



GROUP 4 INSECTICIDE

## STRESS SHIELD® 600

Stress Shield 600 is a systemic seed treatment insecticide for protection of wheat, barley, oats and legumes against certain insect pests.

Insecticide

COMMERCIAL

Suspension



WARNING

POISON

GUARANTEE: Imidacloprid ..... 600 g/L

Contains 1,2-benzisothiazolin-3-one at 0.048% as a preservative.

REGISTRATION NO. 30668 PEST CONTROL PRODUCTS ACT

READ THE LABEL BEFORE USING

PROTECT FROM FREEZING

NET CONTENTS: 0.25 - 1000 L

BAYER CROPSCIENCE INC.  
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Calgary, Alberta T2C 3G3

24 HOUR EMERGENCY PHONE: 1-800-334-7577

GROWER INFORMATION: 1-888-283-6847

**SPECIAL USE RESTRICTIONS:** This product contains no colourant. Seed treated with Stress Shield 600 must be conspicuously coloured. Regulations pertaining to the *Seeds Act* must be strictly adhered to when using this product.

®Stress Shield is a registered trademark of Bayer CropScience

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## GENERAL INFORMATION

### Section 1: 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. The user assumes the risk to persons or property that arises from any such use of this product.

### Section 2: The Product

Stress Shield 600 is a systemic seed treatment insecticide that provides protection of certain crops from damage caused by listed chewing and sucking insects through contact and systemic activity. Thorough seed coverage is required for maximum protection of seed. When rate ranges are given, use the higher rate when insect pressure is expected to be high. Under high insect pressures, a foliar insecticide may be required, therefore monitor crops regularly for insect infestation levels. Do not apply any subsequent application of a Group 4 Insecticide (i.e., in-furrow or foliar application) following treatment with Stress Shield 600.

## SAFETY AND HANDLING

### Section 3: Precautions, Protective Clothing and Equipment

#### PRECAUTIONS

##### KEEP OUT OF REACH OF CHILDREN.

Harmful or fatal if swallowed and harmful if inhaled. Avoid breathing vapour or spray mist. When handling Stress Shield 600 or seed treated with Stress Shield 600, work in a well-ventilated area. Wear cotton coveralls over long-sleeved shirt and long pants, chemical resistant gloves, and shoes plus socks. DO NOT use leather or cloth gloves. Wear goggles and a suitable dust mask approved by NIOSH/MSHA when handling this product. In commercial facilities, all workers involved in mixing/loading, application, bagging, clean-up and repair must wear a NIOSH/MSHA/BHSE-approved respirator. Use good personal hygiene, washing hands and exposed skin before eating, drinking or smoking. No food, drink or tobacco should be allowed in areas of chemical storage or use.

If this pest control product is to be used on a commodity that may be exported and you require information regarding Maximum Residue Limits for an importing country, please contact Bayer CropScience Canada Inc. at 1-888-283-6847 or [www.bayercropscience.ca](http://www.bayercropscience.ca).

### Section 4: First Aid and Toxicological Information

#### FIRST AID:

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 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.
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.

#### TOXICOLOGICAL INFORMATION:

Treat symptomatically.

Section 5: Environmental Hazards
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Toxic to birds and aquatic organisms.

Imidacloprid 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 complete guidance “Pollinator Protection and Responsible Use of Treated Seed- Best Management Practices” on the Health Canada webpage on pollinator protection at [www.healthcanada.gc.ca/pollinators](http://www.healthcanada.gc.ca/pollinators) .

When using a seed flow lubricant with soybean seed treated with Stress Shield 600, only a dust-reducing fluency agent is permitted. Talc and graphite are not permitted to be used as a seed flow lubricant for 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  
Spilled or exposed seeds and dust must be incorporated into the soil or cleaned up from the soil surface.

Section 6: Storage
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Store product in original container only, away from other pesticides, fertilizer, food or feed.  
Keep container closed.

Do not store Stress Shield 600 in direct sunlight.

Do not store Stress Shield 600 above 35°C.

## Disposal of Container

For non-returnable containers:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the mixture in the tank.
2. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.

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.

For returnable containers:

Do not reuse this container for any purpose. For disposal, this 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.

Triple rinse instructions for container disposal (for recyclable and disposable containers only):

This container should be triple-rinsed prior to its disposal. The rinsate can be added to the seed treatment provided the total volume of water does not exceed 6 % of the container size. Add 1/3 of the rinse water to the container and swish the contents thoroughly. Empty the rinsate into the seed treater holding tank and repeat this process two more times making sure the total volume of rinsate does not exceed 6%. Make sure rinsate is thoroughly mixed with seed treatment before treating. Close the container.

**CAUTION:** Do not dilute beyond 6% or excess seed wetness may result in seed handling difficulties. Using excess water can also cause Stress Shield 600 to thin resulting in settling of solids in the product. Be sure to adjust the undiluted application rate up by 6% to compensate for the dilution of the product caused by the addition of rinsate.

Disposal of unused, unwanted product:

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.

## DIRECTIONS FOR USE

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.

Section 8: Crops and Pests
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### 8.1 CEREALS: Wheat (durum, winter and spring), barley (spring and winter) and oats.

To provide early-season protection against crop stand injury caused by wireworm and larvae of European chafer and Japanese beetle apply Stress Shield 600 at 17-50 mL/100 kg of seed. For fields with a history of moderate to high wireworm pressure, treat crops at 34 – 50 mL / 100 kg seed. Use the higher rate when infestation pressures are expected to be heavy. Do not apply any subsequent application of a Group 4 Insecticide (i.e. in-furrow or foliar application) following treatment with Stress Shield 600.

For use in commercial and on-farm seed treatment equipment. Mix thoroughly before use or use entire container at one time. All seed must be conspicuously coloured at the time of treatment in accordance with Seed Act and Regulations. Seed treated with Stress Shield 600 may reduce seed flow in the seed drill. Recalibration of the seed drill may be required to obtain correct seeding rate before planting.

Crop	Pest	Use Rate / 100 kg seed		Remarks
		ml product	grams a.i.	
Wheat (durum, spring, winter), Barley, Oats	Wireworm  Larvae of European chafer and Japanese beetle	17-50	10-30	Dilute in sufficient liquid to achieve uniform distribution on the seed.

Pre-test the germination of a small sample of each seed lot with Stress Shield 600 prior to commercial application to the whole lot. Stress Shield 600 can be used as an over-treatment

### 8.2 TANK MIXTURES WITH FUNGICIDES

For control of certain seed and soil-borne pathogens in wheat, barley and oat seeds and seedlings, Stress Shield 600 may be mixed with Raxil T, Raxil MD and EverGol Energy. Follow all appropriate directions and precautions as specified on the fungicide labels.

### 8.3 LEGUME VEGETABLES

Stress Shield 600 is a systemic insecticide seed treatment for early season protection of listed edible podded beans and dry shelled beans from potato leafhopper and crop stand injury caused by wireworm, and pea leaf weevil. In soybeans, Stress Shield 600 provides early season protection against soybean aphid, crop stand injury caused by wireworm, larvae of European chafer and Japanese beetle and seedcorn maggot and early season defoliation caused by the overwintering generation of bean leaf beetle.

Do not apply any subsequent application of a Group 4 Insecticide (i.e., in-furrow or foliar application) following treatment with Stress Shield 600.

Crop	Pest	Use rate/100 kg seed	
		mL product	grams a.i.
<p>Crop Subgroup 6A: Edible-Podded Legume Vegetables (except peas)</p> <p>Bean (<i>Phaseolus</i> spp.) - Includes runner bean, snap bean, wax bean</p> <p>Bean (<i>Vigna</i> spp.) - Includes asparagus bean, Chinese longbean, moth bean, yardlong bean</p> <p>Jackbean</p>	Potato leafhopper, Wireworm	104	62.5
<p>Crop Subgroup 6C: Dried Shelled Pea and Bean (except soybeans and dry shelled peas)</p> <p>Bean (<i>Lupinus</i> spp.) - Includes grain lupin, sweet lupin, white lupin, white sweet lupin</p> <p>Bean (<i>Phaseolus</i> spp.) - Includes field bean(dry common and coloured) such as kidney, black cranberry pink and navy bean, lima bean, pinto bean, tepary bean</p> <p>Bean (<i>Vigna</i> spp.) - Includes adzuki bean, blackeyed pea, catjang, cowpea, Crowder pea, moth bean, mung bean, rice bean, southern pea, urd bean</p> <p>Broad bean (fava bean)</p>	Potato leafhopper, Wireworm	104	62.5
Soybeans*	Soybean aphid, Bean leaf beetle, Seedcorn maggot, Wireworm, Larvae of European chafer and Japanese beetle	104-208	62.5-125
Field peas *	Pea leaf weevil	104-208	62.5-125
	Wireworm	104	62.5
Fababean	Pea leaf weevil, Wireworm	104	62.5
Chickpeas Lentils	Wireworm	104	62.5



\* For soybeans, and for field peas with pea leaf weevil, use the higher rate for:

1. early seeding;
2. when insect populations are expected to be high, or;
3. extended control period for aphids.

Ensure product is thoroughly mixed prior to application or use entire container at one time. Apply Stress Shield 600 through slurry applicator seed treaters which provide uniform seed coverage. Uneven or incomplete seed coverage may not give the desired level of insect control. Maintain constant agitation of the slurry during application. Allow the seed to dry before bagging or storing in bulk containers. This product contains no colourant. All seed must be conspicuously coloured at the time of treatment in accordance with *Seed Act and Regulations*.

#### 8.4 TANK MIXTURES WITH FUNGICIDES

For control of certain seed and soil-borne pathogens in legume seeds and seedlings, Stress Shield 600 may be mixed with the following seed treatment fungicides: Trilex AL, Trilex AL Concentrate, Trilex FS, Allegiance, EverGol Energy, EverGol Xtend, Apron Max RFC and Apron Max RTA. Follow all appropriate directions and precautions as specified on the fungicide labels. Make sure that the specific legume crop to be treated is registered on the fungicide partner as well.

### SECTION 9: USE RESTRICTIONS AND LIMITATIONS

#### 9.1 USE RESTRICTIONS:

Do not use treated seed for food, feed or oil processing.

Do not graze or feed livestock on treated areas for four weeks after planting.

#### 9.2 SEED QUALITY:

Laboratory and field studies have shown that Stress Shield 600 will not adversely affect germination of treated seeds. Treatment of highly mechanically damaged seed, or seed of known low vigour and poor quality may result in reduced germination and/or reduction of seed and seedling vigour. If seed lot quality is unknown, conduct a germination test on a small portion of seed before committing the total seed lot to a selected chemical treatment. Due to seed quality conditions beyond the control of Bayer CropScience, no claims are made to guarantee germination of carry-over seed.

#### 9.3 LABELLING TREATED SEED:

All bags containing treated seed must be labelled or tagged as follows: “This seed has been treated with Stress Shield 600 seed protectant which contains imidacloprid. Do not use for feed, food or oil processing. Store away from feeds and other foodstuffs. Toxic to birds. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.”

Additionally, all treated soybean seed for sale or use in Canada must be labelled with the following information:

- Imidacloprid 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 complete guidance “Pollinator Protection and Responsible Use of Treated Seed- Best Management Practices” on the Health Canada webpage on pollinator protection at [www.healthcanada.gc.ca/pollinators](http://www.healthcanada.gc.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 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.
- Spilled or exposed seeds and dust must be incorporated into the soil or cleaned up from the soil surface.

#### 9.4 SPECIAL USE RESTRICTIONS:

This product contains no colourant. Seed treated with this product must be conspicuously coloured. Regulations pertaining to the *Seeds Act* must be strictly adhered to when using this product.

### SECTION 10: MIXING INSTRUCTIONS

Storage of Stress Shield 600 at low temperatures is not recommended. Prior to and during application, Stress Shield must be thoroughly agitated to ensure uniform mixing of the product. Due to the viscosity of the material, it should be kept above 10 °C prior to and during application. Do not apply direct heat to container.

### SECTION 11: RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, please note that Stress Shield 600 contains a Group 4 insecticide. Any insect population may contain individuals naturally resistant to Stress Shield 600 and other Group 4 insecticides. The resistant individuals may dominate the insect population if this group of 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 resistance:

- Where possible, rotate the use of Stress Shield 600 or other Group 4 insecticides with different groups that control the same pests in a field.
- Use tank mixtures with insecticides from a different group when such use is permitted.

- Insecticide use should be based on an IPM program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.
- Monitor treated pest populations for resistance development.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

For further information or to report suspected resistance contact Bayer CropScience Inc. via internet at [www.bayercropscience.ca](http://www.bayercropscience.ca) or phone 1-888-283-6847.

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