
PIVOT BIO
PROVEN
PIVOT BIO
RETURN
PIVOT BIO
2020 PERFORMANCE REPORT

A Note From the Field...

Our 2020 Performance Report is the result of countless hours of dedicated work by growers, the Pivot Bio team, and independent research organizations to analyze the millions of data points from last season.

Despite a widespread drought and a derecho event, where nitrogen was a limiting factor, Pivot Bio PROVEN® and Pivot Bio RETURN® provided a significant benefit. This report further showcases the year-over-year consistency our products provide.

Thanks to all of our research partners, universities and farmers for their participation. It is our privilege to share this report with you.

Sincerely,

Daniel H. Poston, Ph.D.
Director of Agronomy
Pivot Bio

The following report summarizes multiple on-farm studies that measure nitrogen utilization in corn and yield outcomes as it relates to our nitrogen products for corn and sorghum, Pivot Bio PROVEN® and Pivot Bio RETURN®, respectively.

We look forward to continuing our longstanding and productive partnerships in 2021 to deliver actionable data that demonstrates how our product may work for a grower's operation. If you are interested in participating in future research trials, please reach out to our team at info@pivotbio.com.

Objective & Methods

Introduction:

Pivot Bio PROVEN® is the first nitrogen-producing microbe and was commercially introduced in 2019. On-farm research with farmers is essential to our product development. Each year, we partner with farmers from different geographies to test our products and then widely share these findings with the agriculture community.

Objective:

Demonstration of Pivot Bio PROVEN® performance

METHODS

Trial Type:

On-farm strip/block trials

Treatments:

- Current farmer corn fertility practice
- Current practice + Pivot Bio PROVEN®
- Pivot Bio PROVEN® applied with reduced nitrogen
- Pivot Bio PROVEN® applied in-furrow at planting

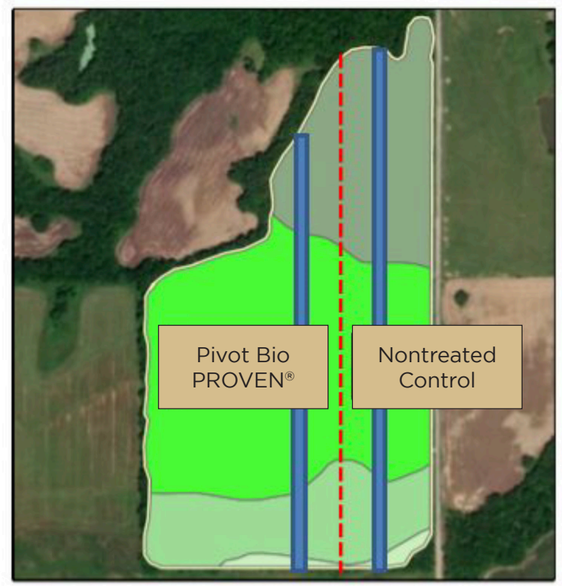
Tissue Sampling:

- Whole-plant tissue samples collected between R1 to R4 growth stages

Data & Results:

- Whole-plant nitrogen content (%)
- Whole-plant dry/wet weight (Tons/acre)
- Whole-plant nitrogen (lbs. N/acre)

Sample Field Split/Layout



Grower Side-by-Side Analysis Represents:

12
states

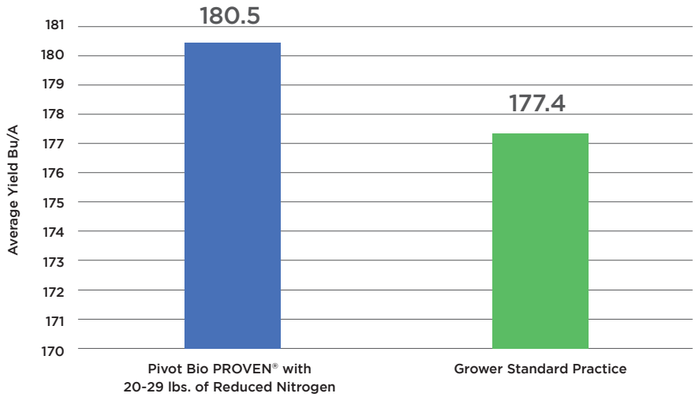
1,285,604
total data points

46
locations

Pivot Bio PROVEN® 2020 grower results continued on next page.

Pivot Bio PROVEN® 2020 grower results continued from page 3.

Reduced Nitrogen Study



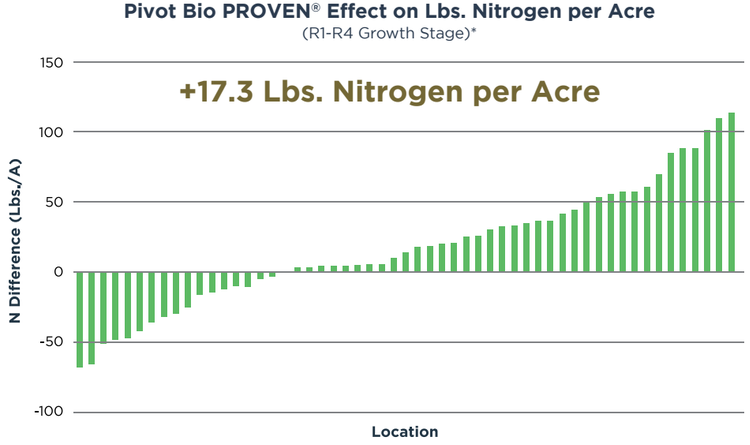
3.1 BU/A GAIN

10 LOCATIONS THAT REDUCED THEIR STANDARD NITROGEN 20-29 LBS.

Growers that reduced their standard nitrogen practice by 20-29 lbs./A experienced a yield increase of 3.1 Bu/A.

Nitrogen Deficiency Study

Fifty-five corn growers were asked to apply a full rate of synthetic nitrogen on an entire field and add Pivot Bio PROVEN® on half of the same field. Upon testing the 100% synthetic nitrogen vs. 100% synthetic nitrogen plus Pivot Bio PROVEN®, the Pivot Bio PROVEN® acres had an average advantage of 17.3 lbs. of in-plant nitrogen per acre. This reaffirms what we already know... even with a 100% synthetic nitrogen application, corn is often left nitrogen deficient.

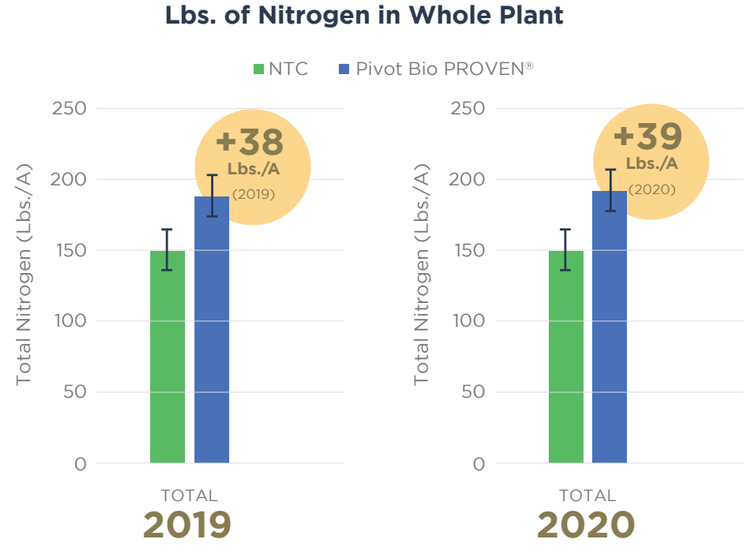


*Nitrogen lbs./A = % Total N per plant x plants per acre x plant dry weight. 80% CI for lbs. N per acre = 9.8 to 24.7. Data based on 88 whole plant sampling points from 55 different customer fields.

Click here, or scan this QR code with your smartphone camera to see more corn performance results from Pivot Bio PROVEN®.

COVID-19 restrictions have delayed our university partners in analyzing Pivot Bio data and publishing the reports. We will release university data as soon as it's available.

Whole-Plant Nitrogen Utilization Study



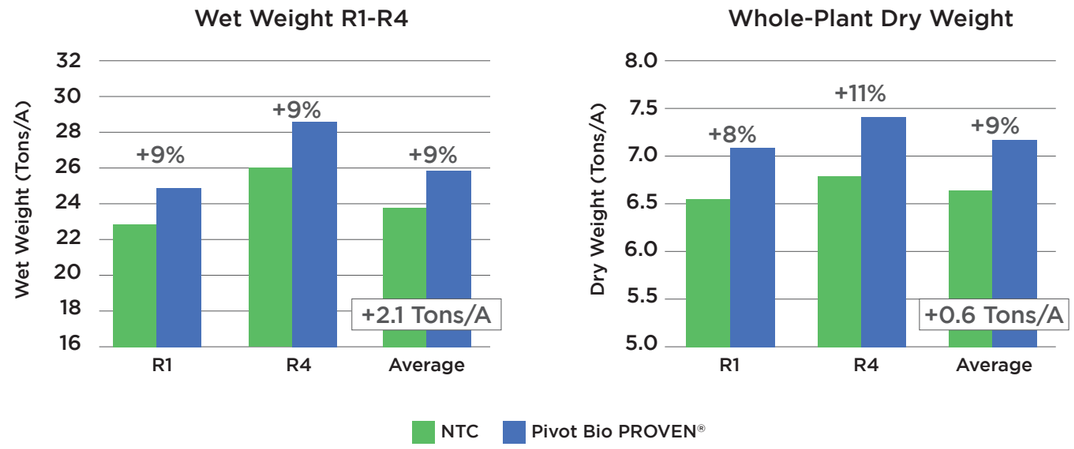
YEAR OVER YEAR CONSISTENCY

With appropriate stewardship, Pivot Bio PROVEN® has shown a consistent and significant advantage in whole-plant nitrogen studies in responsive plots: 38 lbs./A in 2019 and 39 lbs./A in 2020.

Plant Biomass

Put More Silage in the Feed Bunk.

The addition of Pivot Bio PROVEN® provides a remarkable advantage in maximizing plant biomass. As shown in the charts below, Pivot Bio PROVEN® increased plant size, resulting in an overall increase of 9% in corn plant biomass. That 9% increase equates to 2.1 tons an acre wet weight and 0.6 tons an acre dry weight.



Objective & Methods

Introduction:

Grain sorghum has quickly evolved into one of the most efficient crops for the Great Plains. In addition to Pivot Bio RETURN® for wheat, Pivot Bio RETURN® is now available for grain sorghum.

Objective:

Demonstration of Pivot Bio RETURN® performance.

METHODS

Trial Type:

- Randomized Complete Block
- 4 Replications

Tissue Sampling:

- Whole-plant tissue samples collected at the boot growth stage

Data & Results:

- Whole-plant dry weight (grams/plot)
- Yield (Bu/A)

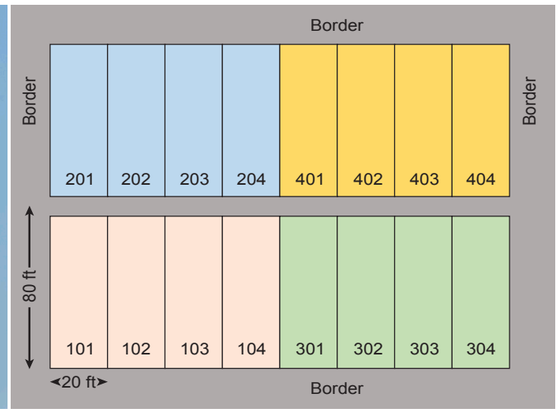
Grower Side-by-Side Analysis Represents:

- 3 states
- 7 locations
- 7 contracted researchers
- 84 data points total

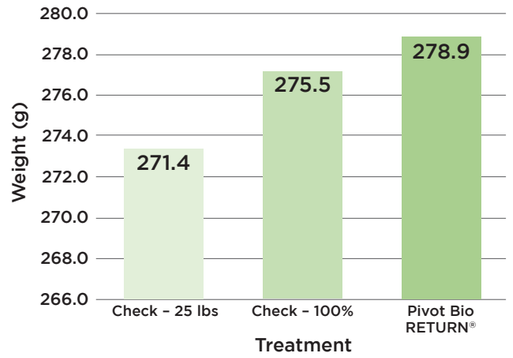
Treatments:

- Current farmer grain sorghum fertility practice
- Current farmer grain sorghum fertility practice with nitrogen reduced by 25 lbs./A.
- Pivot Bio RETURN® applied with reduced nitrogen
- Pivot Bio experimental

Click here, or scan this QR code with your smartphone camera to see more sorghum performance results from Pivot Bio RETURN®.

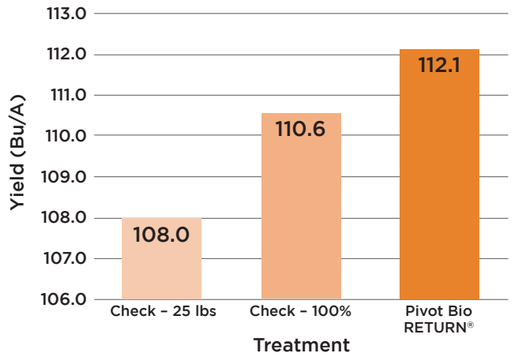


Plant Dry Weight (g)



Plant biomass was larger when the plots were treated with Pivot Bio RETURN®.

Grain Yield (Bu/A)



Pivot Bio RETURN® had an average yield increase over the -25 lb. N check of 4.1 Bu/A with a win rate of 71% and a 1.5 Bu/A advantage over the 100% N check with a win rate of 30%.

Thank you for your business and allowing us to work with you in 2020. On behalf of the entire Pivot Bio team, we were honored to be a part of your farm last year. From extreme weather events to market volatility to managing through a pandemic, 2020 certainly reminded us that farming must go on and farmers are some of the most resilient people in the world.

We are looking forward to getting out with our customers as the 2021 growing season unfolds, as well as reconnecting with the many partners who help us get the very best product to you every season.

Best,

Karsten Temme
CEO and Co-Founder
Pivot Bio

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pivotbio.com