



## Benefits of In The Hopper

- \* The micro-organisms, bacteria and fungi, prey on the pests that cause harm to crops.
- \* They grow in every environment and compete desirably with other organisms.
- \* Extremely resistant spores produce metabolites that are antagonistic to pests.
- \* Three separate modes of action in one product.
- \* Attacks targeted pests at every stage of gestation.
- \* No bio-accumulative potential of toxic chemical residues.

*Microbes and plants are intimate partners in virtually every life process.*

**In The HOPPER** is composed of *Bacillus Thuringiensis* (3 strains), *Metarhizium Anisopliae* and *Beauveria Bassiana* fungus. *Metarhizium Anisopliae*, is a fungus that grows naturally in soils throughout the world and causes disease in various insects by acting as a parasitoid. When the fungus comes in contact with the body of an insect host, they germinate and the hyphae that emerge penetrate the cuticle, killing the insect after a few days. *Beauveria Bassiana* is a fungus that also grows naturally in soils throughout the world and is a parasite on various arthropod species, causing white muscardine disease. The insect is killed by the same mechanism as the *Metarhizium Anisopliae*. *Bacillus Thuringiensis* contains a poison called BT toxin. These crystal proteins, also known as "cry toxins" are inactive until they are consumed by the insect. Once ingested, the protein binds to receptors in the insect's gut (creating a hole), and ultimately causing death.



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### DIRECTIONS:

Apply as a drench at a rate of 8 - 32 ounces per 100 gallons of water. Once the product is drenched into the soil, insects that come into contact with the fungus will become infected. Under moderate temperatures it usually takes 3 - 7 days once the insect is exposed for death to occur. The fungal spores will be more persistent when incorporated into the soil.

Repeat applications at 5 - 10 day intervals, matching application to insect and population. High insect populations of whiteflies may require 2 - 5 day intervals. Applications to leaf litter and turf may be done on a 4 - 6 week cycle with an expected residual efficacy of a few months. Applications of drenches to grow media may be done as appropriate to standard pest management practices and the product may remain efficacious for up to one year. **In The HOPPER** may be applied up to a week before harvest.

**In the HOPPER** should always be applied with a follow up treatment of **PureAg Dream Neem** or **PureAg Let Them Eat Cake** to insure control of pests.

### USES:

**In The HOPPER** can be used on organic and conventional agricultural crops, nurseries, golf courses, sports fields, and forestry. Works well in pastures, greenhouses on ornamentals, perennials, annuals, vegetables, herbs, fruits, grasses and sages.

Store in a cool, well ventilated area. Avoid low temperatures.  
**KEEP OUT OF REACH OF CHILDREN**

Manufactured by PureAg® LLC / Salt Lake City, Utah