planting purposes. Tomato seedlings may be both root treated and foliar treated. Seedlings may be foliar treated the same day that they are root treated.

Pretransplant Seedling Foliar Treatment

SITES

Apply only one foliar application of this product to tomato seedlings, up to 6 inches in height, at time of transplant or up to 4 days prior to transplanting. Do not apply the product after transplant or when blooms or fruit are present on the plant. No other foliage treatments of **Heads Up**[®] solution are permitted.

APPLICATION RATES

Mix at a ratio of 0.035 oz. (1 gram) of **Heads Up**[®] Plant Protectant per 34 ounces (1 liter) of water.

Apply 0.17 – 0.51 ounces (5 – 15 milliliters) of solution per square foot of started tomato seedlings in trays or until foliage is completely wet.

APPLICATION

Seedlings must be prepared and ready for planting. Spray one application only to immature seedlings up to 4 days before transplanting. Spray seedlings until foliage is completely wet. Apply indoors in greenhouses or other enclosed structures or outdoors in enclosed spray booths or other enclosed spray devices.

Tomato seedlings may be both root treated and foliar treated. Seedlings may be foliar treated the same day that they are root treated. For tomato seedlings also to receive root dip treatment, see directions above.

Storage and Disposal

Do not contaminate food, feed or water by storage or disposal.

Pesticide Storage: Store in original container, tightly sealed, in a dry location.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill container. Offer for recycling, if available, or dispose of empty bag in sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

BATCH CODE:

Conditions of Sale and Warranty

Seller's guarantee shall be limited to the contents and merchantability of the product and the terms of the label, and subject thereto. To the extent consistent with applicable law, the buyer assumes all risks to persons or property arising out of use or handling and accepts the product on these conditions. Because the time, place, rate of application and other conditions of use are beyond the Seller's control, Seller's liability from storage, handling and use of this product is limited to replacement of the product or a refund of the purchase price. **Heads Up® Plant Protectant** is applicable as a disease preventive only. The directions for use of this product are based on test plots, greenhouse trials and the opinions of experts. They are believed to be reliable and correct; however, it is not possible to eliminate all possible detrimental effects associated with use, whether they are crop injury, ineffectiveness or other unintended consequences which may occur as a result of weather or other materials, or the manner of use or application, beyond the control of the manufacturer or the seller. To the extent consistent with applicable law, the buyer shall assume all risks.

Heads Up® is a trademark of Heads Up Plant Protectants, Inc.
Patent Numbers 6,743,752 and 6,482,770