

# BIO-FORGE®

Bio-Forge is composed primarily of N,N'-diformyl urea.

Bio-Forge will reduce plant stress. Evidence exists for several molecular mechanisms of stress reduction and or tolerance in Bio-Forge-treated plants.

One mechanism is via its up-regulation of genes from the plant's own major anti-oxidative pathways; Bio-Forge up-regulated Mn superoxide dismutase (MnSOD), catalase (CAT), dihydroascorbate reductase (DHR) and thioredoxin reductase (TrxR) in experiments with Arabidopsis thaliana.

Another mode of Bio-Forge's action may involve its priming of plants for stress resistance by triggering stress-responsive gene cascades. We have found that Bio-Forge can markedly induce the regulatory master gene Dreb 1A, a transcription factor which in turn up-regulates downstream genes involved in resistance to drought and several other environmental stresses. Increased expression of a number of these downstream genes by Bio-Forge was also observed.

## CAUTION

Keep out of Reach of Children  
May Cause Eye Irritation

### Statement of Practical Treatment

If inhaled: remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention. If in eyes: wash with plenty of water. Call a physician if irritation persists. If on skin: wash with plenty of soap and water. Get medical attention if irritation persists.

## PRECAUTIONARY STATEMENT

May be harmful if absorbed through skin. May cause eye irritation. Avoid contact with skin, eyes or clothing.

### Personal Protective Equipment

Applicators and other handlers must wear a long-sleeved shirt and long pants, waterproof gloves and shoes plus socks. Follow manufacturer instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### User Safety Recommendations

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if it gets inside. Then wash thoroughly and put on clean clothing.

### Environmental Hazards

Do not apply directly to water, 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.

### Storage and Disposal

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container. Store Bio-Forge in a cool place and out of direct sunlight. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities by burning. If burned, stay out of smoke.

### Limitations & Restrictions

Bio-Forge is not recommended for rice that is water seeded.

**Notice:** The information contained herein is true and accurate to the best of our knowledge and belief, but is presented without guarantee since field conditions and use are beyond our control. Neither the manufacturer nor the seller make any warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use of this material when such use is contrary to label instruction. Read and follow the label directions carefully.

## DIRECTIONS FOR USE

### CORN

- Apply 1 pint/acre in-furrow at planting - or -
- Apply 1 pint/acre with starter fertilizer at planting - or -
- Apply 1 pint/acre in broadcast spray from 6th leaf stage until tasseling (V6-Vt)
- **Apply 1/2 pint/acre along with late-season fungicide sprays**

### Note:

- Earlier application will provide better protection from drought and potential herbicide damage.
- When comparing Bio-Forge with late-stage fungicide treatments, foliar spray 1 pint/acre at the V12 stage before tassel emergence.

### CORN SILAGE

- Apply 1 pint/acre at the V6-V7 stage.

### SOYBEANS

- Apply 1 pint/acre in-furrow at planting - or -
- Apply 1 pint/acre with liquid starter fertilizer -or-
- Apply 1 pint/acre at pre-flowering - or -
- Apply 1/2 pint/acre along with the foliar nutrient mix when using a pre-flowering foliar fertilizer application - or -
- Foliar apply 1 pint/acre at the R4 to R5 stage of growth
- **Apply 1/2 pint/acre along with late-season fungicide sprays**

### Note:

- Testing has shown the when used with fungicide, Bio-Forge can be applied at 1 pint per acre when fungicides are applied.

### WHEAT

- Apply 1 pint/acre along with post-emergent herbicides - or -
- Apply 1/2 pint/acre along with late-season fungicide sprays.

### COTTON

- Apply 1 pint/acre in-furrow at planting - or -
- Apply 1 pint/acre with starter fertilizer at planting - or -
- Broadcast 1 pint/acre at MHS (Match Head Square)

### RICE

- Foliar apply 1 pint/acre 2 days prior to permanent flooding. Bio-Forge will help the plants access oxygen after flooding, a period normally associated with the yellowing of plants. See restrictions.

### ALFALFA, MIXED HAY & GRASS HAY

- Foliar apply 0.5 pint/acre. Only 2-4 applications per season.

### ALL OTHER CROPS

- Broadcast foliarly 1 pint/acre after plants have 3 true leaves until the time of flowering.

### SEED TREATMENT

- For quick emergence, apply at 4oz/cwt of seed. This treatment applies to all crops to express the full genetic potential of the seed and maximize the grower's return on investment.

**CONDITIONS OF SALE:** 1. Seller warrants that this product consists of the ingredients specified and is reasonably fit for the purpose stated on this label when used in accordance with directions under normal conditions of use. No one, other than an officer of Seller, is authorized to make any warranty, guarantee of direction concerning this product. 2. Because of time, place, rate of application and other conditions of use are beyond sellers control, Sellers liability from handling, storage and use of this product is limited to replacement of product or refund of purchase price.