



Effect of seed treatment (Fertiactyl LEG) and foliar biostimulants (Fertileader) on soybean yield: Possible synergism of products

Trial ID: 73-M (MO) - The Farm Research Center, LLC

PLANTING RATE: 128,800 seeds/ac

DESIGN: Randomized strip trials, 3 replicates per treatment

RESEARCHER(S): Data compiled and submitted by The Farm Research Center, LLC, Garden City, MO. Write up of results by Kyle Lilly, CCA and Dr. John D. Bailey, PhD, Timac Agro USA.

OBJECTIVE

The current study was conducted to determine the effects of Timac Agro USA's biostimulant products on final grain yield in soybeans when applied at different rates and timings.

MATERIALS AND METHODS

The following five treatments were compared to a control:

1. Fertiactyl ST applied at 2 oz/cwt on seed
2. Fertiactyl GZ applied at V3 at 1 qt/ac
3. Fertileader Elite at V3 at 1.5 pt/ac
4. Fertileader Gold at R1 at 1.5 pt/ac
5. Fertiactyl ST at 2 oz/cwt on seed + Fertileader Elite at 1.5 pt/ac at V3

DETAILED RESULTS

Results are shown in Table 1. All Timac Agro USA products resulted in higher yields than the Control plots. The yield spread among products and programs was close, but the Fertiactyl ST + Fertileader Elite program produced the highest yield, suggesting a potential synergistic effect of the biostimulants. All products tested in this study contain an antistress molecule called glycine betaine. This molecule helps a plant prepare for and recover from environmental stresses. The most significant stress event during this trial occurred two weeks after planting when crops were exposed to a two-week heat wave with high winds. The glycine betaine molecule may have helped the crop with UV, wind, and oxygen stress during this period. This could explain the higher yields from the Fertiactyl ST treatment when compared to other individual products.

Table 1. Grain Yield and Gross Revenue in Soybeans

Treatment	Yield (bu/ac)*	Yield Difference vs. Control	Gross Revenue/ac @ \$9.90/bu
Fertiactyl LEG (aka ST) + Fertileader Elite @ V3	64 ^a	+5 bu/ac	\$633.60
Fertiactyl LEG (aka ST)	63 ^a	+4 bu/ac	\$623.70
Fertileader Gold @ R1	62 ^a	+3 bu/ac	\$613.80
Fertiactyl GZ @ V3	61 ^a	+2 bu/ac	\$603.90
Fertileader Elite @ V3	60 ^a	+1 bu/ac	\$594.00
Control	59 ^b	-	\$584.10

*Means with different superscripts are statistically different ($P < 0.05$)