



## Envita™ *For use on corn or soybean*

### What is Envita and what does it do?

Envita contains a specific strain of bacteria (*Gluconacetobacter diazotrophicus* aka Gd) that converts nitrogen in the air to a form the plant can use. Gd naturally occurs in plants such as sugarcane and was first isolated in the 1980's. Scientists have worked to find a way for Gd to colonize (live on or in) additional agronomic plants including some of the most important crop plants around the world. Envita is the product of this research and can be used to inoculate corn, soybeans and many more crops. By using Envita, you allow Gd to live within the plant and fix nitrogen to benefit the plant. Because it lives within the plant – in the cells above and below ground, the nitrogen doesn't have to move exclusively from the roots to where it is needed. This can create efficiencies and ultimately better yields.

### Mechanisms of actions:

- Envita moves into the plant via developing seedling radicle (root), hypocotyl (shoot), and cotyledons (leaves) and lives within plant cells.
- Nitrogen fixation occurs as a function of the bacteria and is made available to the plant.
- Fixed nitrogen may be more available than ground nitrogen in excess or deficient water conditions.
- Gd lives within the plant and can remain active as long as the plant is alive.

### Benefits:

- Crop nitrogen supplementation
- Biologically vs industrially converted plant available nitrogen
- Available even when plant cannot access soil nitrogen
- May provide a buffer to soil N losses in sub-optimal seasons (for example, in years of flood stress where much soil N has been lost to leaching or runoff)

### What to watch for:

Improved seedling vigor with larger plants as they mature. Envita has been shown to enhance root and shoot growth of corn and soybeans. While improved vigor does not always manifest, plants tend to be healthier and more productive, able to tolerate environmental stresses better than plants without Envita.

### Morphological/physiological response:

- Plants may develop a growth stage ahead of untreated crops
- Root systems may be deeper, or broader with more fine roots that increase total root surface area
- Potential increased occurrence of tillering in corn or faster canopy of beans
- Higher nitrogen content in tissue samples has been observed
- Plants may stay green later in support of grain fill
- Consider if stalk degradation after harvest is better due to higher N:C ratio
- Improved protein content in harvested grain may be observed

### How to apply

In furrow: 3.2 fl. oz. per acre and minimum of 2.5 gpa total solution rate. Dilute 1 gallon Envita into 99 gallons of water before adding to the fertilizer tank. Perform a jar test of the desired mixture to verify compatibility.



**Starter fertilizer tank mixtures:**

Testing has illustrated that Envita is safe with many starter fertilizer mixes and components. Check with Azotic agronomists regarding specific starter fertilizers or other in-furrow mixes regarding compatibility. Nevertheless, solution pH variations occur, and chemical properties vary among nutrients from different manufacturers. Mixing 1 part Envita into 99 parts water before adding it to the tank is recommended to avoid compatibility issues. Performing a jar test to verify the proposed combination is compatible (no slime or sludge build up) can save much time and cleaning hassle.

**Cautions:**

Should not use in combination with urea products.

**Storage and use:**

DO NOT FREEZE. Store between 39° and 46° F in a place out of the sun. Do not open until ready to use. Shake container well before using. Keep jugs upright. This fluid contains living organisms, so be mindful that it may have an odor and is perishable.

**Nonplant food ingredients:**

Gluconacetobacter diazotrophicus                      1.0 x 10<sup>7</sup> CFU/ml

**Packaging:** 4 x 1 gallon jugs