



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

August 27, 2026

Maria Pilar Herrero  
MariaHerrero@valentbiosciences.com  
SUMITOMO BIORATIONAL COMPANY LLC

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment - Revision to add canola and sorghum to Sublabel II and adding Sublabel III for peanuts; alternate brand name "FullGrain"; and updating company name and precautionary statement.  
Product Name: GRAINSTAR PLANT GROWTH REGULATOR SOLUBLE GRANULE  
Admin Number: 73049-535  
EPA Receipt Date: 07/02/2026  
Action Case Number: 00705452

Dear Maria Pilar Herrero:

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable.

The alternate brand name: FullGrain has been added to the registration. Our records have been updated accordingly. This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

The label submitted with the application has been stamped "Accepted Only Indicated Revisions Reviewed" and is enclosed for your records.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains statements or claims substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

If you have questions, please contact Nina Naimy via email at [naimy.nina@epa.gov](mailto:naimy.nina@epa.gov).

Sincerely,

A handwritten signature in black ink that reads "James Parker". The script is elegant and cursive, with the first letters of "James" and "Parker" being capitalized and prominent.

James Parker, Team Leader  
BPB, BPPD  
Office of Pesticide Programs

[Text in brackets [] indicates optional language or language intended for explanatory purposes to facilitate label review. Thus, this language will often not appear on final printed labeling. Also, this page is present (page 1) to delineate sublabels and will not appear on the final printed labeling.]

**GRAINSTAR™  
PLANT GROWTH REGULATOR  
SOLUBLE GRANULE**

**Alternate Brand Name: VBC-30507G; FullGrain**

**ACCEPTED**

ONLY INDICATED  
REVISIONS REVIEWED

08/27/2026

Under the Federal Insecticide, Fungicide and  
Rodenticide Act as amended, for the pesticide  
registered under EPA Reg. No.

**73049-535**

No label revisions other than those indicated were  
reported to the Agency.

**MASTER LABEL**

Sublabel I: For use on wheat, barley, rice, corn, soybean, sorghum and canola

Sublabel II: For use on sugarcane, sugar beet, and potato

Sublabel III: For use on peanuts

**Active Ingredient**

|                        |            |
|------------------------|------------|
| S-Abscisic Acid .....  | 8.6% w/w   |
| Other Ingredients..... | 91.4% w/w  |
| Total.....             | 100.0% w/w |

TOPGRAIN Plant Growth Regulator Soluble Granule contains a total of 8.6 g of S-Abscisic acid (S-ABA) in 100 g of product. S-Abscisic acid, commonly known as S-ABA, is a growth regulator found in all plants.

**KEEP OUT OF REACH OF CHILDREN  
DANGER**

EPA Registration No. 73049-535  
EPA Establishment No.

Registrant: **Sumitomo Biorational Company LLC**  
1910 Innovation Way, Suite 100  
Libertyville, IL 60048  
1-847-968-4700

Net Weight:

This container will treat XX acres when applied at the maximum label rate.

[ See inside panel for precautions and use directions]

**GRAINSTAR™**  
**PLANT GROWTH REGULATOR**  
**SOLUBLE GRANULE**

**FOR USE ON WHEAT, BARLEY, CORN, **SORGHUM**, RICE, SOYBEAN, **CANOLA****  
**[SUB-LABEL I]**

|                        |            |
|------------------------|------------|
| Active Ingredient      |            |
| S-Abscisic Acid .....  | 8.6% w/w   |
| Other Ingredients..... | 91.4% w/w  |
| Total.....             | 100.0% w/w |

TOPGRAIN Plant Growth Regulator Soluble Granule contains a total of 8.6 g of S-Abscisic acid (S-ABA) in 100 g of product. S-Abscisic acid, commonly known as S-ABA, is a growth regulator found in all plants.

**KEEP OUT OF REACH OF CHILDREN**  
**DANGER**

| FIRST AID                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If in eyes                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul> |
| HOT LINE NUMBER                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                     |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also call toll-free 1-800-892-0099 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-847-968-4700. |                                                                                                                                                                                                                                                                                                     |

This label must be in the possession of the user at the time of pesticide application.

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Net Weight:  
This container will treat XX acres when applied at the maximum label rate.

[ See inside panel for precautions and use directions]

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS & DOMESTIC ANIMALS

**DANGER:** Causes irreversible eye damage. Do not get in eyes or on clothing. Wear (safety goggles, face shields, or shielded safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical Resistant Gloves
- Shoes plus socks.
- Protective eyewear

Follow the manufacturer's instructions for cleaning/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:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. 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 wash-water or rinsate.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with the terms of the Label. 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 requirements specific to your state or tribe, consult the state or 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 personal protective equipment (PPE), and restricted-entry interval. The requirements in 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.

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:

- Long-sleeved shirt and long pants (or Coveralls).
- Chemical resistant gloves (made of any waterproof material).
- Shoes plus socks.
- Protective eyewear.

## **GENERAL DIRECTIONS FOR USE**

- Use only as directed. Read the label thoroughly and make sure it is understood before making applications.
- Undesired effects can result from any deviations from the label directions in the rates, timings, water volumes, or the adoption of untested spray mixes, when applying GRAINSTAR Plant Growth Regulator Soluble Granule.
- To prepare the treatment solution, add the required amount of GRAINSTAR to a spray tank about half-filled with water. Agitate while bringing the total volume of water to the required level. Mix thoroughly with agitation and bypass circulation to completely dissolve the GRAINSTAR, and then add surfactant. Discard any unused treatment solution at the end of each day following local, state or federal law.
- Where recommended, use a non-ionic surfactant at the final adjuvant concentration directed by the adjuvant manufacturer.
- During mixing and application, foaming of the spray solution may occur. Foaming may be minimized by using only moderate agitation. To prevent or minimize foam, avoid the use

of mechanical agitators, terminate by-pass, and return lines at the bottom of the tank. The use an approved anti-foam or defoaming agent may be used to reduce foaming.

- Do not apply GRAINSTAR to plants or fruit under stress (e.g., heat, water, disease, insect and nutrient). Injured or stressed plants or fruit will show a reduced response to GRAINSTAR.
- Do not overhead irrigate treated plants for at least 6 hours following application of GRAINSTAR.
- Do not apply GRAINSTAR if rain is expected within 6 hours of application.
- A PHI is not required.

## COMPATIBILITY WITH OTHER AGRICULTURAL PRODUCTS

Compatibility and performance data for GRAINSTAR Plant Growth Regulator Soluble Granule (here after known as GRAINSTAR) with other agricultural products is not available.

Do not tank mix GRAINSTAR with compounds containing copper or iron ions. Do not tank mix GRAINSTAR with any product unless compatibility has been verified. If considering tank mixing GRAINSTAR with other products use the following **compatibility jar test** before mixing a whole tank:

Add water from the same water source to a clear glass or plastic jar. Add the pesticides in correct proportions. Mix thoroughly and let stand for a minimum 15 minutes. Separation, gelling, or generation of heat are all signs of incompatibility.

Even if a mix passes the jar test for compatibility, it is imperative to test it on a designated area to evaluate for phytotoxicity or ineffectiveness.

Always read and follow all label directions and precautions of each product. When using combinations of products, the most restrictive label limitations and precautions must be followed. Do not mix with any pesticide that has a prohibition against tank mixing. For further information consult your Valent Agricultural Specialist (1-800-6 VALENT).

## CROPS, APPLICATIONS, RATES, AND TIMINGS:

| CROP                                    | OBJECTIVE / BENEFIT                                                                   | APPLICATION INSTRUCTIONS                                                                                                                                                                                               |
|-----------------------------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wheat<br>[Not for use<br>in California] | Application of GRAINSTAR on wheat results in improved grain fill and increased yield. | Make a single application of GRAINSTAR from flag leaf emergence <del>until just prior to anthesis or after anthesis until</del> to the mid-grain fill stage.<br><br><del>Do not apply GRAINSTAR during anthesis.</del> |

|                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                  |                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                       | Application of GRAINSTAR on wheat results in improved abiotic stress tolerance, such as drought. | Make a single application of GRAINSTAR from tillering stage to the early-grain fill stage.<br><b><del>Do not apply GRAINSTAR during anthesis.</del></b> |
| <p>Apply 0.3 to 1.0 ounce (9.2 to 27.6 grams) of GRAINSTAR (0.8 to 2.4 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p><b>Do not apply GRAINSTAR to stressed plants.</b></p> <p><b>Do not apply more than two applications of GRAINSTAR per season. Spray intervals should be at least 3 weeks apart.</b></p> |                                                                                                  |                                                                                                                                                         |

| CROP                                                                                                                                                                                                                                                                                                                                                                  | OBJECTIVE / BENEFIT                                                                               | APPLICATION INSTRUCTIONS                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Barley<br>[Not for use in California]                                                                                                                                                                                                                                                                                                                                 | Application of GRAINSTAR on barley results in improved grain fill and increased yield.            | Make a single application of GRAINSTAR from flag leaf emergence <del>until just prior to anthesis or after anthesis until</del> to the mid-grain fill stage.<br><br><b><del>Do not apply GRAINSTAR during anthesis.</del></b> |
|                                                                                                                                                                                                                                                                                                                                                                       | Application of GRAINSTAR on barley results in improved abiotic stress tolerance, such as drought. | Make a single application of GRAINSTAR from tillering stage to the early-grain fill stage.<br><br><b><del>Do not apply GRAINSTAR during anthesis.</del></b>                                                                   |
| <p>Apply 0.3 to 1.0 ounce (9.2 to 27.6 grams) of GRAINSTAR (0.8 to 2.4 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p><b>Do not apply GRAINSTAR to stressed plants.</b></p> <p><b>Do not apply more than two applications of GRAINSTAR per season. Spray intervals should be at least 3 weeks apart.</b></p> |                                                                                                   |                                                                                                                                                                                                                               |

| CROP | OBJECTIVE / BENEFIT | APPLICATION INSTRUCTIONS |
|------|---------------------|--------------------------|
|------|---------------------|--------------------------|

|                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                       |                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Field Corn<br>[Not for use<br>in California]                                                                                                                                                                                                                                                                                                                          | Application of GRAINSTAR on corn results in improved grain fill and increased yield.                  | Make a single application of GRAINSTAR from VT up to the end of R3 stage.                                                                |
|                                                                                                                                                                                                                                                                                                                                                                       | Application of GRAINSTAR on field corn results in improved abiotic stress tolerance, such as drought. | Make a single application of GRAINSTAR from V3 prior to VT stage of growth.<br><b><del>Do not apply GRAINSTAR during anthesis.</del></b> |
| <p>Apply 0.3 to 1.0 ounce (9.2 to 27.6 grams) of GRAINSTAR (0.8 to 2.4 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p><b>Do not apply GRAINSTAR to stressed plants.</b></p> <p><b>Do not apply more than two applications of GRAINSTAR per season. Spray intervals should be at least 3 weeks apart.</b></p> |                                                                                                       |                                                                                                                                          |

| CROP                                                                                                                                                                                                                                 | OBJECTIVE / BENEFIT                                                                                | APPLICATION INSTRUCTIONS                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Sorghum<br>[Not for use in California]                                                                                                                                                                                               | Application of GRAINSTAR on sorghum results in improved grain fill and increased yield.            | Make a single application of GRAINSTAR from flag leaf emergence, <u>up to</u> the end of flowering. |
|                                                                                                                                                                                                                                      | Application of GRAINSTAR on sorghum results in improved abiotic stress tolerance, such as drought. | Make a single application of GRAINSTAR from 3-leaf stage to the boot stage of growth.               |
| <p>Apply 0.3 to 1.0 ounce (9.2 to 27.6 grams) of GRAINSTAR (0.8 to 2.4 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p><b>Do not apply GRAINSTAR to stressed plants.</b></p> |                                                                                                    |                                                                                                     |

**Do not apply more than two applications of GRAINSTAR per season. Spray intervals should be at least 3 weeks apart.**

| CROP                                                                                                                                                                                                                          | OBJECTIVE / BENEFIT                                                                                                                           | APPLICATION INSTRUCTIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rice<br>[Not for use in California]                                                                                                                                                                                           | Application of GRAINSTAR on rice increases carbohydrate flow to the inferior spikelets of the rice panicle, resulting in improved grain fill. | Apply GRAINSTAR from flag leaf emergence <del>until just prior to anthesis or after anthesis until</del> to the mid-grain fill stage.<br><b><del>Do not apply GRAINSTAR during anthesis.</del></b><br>Multiple applications are expected to improve grain fill in varieties and under growing conditions for which there is an extended period of grain fill. Subsequent applications should be made at 5 to 10-day intervals depending on the length of the flowering period. |
|                                                                                                                                                                                                                               | Application of GRAINSTAR on rice results in improved abiotic stress tolerance, such as drought.                                               | Make a single application of GRAINSTAR during tillering.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Apply 0.3 to 1.0 ounce (9.2 to 27.6 grams) of GRAINSTAR (0.8 to 2.4 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.<br><br><b>Do not apply GRAINSTAR to stressed plants.</b> |                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| CROP                                   | OBJECTIVE / BENEFIT                                                                      | APPLICATION INSTRUCTIONS                                                 |
|----------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Soybean<br>[Not for use in California] | Application of GRAINSTAR on soybeans results in improved grain fill and increased yield. | Apply a single application of GRAINSTAR at R1 until the R6 growth stage. |

|                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                    |                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                       | Application of GRAINSTAR on soybean results in improved abiotic stress tolerance, such as drought. | Make a single application of GRAINSTAR from V3 up to the R1 stage of growth.<br><b><del>Do not apply GRAINSTAR during anthesis.</del></b> |
| <p>Apply 0.3 to 1.0 ounce (9.2 to 27.6 grams) of GRAINSTAR (0.8 to 2.4 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p><b>Do not apply GRAINSTAR to stressed plants.</b></p> <p><b>Do not apply more than two applications of GRAINSTAR per season. Spray intervals should be at least 3 weeks apart.</b></p> |                                                                                                    |                                                                                                                                           |

| <b>CROP</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>OBJECTIVE / BENEFIT</b>                                                                        | <b>APPLICATION INSTRUCTIONS</b>                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Canola<br>[Not for use in California]                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Application of GRAINSTAR on canola results in increased grain yield and oil yield.                | Make one to two applications of GRAINSTAR from visible flower buds (budding) up to full bloom (50% of flowers open on the main raceme). |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Application of GRAINSTAR on canola results in improved abiotic stress tolerance, such as drought. | Make a single application of GRAINSTAR during vegetative stage of growth, prior to abiotic stress.                                      |
| <p>Apply 0.3 to 1.0 ounce (9.2 to 27.6 grams) of GRAINSTAR (0.8 to 2.4 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p><b>Do not apply GRAINSTAR to stressed plants.</b></p> <p><b>Do not apply more than three applications of GRAINSTAR per season. Spray intervals should be at least 3 weeks apart.</b></p> <p><b>Do not apply more than two applications of GRAINSTAR per season. Spray intervals should be at least 3 weeks apart.</b></p> |                                                                                                   |                                                                                                                                         |

#### **Additional Notes:**

- Apply GRAINSTAR in the morning or evening when conditions are best for slow drying (cooler temperatures and higher humidity), to ensure adequate absorption of the product.
- For foliar applications, use sufficient spray volume to ensure complete coverage of plants. 15 to 25 gallons per acre spray volume has been shown to be effective.
- Use of a non-ionic surfactant at the final surfactant concentration directed by the surfactant manufacturer to improved wetting and coverage of plant.
- Ensure pH of the spray solution is not more than 6.0.

| Ounces of GRAINSTAR | Grams of GRAINSTAR | Grams of S-ABA | ppm concentration of S-ABA (at 20 gal/A spray volume) |
|---------------------|--------------------|----------------|-------------------------------------------------------|
| 0.3                 | 9.2                | 0.8            | 11                                                    |
| 1.0                 | 27.6               | 2.4            | 32                                                    |
| 1.6                 | 45.4               | 4.3            | 57                                                    |
| 2.0                 | 56.7               | 5.0            | 66                                                    |

## STORAGE AND DISPOSAL

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

### Pesticide Storage

Keep container tightly closed when not in use. Store product in a cool and dry place. Avoid extended storage conditions at temperatures above 25°C (77°F). Avoid exposure of product to light.

### Pesticide Disposal

To avoid waste, use all material in this container by application according to label directions. If waste cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

### Container Handling

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or puncture and dispose of the container in a sanitary landfill, or by other procedures approved by state and local authorities.

**Warranty and Disclaimer Statement:**

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

**GRAINSTAR™**  
**PLANT GROWTH REGULATOR**  
**SOLUBLE GRANULE**

**Alternate Brand Name: VBC-30507G**

**FOR USE ON SUGARCANE, SUGAR BEET, POTATO**  
**[SUB-LABEL II]**

**Active Ingredient**

|                        |            |
|------------------------|------------|
| S-Abscisic Acid .....  | 8.6% w/w   |
| Other Ingredients..... | 91.4% w/w  |
| Total.....             | 100.0% w/w |

GRAINSTAR Plant Growth Regulator Soluble Granule contains a total of 8.6 g of S-Abscisic acid (S-ABA) in 100 g of product. S-Abscisic acid, commonly known as S-ABA, is a growth regulator found in all plants.

**KEEP OUT OF REACH OF CHILDREN**  
**DANGER**

| <b>FIRST AID</b>                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If in eyes                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul> |
| <b>HOT LINE NUMBER</b>                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                     |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also call toll-free 1-800-892-0099 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-847-968-4700. |                                                                                                                                                                                                                                                                                                     |

This label must be in the possession of the user at the time of pesticide application.

EPA Registration No. 73049-535  
EPA Establishment No.

Registrant: **Sumitomo Biorational Company LLC**  
1910 Innovation Way, Suite 100  
Libertyville, IL 60048  
1-847-968-4700

Net Weight:

This container will treat XX acres when applied at the maximum label rate.

[ See inside panel for precautions and use directions]

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS & DOMESTIC ANIMALS

**DANGER:** Causes irreversible eye damage. Do not get in eyes or on clothing. Wear (specify appropriate protective eyewear). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical Resistant Gloves
- Shoes plus socks.
- Protective eyewear

Follow the manufacturer's instructions for cleaning/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:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. 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 wash-water or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with the terms of the Label. 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 requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

## **AGRICULTURAL USE REQUIREMENTS**

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

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:

- Long-sleeved shirt and long pants (or Coveralls).
- Chemical resistant gloves (made of any waterproof material).
- Shoes plus socks.
- Protective eyewear.

## **GENERAL DIRECTIONS FOR USE**

- Use only as directed. Read the label thoroughly and make sure it is understood before making applications.
- Undesired effects can result from any deviations from the label directions in the rates, timings, water volumes, or the adoption of untested spray mixes, when applying GRAINSTAR Plant Growth Regulator Soluble Granule.
- To prepare the treatment solution, add the required amount of GRAINSTAR to a spray tank about half-filled with water. Agitate while bringing the total volume of water to the required level. Mix thoroughly with agitation and bypass circulation to completely dissolve the GRAINSTAR, and then add surfactant. Discard any unused treatment solution at the end of each day following local, state or federal law.
- Where recommended, use a non-ionic surfactant at the final adjuvant concentration directed by the adjuvant manufacturer.
- Do not apply GRAINSTAR to plants or fruit under stress (e.g., heat, water, disease, insect and nutrient). Injured or stressed plants or fruit will show a reduced response to GRAINSTAR.

- During mixing and application, foaming of the spray solution may occur. Foaming may be minimized by using only moderate agitation. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass, and return lines at the bottom of the tank. The use of an approved anti-foam or defoaming agent may be used to reduce foaming.
- Do not overhead irrigate treated plants for at least 6 hours following application of GRAINSTAR.
- Do not apply GRAINSTAR if rain is expected within 6 hours of application.

## COMPATIBILITY WITH OTHER AGRICULTURAL PRODUCTS

Compatibility and performance data for GRAINSTAR Plant Growth Regulator Soluble Granule (here after known as GRAINSTAR) with other agricultural products is not available.

Do not tank mix GRAINSTAR with compounds containing copper or iron ions. Do not tank mix GRAINSTAR with any product unless compatibility has been verified. If considering tank mixing GRAINSTAR with other products use the following **compatibility jar test** before mixing a whole tank:

Add water from the same water source to a clear glass or plastic jar. Add the pesticides in correct proportions. Mix thoroughly and let stand for a minimum 15 minutes. Separation, gelling, or generation of heat are all signs of incompatibility.

Even if a mix passes the jar test for compatibility, it is imperative to test it on a designated area to evaluate for phytotoxicity or ineffectiveness.

Always read and follow all label directions and precautions of each product. When using combinations of products, the most restrictive label limitations and precautions must be followed. Do not mix with any pesticide that has a prohibition against tank mixing. For further information consult your Valent Agricultural Specialist (1-800-6 VALENT).

## CROPS, APPLICATIONS, RATES, AND TIMINGS:

| CROP                                     | OBJECTIVE / BENEFIT                                                     | APPLICATION INSTRUCTIONS                                                                                                                                                                                              |
|------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sugarcane<br>[Not for use in California] | Application of GRAINSTAR on sugarcane results in increased sugar yield. | Apply GRAINSTAR 8-2 weeks before harvest.<br><br>Apply 0.3 to 1.6 ounce (9.2 to 45.4 grams) of GRAINSTAR (0.8 to 4.3 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage. |

| <b>CROP</b>                               | <b>OBJECTIVE / BENEFIT</b>                                         | <b>APPLICATION INSTRUCTIONS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sugar beet<br>[Not for use in California] | Application of GRAINSTAR on sugar beet results in increased yield. | <p>Apply GRAINSTAR from the 6-leaf stage of growth through 4-weeks before harvest.</p> <p>Apply 0.3 to 2.0 ounce (9.2 to 56.7 grams) of GRAINSTAR (0.8 to 5.0 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p>Up to five (5) applications of GRAINSTAR can be made. Multiple applications are expected to improve yield in varieties and under growing conditions for which there is an extended beet formation. Subsequent applications should be made at 10 to 14-day intervals.</p> |

| <b>CROP</b>                           | <b>OBJECTIVE / BENEFIT</b>                                     | <b>APPLICATION INSTRUCTIONS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Potato<br>[Not for use in California] | Application of GRAINSTAR on potato results in increased yield. | <p>Apply GRAINSTAR SG from tuber set/initiation (Growth Stage 3) through tuber bulking (Growth Stage 4).</p> <p>Apply 0.3 to 2.0 ounce (9.2 to 56.7 grams) of GRAINSTAR (0.8 to 5.0 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p>Up to three (3) applications of GRAINSTAR can be made. Multiple applications are expected to improve yield in varieties and under growing conditions for which there is an extended tuber formation. Subsequent applications should be made at 10 to 14-day intervals</p> |

**Additional Notes:**

- Apply GRAINSTAR in the morning or evening when conditions are best for slow drying (cooler temperatures and higher humidity), to ensure adequate absorption of the product.
- For foliar applications, use sufficient spray volume to ensure complete coverage of plants. 15 to 25 gallons per acre spray volume has been shown to be effective.

- Use of a non-ionic surfactant at the final surfactant concentration directed by the surfactant manufacturer to improved wetting and coverage of plant.
- Ensure pH of the spray solution is not more than 6.0.

**CONVERSION TABLE**

| <b>Ounces of<br/>GRAINSTAR</b> | <b>Grams of<br/>GRAINSTAR</b> | <b>Grams of S-ABA</b> | <b>ppm concentration of<br/>S-ABA (at 20 gal/A<br/>spray volume)</b> |
|--------------------------------|-------------------------------|-----------------------|----------------------------------------------------------------------|
| <b>0.3</b>                     | <b>9.2</b>                    | <b>0.8</b>            | <b>11</b>                                                            |
| <b>1.0</b>                     | <b>27.6</b>                   | <b>2.4</b>            | <b>32</b>                                                            |
| <b>1.6</b>                     | <b>45.4</b>                   | <b>4.3</b>            | <b>57</b>                                                            |
| <b>2.0</b>                     | <b>56.7</b>                   | <b>5.0</b>            | <b>66</b>                                                            |

**GRAINSTAR™  
PLANT GROWTH REGULATOR  
SOLUBLE GRANULE**

**Alternate Brand Names: VBC-30507G, FULLGRAIN**

**FOR USE ON PEANUT  
[SUB-LABEL III]**

|                        |            |
|------------------------|------------|
| Active Ingredient      |            |
| S-Abscisic Acid .....  | 8.6% w/w   |
| Other Ingredients..... | 91.4% w/w  |
| Total.....             | 100.0% w/w |

GRAINSTAR Plant Growth Regulator Soluble Granule contains a total of 8.6 g of S-Abscisic acid (S-ABA) in 100 g of product. S-Abscisic acid, commonly known as S-ABA, is a growth regulator found in all plants.

**KEEP OUT OF REACH OF CHILDREN  
DANGER**

| FIRST AID                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If in eyes                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul> |
| HOT LINE NUMBER                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                     |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also call toll-free 1-800-892-0099 (24 hours) for emergency medical treatment and/or transport emergency information. For all other information, call 1-847-968-4700. |                                                                                                                                                                                                                                                                                                     |

This label must be in the possession of the user at the time of pesticide application.

EPA Registration No. 73049-535  
EPA Establishment No.

Registrant: **Sumitomo Biorational Company LLC**  
1910 Innovation Way, Suite 100  
Libertyville, IL 60048  
1-847-968-4700

Net Weight:

This container will treat XX acres when applied at the maximum label rate.

[ See inside panel for precautions and use directions]

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS & DOMESTIC ANIMALS

**DANGER:** Causes irreversible eye damage. Do not get in eyes or on clothing. Wear (specify appropriate protective eyewear). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical Resistant Gloves
- Shoes plus socks.
- Protective eyewear

Follow the manufacturer's instructions for cleaning/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:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. 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 wash-water or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with the terms of the Label. 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 requirements specific to your state or tribe, consult the state or 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 personal protective equipment (PPE), and restricted-entry interval. The requirements in 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.

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:

- Long-sleeved shirt and long pants (or Coveralls).
- Chemical resistant gloves (made of any waterproof material).
- Shoes plus socks.
- Protective eyewear.

## **GENERAL DIRECTIONS FOR USE**

- Use only as directed. Read the label thoroughly and make sure it is understood before making applications.
- Undesired effects can result from any deviations from the label directions in the rates, timings, water volumes, or the adoption of untested spray mixes, when applying GRAINSTAR Plant Growth Regulator Soluble Granule.
- To prepare the treatment solution, add the required amount of GRAINSTAR to a spray tank about half-filled with water. Agitate while bringing the total volume of water to the required level. Mix thoroughly with agitation and bypass circulation to completely dissolve the GRAINSTAR, and then add surfactant. Discard any unused treatment solution at the end of each day following local, state or federal law.
- Where recommended, use a non-ionic surfactant at the final adjuvant concentration directed by the adjuvant manufacturer.
- Do not apply GRAINSTAR to plants or fruit under stress (e.g., heat, water, disease, insect and nutrient). Injured or stressed plants or fruit will show a reduced response to GRAINSTAR.

- During mixing and application, foaming of the spray solution may occur. Foaming may be minimized by using only moderate agitation. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass, and return lines at the bottom of the tank. The use of an approved anti-foam or defoaming agent may be used to reduce foaming.
- Do not overhead irrigate treated plants for at least 6 hours following application of GRAINSTAR.
- Do not apply GRAINSTAR if rain is expected within 6 hours of application.

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## CROPS, APPLICATIONS, RATES, AND TIMINGS:

| CROP                                  | OBJECTIVE / BENEFIT                                                                    | APPLICATION INSTRUCTIONS                                                                                                                                                                                                                                                                                               |
|---------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Peanut<br>[Not for use in California] | Application of GRAINSTAR on peanuts results in increased pod size and increased yield. | Apply a single application of GRAINSTAR at one or both of the following timings: <ol style="list-style-type: none"> <li>1. Early pod fill (R4-R5). This timing typically occurs between 60 to 70 days after planting.</li> <li>2. Rapid pod fill stage (R6). This timing typically occurs between 90 to 100</li> </ol> |

|  |  |                                                                                                                                                                                                                                                                                                                                                                                                   |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>days after planting.</p> <p>Apply 0.3 to 1.0 ounce (9.2 to 27.6 grams) of GRAINSTAR (0.8 to 2.4 grams of S-ABA) per acre as a spray solution in a sufficient volume to achieve uniform coverage.</p> <p><b>Do not apply more than two applications of GRAINSTAR per season. Spray intervals should be at least 3 weeks apart.</b></p> <p><b>Do not apply GRAINSTAR to stressed plants.</b></p> |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Additional Notes:**

- Apply GRAINSTAR in the morning or evening when conditions are best for slow drying (cooler temperatures and higher humidity), to ensure adequate absorption of the product.
- For foliar applications, use sufficient spray volume to ensure complete coverage of plants. 15 to 25 gallons per acre spray volume has been shown to be effective.
- Use of a non-ionic surfactant at the final surfactant concentration directed by the surfactant manufacturer to improved wetting and coverage of plant.
- Ensure pH of the spray solution is not more than 6.0.

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|---------------------|--------------------|----------------|-------------------------------------------------------|
| 0.3                 | 9.2                | 0.8            | 11                                                    |
| 1.0                 | 27.6               | 2.4            | 32                                                    |
| 1.6                 | 45.4               | 4.3            | 57                                                    |
| 2.0                 | 56.7               | 5.0            | 66                                                    |

## **STORAGE AND DISPOSAL**

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

### Pesticide Storage

Keep container tightly closed when not in use. Store product in a cool and dry place. Avoid extended storage conditions at temperatures above 25°C (77°F). Avoid exposure of product to light.

### Pesticide Disposal

To avoid waste, use all material in this container by application according to label directions. If waste cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

### Container Handling

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or puncture and dispose of the container in a sanitary landfill, or by other procedures approved by state and local authorities.

## **Warranty and Disclaimer Statement:**

To the extent consistent with applicable law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

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