

RT-6551

SYNERGISTIC EFFECTS OF BIOLOGICALS & CARBON FERTILITY IN SOYBEAN PRODUCTION

Ag-Tech Consulting | Whitewater, WI

SUMMARY

A field trial was conducted in 2024 near Whitewater, WI to evaluate the interaction between a biological seed treatment and a liquid carbon-based fertilizer (LCBF) program in soybean. Treatments included a control, Rhizolizer® Duo biological seed treatment alone, and Rhizolizer® Duo combined with QLF's soybean fertility program consisting of L-CBF Triple5™ (5-5-5-1S) MKP, Kelpak Maxx®, and Kelpak®.

The biological seed treatment alone improved yield by 2.4 bu/ac compared to the untreated control, resulting in an ROI of \$23.05/ac (Figure 1). When the QLF program was added, yield increased an additional 7.9 bu/ac (10.3 bu/ac above the control) with an ROI of \$91.18/ac. Statistical analysis confirmed that the combined treatment produced a significantly higher number of pods per plant than either treatment alone (Figure 2).

These findings indicate a positive synergistic effect between the biological inoculant and the liquid carbon-based fertility program. The integration of microbial and carbon-based nutrition strategies enhanced plant growth and reproductive development, contributing to higher yield and improved economic return in soybean production.

RESULTS

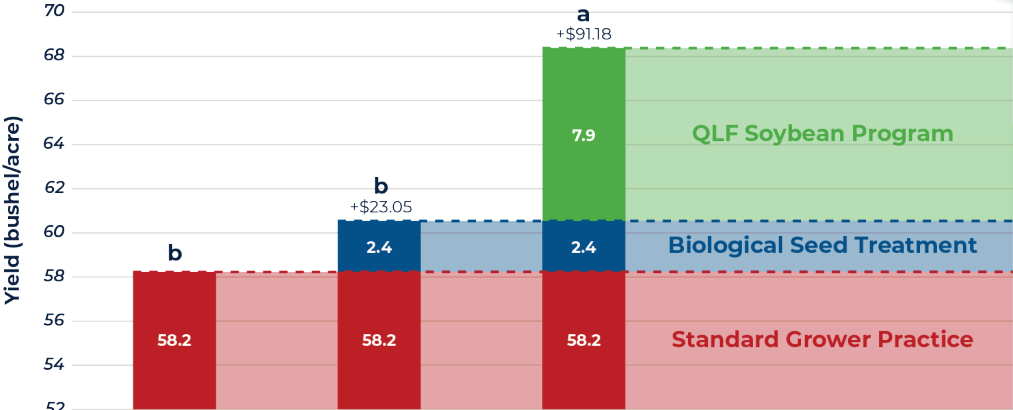


Figure 1. Yield improvement and ROI of applying a biological seed treatment alone and together with QLF's liquid carbon-based fertilizer program

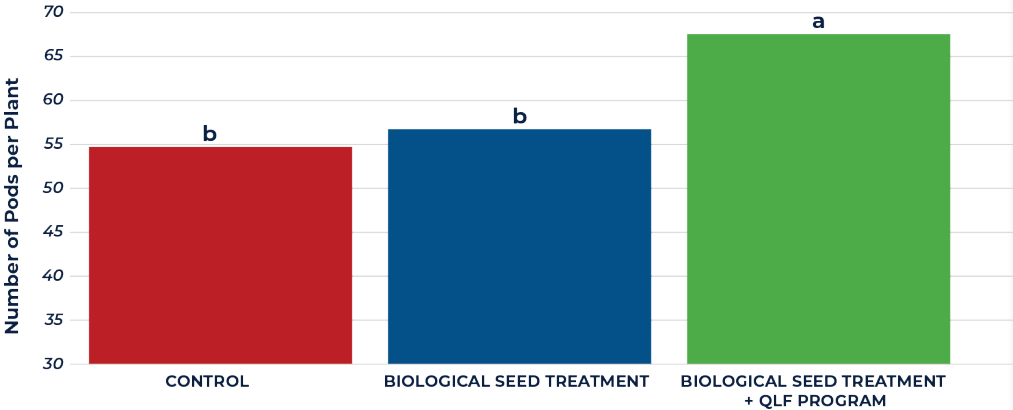


Figure 2. Effect of a biological product alone and in combination with QLF's liquid carbon-based fertilizer program on the number of pods per plant

Statistical analysis was performed using a one-way ANOVA. Different letters above bars are significantly different according to Duncan's Multiple Range Test at the 95% confidence level ($p \leq 0.05$).

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* Results may vary. Always perform a jar test before application

L-CBF RESEARCH TRIAL



TRIAL DETAILS

Planting Date: May 18th, 2024
Harvest Date: October 7th, 2024

Variety: Dairyland 2562E
Population: 160,000 seeds/ac

Seed Treatments:
Kelpak Maxx® at 3 fl oz/cwt
Rhizolizer® Duo ST1 oz/cwt

Foliar Sprays @ V3:
L-CBF Triple5™ (5-5-5-1S) MKP at 1.75 gal/ac
Kelpak® at 2 pts/Ac (June 20)

Replication: 6

