



## Nebraska On-Farm Research Network

# Impact of Pivot Bio Proven® at Different N Rates on Corn Yield

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**Objective:** Determine effects of Pivot Bio Proven® on yield and economics in corn.

**Rationale:** Farmers are interested in maximizing profits while reducing input costs to achieve optimal yields. There has been interest in biological and microbial products applied at planting time to help achieve these goals. Microbial products are used for various reasons in modern agriculture, and some are promoted as having nitrogen fixing capabilities to allow for less fertilizer applications. There is little research looking at how effective these microbial products are at supplementing nitrogen while being tested at different fertilizer rates. This protocol allows growers to test application of Pivot Bio Proven® at different nitrogen rates in corn.

**Treatment Design:** A total of 4 replications need to be harvested for this trial. In the following example, the corn planter is twice the width of the combine head. Please flag where each treatment rep starts and stops. If available, log the different PivotBio treatments in your planting monitor by labeling 2 different “products”. Please log the different N rates in your monitor (if available). Use the same corn hybrid, seeding rate, and other management throughout the trial area (with the exception of the pivot-bio product and N rates being evaluated).

### Treatments:

**Reduced N:** Please note the product, rate applied, how applied, etc. We recommend that the reduced N is at least 30 lb/ac lower than the full N rate. (Blue)

**Full N:** Please note the product, rate applied, how applied, etc. (Green)

**No Pivot Bio:** (Yellow)

**Pivot Bio:** Please note the product, rates applied, how applied, etc. (Red)

Replication 1	Reduced N (24 rows)	No Pivot Bio (12 rows)	Yield Data (12 rows):
		Pivot Bio (12 rows)	Yield Data (12 rows):
	Full N (24 rows)	Pivot Bio (12 rows)	Yield Data (12 rows):
		No Pivot Bio (12 rows)	Yield Data (12 rows):
Replication 2	Reduced N (24 rows)	No Pivot Bio (12 rows)	Yield Data (12 rows):
		Pivot Bio (12 rows)	Yield Data (12 rows):
	Full N (24 rows)	Pivot Bio (12 rows)	Yield Data (12 rows):
		No Pivot Bio (12 rows)	Yield Data (12 rows):
Replication 3	Reduced N (24 rows)	No Pivot Bio (12 rows)	Yield Data (12 rows):
		Pivot Bio (12 rows)	Yield Data (12 rows):
	Full N (24 rows)	Pivot Bio (12 rows)	Yield Data (12 rows):
		No Pivot Bio (12 rows)	Yield Data (12 rows):
Replication 4	Full N (24 rows)	No Pivot Bio (12 rows)	Yield Data (12 rows):
		Pivot Bio (12 rows)	Yield Data (12 rows):
	Reduced N (24 rows)	Pivot Bio (12 rows)	Yield Data (12 rows):
		No Pivot Bio (12 rows)	Yield Data (12 rows):

*Data to Collect:*

1. Early season stand counts using 1/1000 of an acre. In each strip, 3 stand counts will be taken and averaged.
2. Yield can be collected using a well-calibrated yield monitor or with a weigh wagon.
3. Any observations such as emergence, photos, etc.

*Grower Requirements:*

1. Flag or mark GPS location of each treatment. (Please flag each treatment strip with different colors or types of flags so we can find the treatments for stand counts.)
2. Provide all necessary inputs for crop production.
3. Complete background agronomic form about site and practices. (Also, note if there was any hail, green snap, flooding, etc.)
4. Provide as-planted data and as-applied fertilizer data from monitors if available.
5. Collect yield data and grain moisture with weight wagon or yield monitor. Yield monitor must be **well calibrated**. Contact UNL Extension if assistance with this process is needed.
6. Submit harvest data to UNL Extension within 30 days of harvest or by Dec. 1st.
7. Allow UNL Extension to use submitted and collected data for research, educational, and informational purposes.

*Nebraska On-Farm Research Network will:*

1. Provide technical assistance in setting up replicated and randomized experimental design.
2. Provide assistance upon request with treatment implementation, flagging, stand counts, stalk rot tests, and recording yield.
3. Analyze raw data using statistical analysis and provide a report to the grower.

**Disclaimer:** The Nebraska On-Farm Research Network does not endorse the use of products tested in on-farm replicated strip trials. While treatments are replicated within trials and may be replicated across multiple sites under various conditions, your individual results may vary.

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