

MAXIMIZE PIVOT BIO PERFORMANCE WITH THESE

BEST MANAGEMENT PRACTICES

Pivot Bio's patented, gene-edited microbes are the most tested corn nitrogen (N) fixers on the market. This robust testing has helped build these best management practices for maximizing performance on your farm.

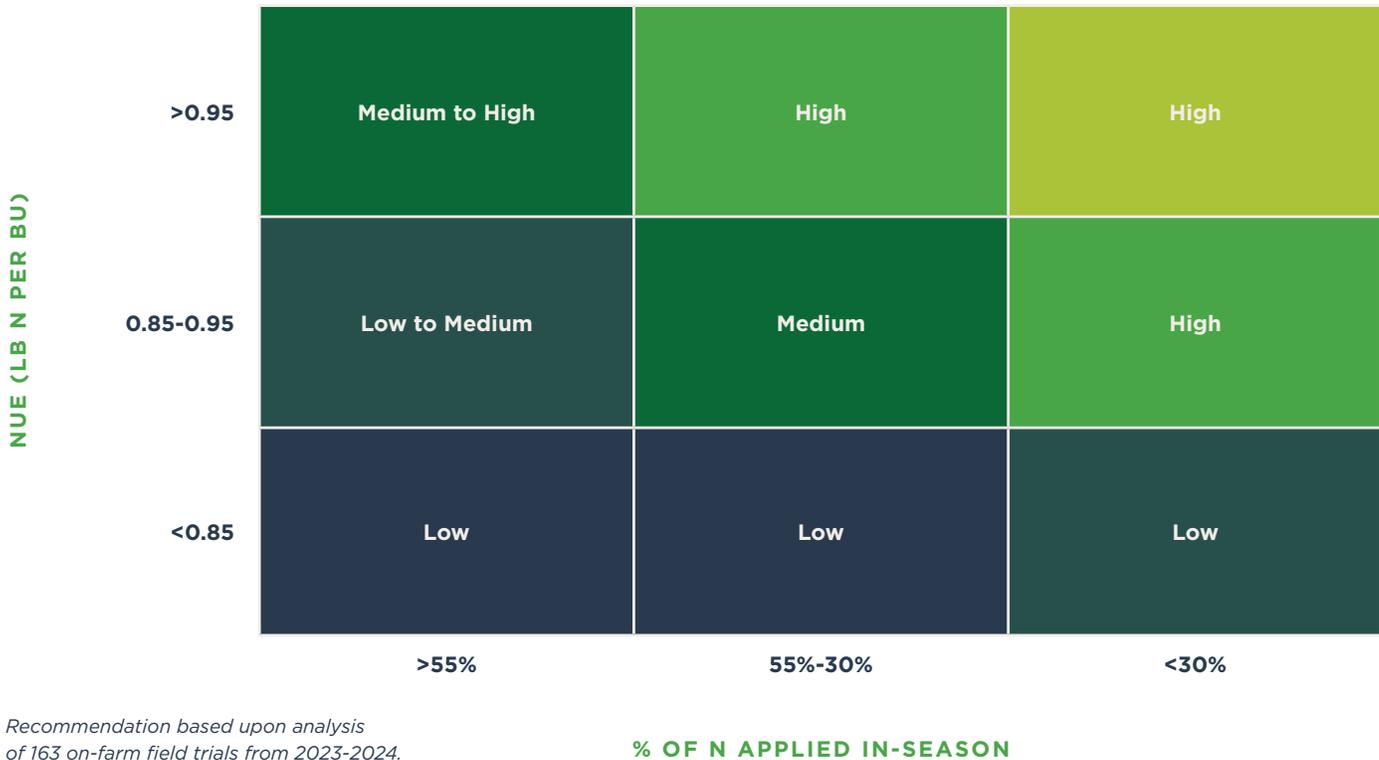
FOLLOW STEWARDSHIP GUIDELINES

- Pivot Bio products contain living microbes that **must remain alive to colonize roots and fix N.** As with many biological products, it is best to apply and plant as quickly as possible.
- Apply LIF products alone, with non-chlorinated water or via direct injection (Dosatron, etc.). Otherwise, starter fertilizer compatibility should be tested annually.
- Use certified seed-treating partners, no other in-tank combinations with Pivot Bio OS products, and only treat with approved dry additive products.
- Viability of microbes decreases quickly when temperatures exceed 60°F and relative humidity surpasses 60%. Store treated seed and products in cool, dry conditions and avoid direct sunlight. When storage isn't optimal, conduct on-seed viability testing.

TAILORED NITROGEN REPLACEMENT

- Understanding N sources, application amounts and timing, along with potential weather and soil effects, provides the foundation for determining how much synthetic N should be replaced with Pivot Bio products.
- Pivot Bio products spoon-feed ammonium directly to the roots during vegetative growth, helping build a healthier plant and stronger yield potential from the start. Because they provide a consistent N source early in the season, **Pivot Bio products are ideally used to replace a portion of less efficient N sources, such as pre-season-applied N.** In-season N applications should be maintained to meet the crop's peak demand during rapid growth and to support grain fill N uptake.
- Nitrogen replacement strategies should be personalized to each grower's N program and preferences for managing ROI, N loss and the potential yield effects.
- Nitrogen use efficiency (lbs N applied per bu/ac yield) and the amount of N applied in-season have been identified as key factors in determining how much N to replace when using Pivot Bio products.
 - Lower N replacements are recommended when most of the N is applied in-season or at very efficient NUE values. Higher N replacements can be considered whenever more N is applied per bu or most of the N is applied before planting but should not exceed 20% of the total N program.
 - Be sure that N replacements do not inadvertently reduce any other key nutrients.

NITROGEN REPLACEMENT RECOMMENDATION



ENSURE BALANCED FERTILITY

- Pivot Bio products consistently increase in-plant N levels and yield potential, which increases the demand for other critical nutrients, like potassium (K) and sulfur (S).
- For example, **corn utilizes K in a ~1:1 and S in a ~10:1 ratio with N, and it is crucial that those two nutrients (among all others) are available to go with the microbe-supplied N.**
- Having a balanced soil pH and a favorable reproductive period can also be important to realize the added yield potential enabled by Pivot Bio products.

EVALUATE NITROGEN PROGRAMS APPROPRIATELY

- Setting up Pivot Bio trials requires careful planning and analysis in order to evaluate the effect of the N replacement in addition to the Pivot Bio product.
- Pivot Bio products at a replacement N rate should only be compared to the non-treated at the grower's standard N rate. **With high N replacements, success is normally defined as achieving yield parity**, which means Pivot Bio at the replacement N rate yields within $\pm 1\%$ of the yield of the non-treated, grower standard N rate.
- Comparisons should be made within the same field and ideally with multiple replications of the treated and non-treated products and N rate combinations to help account for field variability. Pivot Bio agronomists are available to provide hands-on trial support, from trial design and placement to data interpretation, helping ensure trials are set up to deliver clear, actionable results.