Nebraska On-Farm Research Network

Impact of Pivot Bio Proven® in Furrow with One N Rate in Corn

Protocol developed by: Laura Thompson and Sarah Sivits, Nebraska Extension Educators

Objective: Determine if Pivot Bio Proven® enhances yield and economic return in corn.

Rationale: Farmers are very interested in maximizing profits while reducing input costs to achieve optimal yields. There has been a lot of 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 reduced fertilizer applications. There is little research looking at how effective these microbial products are at supplementing nitrogen. This protocol allows growers to test application of Pivot Bio Proven® in-furrow at one nitrogen rate in corn using a split-planter approach.

Treatment Design: A total of 5 replications need to be harvested for this trial (6 or 7 is preferred if space is available). The following layout is for a scenario where the corn planter is twice the width of the combine head. Please flag each treatment. If available, log the different treatments in your planting monitor by labeling 2 different "products". Use the same corn hybrid, seeding rate, and other management throughout the trial area.

Treatments:

Check=No Pivot Bio Proven®: Please note N rate and anything else applied at planting. (Blue-Check)

Pivot Bio Proven®: Please note the product, rate applied, how applied, N rate, etc. (Green)

NOTE: Yield from the full header width needs to be obtained for each treatment strip shown below.

Replication 1	No Pivot Bio	Yield from header width:
	Pivot Bio	Yield from header width:
Replication 2	Pivot Bio	Yield from header width:
	No Pivot Bio	Yield from header width:
Replication 3	No Pivot Bio	Yield from header width:
	Pivot Bio	Yield from header width:
Replication 4	Pivot Bio	Yield from header width:
	No Pivot Bio	Yield from header width:
Replication 5	No Pivot Bio	Yield from header width:
	Pivot Bio	Yield from header width:
Replication 6	Pivot Bio	Yield from header width:
	No Pivot Bio	Yield from header width:
Replication 7	No Pivot Bio	Yield from header width:
	Pivot Bio	Yield from header width:

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. 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.
5. Submit harvest data to UNL Extension within 30 days of harvest or by Dec. 1st.
6. 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.