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Actino-Iron® Biological Fungicide

Actino-Iron® Biological Fungicide is a granular biological fungicide for control of damping off and root rot fungi such as *Pythium*, *Rhizoctonia*, *Fusarium*, *Phytophthora*, *Verticillium* and others. Actino-Iron® Biological Fungicide also contains slow release agricultural grade iron and humic acid.

Active Ingredient:

- * *Streptomyces lydicus* strain WYEC 108 (1x10⁶ CFU/gr.)

Other Ingredients:

- * Iron (21.9%)
- * Humic Acid (47%)

Description:

Streptomyces lydicus strain WYEC 108 is a saprophytic rhizosphere colonizing Actinomycete. It was isolated from the roots of a linseed plant in an area that exhibited a natural suppression of soil pathogens. Under proper conditions (moisture and temperature) the *Streptomyces* spores will germinate and begin forming mycelia that will attach to the root system of the host plant. As the root system grows, the mycelia colonies grow with it, eventually covering the entire rhizosphere. When active the *Streptomyces* produce several by-products beneficial to plants. One by-product, called siderophores, reduce minerals to a form more easily absorbed by plants. Another, chitinase, is destructive to the outer walls of some fungi. The bacteria also produces several antibiotics and antifungal secondary metabolites that are destructive to disease causing pathogens..

Modes Of Anti-Fungal Action:

Exclusionism, mycoparasitism, antibiotics, enzymes

Application Methods:

For soil diseases: *S. lydicus* can be applied as a soil amendment (incorporated into growing media), added as a top dressing, added at transplant or incorporated in-furrow in the field.

Diseases Suppressed:

Soil: *Pythium*, *Rhizoctonia*, *Fusarium*, *Postia*, *Phytophthora*, *Sclerotinia*, *Geotrichum*, *Verticillium*, *Gaeumannomyces*, and others

Temperature Tolerance:

Spores of *Streptomyces lydicus* strain WYEC 108 are regularly frozen for storage at -0° F. Temperatures above 130° F. will sterilize the spores. Germinated spores (which occurs when the *Streptomyces* is added to potting soil, for instance) survive the same temperature range as long as there is a food source such as peat, bark or humates available as well as the proper moisture level.

PH Tolerance:

The *Streptomyces* can survive a PH range 5.0-9.1 but the range of optimal performance is 7.0-8.0.

Longevity:

The spore shelf life as packaged is guaranteed at 12 months. Germinated spores can live in excess of two years in the proper conditions (with moisture, food and oxygen). Storing in refrigerated conditions may extend the shelf life. Containers and bags are marked with an expiration date.

Chemical Compatibility:

Streptomyces lydicus is compatible with all chemical fungicides. Bactericides at levels above 75 ppm should not be used in conjunction with it.

UV Sensitivity:

The bacterium is not UV sensitive.

Labeled For Use On:

Turf, Ornamentals, Vegetables, Herbs, and many others

REI: 4 Hours

Exception: If soil incorporated workers can re-enter treated area if none of the treated area is touched.

Early Entry Requirements: To reenter area treated before 4 hour expiration worker must wear gloves, overalls, shoes plus socks

Handling Requirements: Gloves, Overalls, shoes plus socks

For additional questions or specific technical inquiries please contact Matt Kowalski at 281-580-1643