

FOR EXPERIMENTAL USE ONLY

Experimental Use Permit Number: 82608-EUP-1

**Not for sale to any person other than a participant or cooperator of the EPA-approved
Experimental Use Program**

**THIS LABEL MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF APPLICATION FOR USE ONLY AT
AN APPLICATION SITE OF A COOPERATOR AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF
THE EXPERIMENTAL PROGRAM. READ SAFETY DIRECTIONS BEFORE OPENING.**

Seed will be treated with the *B. firmus* spores in Iowa, Illinois, Indiana, Michigan, Missouri, Mississippi, and North Carolina.

Treated seed will be planted in Iowa, Illinois, Indiana, Kentucky, Kansas, Nebraska, Missouri, Colorado, Michigan, Minnesota, North Dakota, Ohio, South Dakota, Wisconsin, Alabama, Arkansas, Louisiana, Georgia, Mississippi, Oklahoma, North Carolina, South Carolina, Tennessee, and Texas.

BAFI SDN

Concentrate Biological Nematicide

**A Dry Formulation For Use in Seed Coating for the Protection of Plant Roots Against Plant
Parasitic Nematodes**

Active Ingredient:

Bacillus firmus (strain I-1582)*.....100%

Total:.....100%

*Minimum of 1.0×10^{11} cfu/gram

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

EPA Reg. No.

EPA Est. No. 82608-ISR-001

PRECAUTIONARY STATEMENTS

Hazards To Humans and Domestic Animals

CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

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 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
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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 contact 1-800-334-7577 for emergency medical treatment information.

Manufactured and Guaranteed by
**AgroGreen, Biological Division,
Minrav Infrastructures (1993) Ltd.
Asdod 77101 Israel
Phone: 011 972 8 863 3117**

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. 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. 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 discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or tribal agency responsible for pesticide regulation. 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.

Not for use in hopper-box, planter-box, or other non-commercial seed treatment applications at planting.

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 intervals (REI). 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 of 4 hours unless wearing appropriate PPE.

PPE requirement 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
- Waterproof gloves
- Shoes plus socks

General Information

BAFI SDN contains bacteria which colonize the developing root system, providing early season protection against damage caused by soil-inhabiting nematodes such as Root Knot Nematode, Soybean Cyst Nematode, Reniform Nematode, Dagger Nematode, Lance Nematode and Lesion Nematode that attack root systems. As a result of this biological protection, a vigorous root system is established by the plant, which often results in more uniform plants and greater yields.

Apply BAFI SDN as a water-based slurry. Prepare a pre-slurry at a concentration of no more than 15% by weight prior to its addition to the treatment slurry. Follow application guidelines below for further instructions. Note: This product does not contain colorant. To comply with 40 CFR 153.155, all seed treated commercially with this product must be colored with an EPA-approved dye or colorant of a suitable color to prevent accidental use as food for man or feed for animals. The Federal Seed Act requires that bags containing treated seed shall be labeled with the following information: "This seed has been treated with *Bacillus firmus* (strain I-1582). Do not use for food, feed or oil purposes."

The preparation of the pre-slurry will also require a higher than typical level of agitation. This may be accomplished by mixing the BAFI SDN material with water in a bucket with a paint and compound mixer attached to an electric drill. A paint and compound mixer can be purchased at Lowe's, Home Depot, or most hardware stores.

BAFI SDN Application to Seed Corn

BAFI SDN Rate: 0.141 oz / 80,000 Seed Unit (4 grams / 80,000 seeds)

"Pre-Slurry" Application Rate: 0.852 fl oz / 80,000 seed Unit (25.19 ml per 80,000 seeds)

The displacement of BAFI SDN in slurry is 0.657 fl oz of slurry for every 1 oz of dry material (0.63 grams per milliliter).

"Pre-Slurry" Preparation (mix BAFI SDN with water at 15% w/w before addition to the seed treatment slurry):

For every 80,000 seed corn to be treated, prepare the pre-slurry as follows.

0.141 oz BAFI SDN + 0.767 fl oz water (4 gm BAFI SDN + 22.67 ml water)

Prepare the pre-slurry by adding the water to the mix container (bucket) and while mixing, add the BAFI SDN powder to the water. Add the powder slowly to assure it wets out without forming clumps. Once completely mixed, add the "pre-slurry" to the treatment slurry as if it were a liquid seed treatment product with an application rate of 0.852 fl oz / 80,000 seeds. The "pre-slurry" and the treatment slurry must be kept under constant agitation to prevent settling of the BAFI SDN. Apply the treatment slurry as you would normally. You may experience a slight increase in seed tackiness during and immediately after treatment, but it will not be enough to interfere with the application process.

Example:

Treat 40 - 80,000 kernel bags of seed corn with a bag weight of 45.58 pounds (1,755 seed per pound).

Pre-slurry preparation calculations:

0.141 oz BAFI SDN per 80,000 seeds

0.141 oz x 40 bags = 5.64 oz BAFI SDN needed (4 gm x 40 bags = 160 gm BAFI SDN)

0.767 fl oz water per 80,000 seeds

0.767 fl oz x 40 bags = 30.68 fl oz water needed (22.67 ml x 40 bags = 906.8 ml water)

Calculating "Pre-Slurry" application rate on a per hundredweight basis:

"Pre-Slurry" application rate is 0.852 fl oz / 80,000 seeds

80,000 seeds weigh 45.58 lbs

(0.852 fl oz per unit + 45.58 lbs per 80,000 seeds) x 100 lbs = 1.869 fl oz/100 lbs seed (cwt)

Mix the BAFI SDN "Pre-Slurry" into the treatment application slurry at an application rate of 1.869 fl oz/cwt (per 100 lbs seed).

40 bags x 45.58 lbs per bag = 1,823.2 lbs seed

1,823.2 lbs + 100 lbs = 18.232 cwt (hundredweight)

1.869 fl oz / cwt (per 100 lbs seed) "pre-slurry" x 18.232 cwt = 34.07 fl oz pre slurry needed in treatment slurry.

BAFI SDN Application to Soybean Seed

BAFI SDN Rate: 0.529 oz / 100 lbs seed (7.5 grams / 50 lb bag seed)

"Pre-Slurry" Application Rate: 3.194 fl oz / 100 lbs seed (47.23 ml per 50 lb bag seed)

The displacement of BAFI SDN in slurry is 0.657 fl oz of slurry for every 1 oz of dry material (0.63 grams per milliliter)

"Pre-Slurry" Preparation (mix BAFI SDN with water at 15% w/w before addition to the seed treatment slurry).

For every 100 lbs (cwt) of soybean seed to be treated, prepare the pre-slurry as follows:

0.529 oz BAFI SDN + 2.874 fl oz water (15 gm BAFI SDN + 85 ml water)

Prepare the pre-slurry by adding the water to the mix container (bucket) and while mixing, add the BAFI SDN powder to the water. Add the powder slowly to assure it wets out without forming clumps. Once completely mixed, add the "pre-slurry" to your treatment slurry as if it were a liquid seed treatment product with an application rate of 3.194 fl oz / 100 lbs (cwt). The "pre-slurry" and the treatment slurry must be kept under constant agitation to prevent settling of the BAFI SDN. Apply the treatment slurry as you would normally. You may experience an increase in seed tackiness during and immediately after treatment but it will generally not be enough to interfere with the application process. The addition of either CelGard 96487 or Precise Seed Finisher @ 1 fl oz / 100 lbs (cwt) may help alleviate seed tackiness. Minimization of additional water in the treatment slurry may also be helpful if your total application slurry rate exceeds 6 fl oz / 100 lbs (cwt).

Example:

To treat 40 – 50 lb bags of Soybean seed:

40 x 50 lbs per bag = 2000 lbs seed, 2000 lbs ÷ 100 = 20 cwts (100 lbs)

Pre-slurry preparation calculations:

0.529 oz BAFI SDN per cwt seed

0.529 oz x 20 cwts = 10.58 oz BAFI SDN needed (7.5 gm x 40 – 50lb bags = 300 gm BAFI SDN)

2.874 fl oz water per cwt

2.874 fl oz x 20 cwts = 57.48 fl oz water needed (42.5 ml x 40 – 50lb bags = 1,700 ml water)

Add "Pre-Slurry" to application slurry as you would a liquid seed treatment product with an application rate of 3.194 fl oz/cwt.

BAFI SDN Application to Cotton Seed

For 220,000 Seed per Bag Units:

BAFI SDN Rate: 0.388 oz / 220,000 Seed Unit (11.0 grams / 220,000 seeds)

"Pre-Slurry" Application Rate: 2.342 fl oz / 220,000 seed Unit (69.26 ml per 220,000 seeds)

The displacement of BAFI SDN in slurry is 0.657 fl oz of slurry for every 1 oz of dry material (0.63 grams per milliliter)

"Pre-Slurry" Preparation (BAFI SDN should be mixed with water at 15% w/w before addition to the seed treatment slurry)

For every 220,000 seed unit of cotton seed to be treated, prepare the pre-slurry as follows:

0.388 oz BAFI SDN + 2.108 fl oz water (11.0 gm BAFI SDN + 62.33 ml water)

Prepare the pre-slurry by adding the water to the mix container (bucket) and while mixing add the BAFI SDN powder to the water. Add the powder slowly to assure it wets out without forming clumps. Once completely mixed add the "pre-slurry" to your treatment slurry as if it were a liquid seed treatment product with an application rate of 2.342 fl oz / 220,000 seed unit. The "pre-slurry" and the treatment slurry must be kept under constant agitation to prevent settling of the BAFI SDN. Apply the treatment slurry as you would normally. You may experience a slight increase in seed tackiness during and immediately after treatment, but it will not be enough to interfere with the application process.

Example:

Treat 40 - 220,000 seed units with a bag weight of 48.61 pounds (4526 seed per pound).

Pre-slurry preparation calculations:

0.388 oz BAFI SDN per 220,000 Seed Unit

0.388 oz x 40 - 220, 000 seed bags = 15.52 oz BAFI SDN needed (11.0 gm x 40 - 220, 000 seed bags = 440 gm BAFI SDN)

2.108 fl oz water per 220, 000 Seed Unit

2.108 fl oz x 40 - 220, 000 seed bags = 84.32 fl oz water needed (62.33 ml x 40 - 220, 000 seed bags = 2,493.2 ml water)

Calculating "Pre-Slurry" application rate on a per hundredweight (100 lbs) basis:

"Pre-Slurry" application rate is 2.342 fl oz / 220,000 Seed Unit

The seed to be treated has a 220, 000 seed bag weight of 48.61 lbs

$(2.342 \text{ fl oz per } 220,000 \text{ seed unit} \div 48.61 \text{ lbs per unit}) \times 100 \text{ lbs} = 4.818 \text{ fl oz/cwt}$

Mix the BAFI SDN "Pre-Slurry" into your treatment application slurry at an application rate of 4.818 fl oz/cwt.

40 bags x 48.61 lbs per bag = 1,944.4 lbs seed

1,944.4 lbs + 100 lbs = 19.444 cwt

4.818 fl oz / cwt "pre-slurry" x 19.444 cwt = 93.68 fl oz pre slurry needed in treatment slurry.

For 250,000 Seed per Bag Units

BAFI SDN Rate: 0.441 oz / 250,000 Seed Unit (12.5 grams / 250,000 Seed Unit)

"Pre-Slurry" Application Rate: 2.661 fl oz / 250,000 Seed Unit (78.71 ml per 250,000 Seed Unit)

The Displacement of BAFI SDN in slurry is 0.657 fl oz of slurry for every 1 oz of dry material (0.63 grams per milliliter).

"Pre-Slurry" Preparation (mix BAFI SDN with water at 15% w/w before addition to the seed treatment slurry).

For every 250,000 Seed Unit of cotton seed to be treated, prepare the pre-slurry as follows:

0.441 oz BAFI SDN + 2.395 fl oz water (12.5 gm BAFI SDN + 70.83 ml water)

BAFI SDN Application to Cotton Seed continued

Prepare the pre-slurry by adding the water to the mix container (bucket) and while mixing add the BAFI SDN powder to the water. Add the powder slowly to assure it wets out without forming clumps. Once completely mixed, add the "pre-slurry" to your treatment slurry as if it were a liquid seed treatment product with an application rate of 2.661 fl oz / 250,000 Seed Unit. The "pre-slurry" and the treatment slurry must be kept under constant agitation to prevent settling of the BAFI SDN. Apply the treatment slurry as you would normally. You may experience a slight increase in seed tackiness during and immediately after treatment but it will not be enough to interfere with the application process.

Example:

Treat 40 - 250,000 Seed Units with a bag weight of 47.10 pounds (5,308 seed per pound).

Pre-slurry preparation calculations:

0.441 oz BAFI SDN per 250,000 Seed Unit

$0.441 \text{ oz} \times 40 - 250,000 \text{ seed bags} = 17.64 \text{ oz BAFI SDN needed}$ (12.5 gm x 40 - 250,000 seed bags = 500 gm BAFI SDN)

2.395 fl oz water per 250,000 Seed Unit

$2.395 \text{ fl oz} \times 40 - 250,000 \text{ seed bags} = 95.8 \text{ fl oz water needed}$ (70.83 ml x 40 - 250,000 seed bags = 2,833.2 ml water)

Calculating "Pre-Slurry" application rate on a per hundredweight basis for the specific seed lot to be treated:

"Pre-Slurry" application rate is 2.661 fl oz / 250,000 Seed Unit

The seed to be treated has a 250,000 seed bag weight of 47.10 lbs

$(2.661 \text{ fl oz per 250K unit} + 47.10 \text{ lbs per unit}) \times 100 \text{ lbs} = 5.650 \text{ fl oz/cwt}$

Mix the BAFI SDN "Pre-Slurry" into the treatment application slurry at an application rate of 5.650 fl oz/cwt.

$40 \text{ bags} \times 47.10 \text{ lbs per bag} = 1,884 \text{ lbs seed}$

$1,884 \text{ lbs} + 100 \text{ lbs} = 18.84 \text{ cwt}$

$5.65 \text{ fl oz / cwt "pre-slurry"} \times 18.84 \text{ cwt} = 106.26 \text{ fl oz pre-slurry needed in treatment slurry.}$

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Avoid freezing. Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose of as waste.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ 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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration, or if allowed by state and local authorities, by burning. If burned stay out of smoke.

IMPORTANT: Read the entire label before using this product.

FOR CHEMICAL EMERGENCY: spill, leak, fire, exposure, or accident call 1-800 334-7577.

Conditions of sale

Seller warrants that this product consists of the ingredient specified and is reasonably fit for the purposes stated on this label when used in accordance with the directions under normal conditions of use. No one, other than the officer of the Seller, is authorized to make any warranty or guarantee concerning this product. Because the time, place, rate of application and other conditions of use are beyond Seller's control, Seller's liability from handling, storage and use of this product is limited to replacement of product or refund of purchase price.