

Soybean Foliar Trial

Foliar Applied at R3 – Innovation Farm 2015

Planted: 5/06/2015
Harvested: 10/01/2015
Variety/Trtmt: AG4135 / Acceleron F/I + BioForge
Population: 140,000 seeds/A
Rows: (8) 30" rows
Tillage/Rotation: Conventional; c/s rotation
Replications: 3 (randomized)

Trial Description

In recent years there has been a great focus on application input discovery for soybeans. Many such products are recommended as a tank mix with a planned post-emergence herbicide. Other products such as foliar fungicides/insecticides are found to be most effective applied at the (R3) growth stage when plant health directly impacts soybean pod retention and development. This trial explores products from a diverse group of manufacturers, some of which we already have a good level of confidence plus several new products. There were no post emergence herbicide applications in this trial. Timing of all treatment applications was R3.

Foliar Product Descriptions

Ascend™ - Plant growth regulator containing (3) key hormones including Gibberellic acid, auxin and Cytokinins. In-furrow/foliar
MicroShield - 3.6S, .1B, 3Mn, 4Zn - Foliar micronutrient combination formulated for our region's corn/soy needs
Regalia® Rx - Biological foliar fungicide - Turns up plant defense systems by increased chlorophyll content, strengthen cell walls and roots
SRN25B™ - 25-0-0 + .5 Boron - Foliar N in a 6.2% slow release methylene urea and 18.8% liquid urea plus boron for both corn/soy
Stimulate™ - Foliar plant growth regulator bio stimulant. Improves cell division/enlargement, root growth and nutrient utilization
Symbol™ Advance - 1-20-15-S16.5 - Increases nitrogen use efficiency. Foliar safe sulfur and phosphite based P for improved foliar uptake
Toggle™ - .1-4-1.6 - In-Furrow/foliar - Marine extracted fertilizer/biostimulant that regulates stress related genes. Root and plant growth stimulant

Yield Rank	Foliar Treatment	Moisture	Yield bu/a	Bu/A Diff	Gross Income \$	Return on Investment \$	ROI Rank
1	Foliar Fungicide + Insecticide	11.6	84.38	2.69	746.76	0.81	4
2	1 pt Regalia Rx + Foliar Fungicide + Insecticide	11.7	84.12	2.43	744.46	NA	NA
3	1 pt Regalia Rx	11.4	83.88	2.19	742.33	NA	NA
4	40 oz Toggle	11.5	83.55	1.86	739.41	6.81	2
5	4 oz Ascend + 1 qt MicroShield	11.5	83.43	1.74	738.35	4.73	3
6	1 qt MicroShield	11.6	83.32	1.63	737.38	10.31	1
7	4 oz Stimulate + 1 qt MicroShield	11.5	82.28	0.59	728.17	-3.58	5
8	1 lbs Symbol Advanced + 1 qt MicroShield	11.5	81.97	0.28	725.43	-8.76	6
9	2 gal SRN25B	11.6	81.95	0.26	725.25	-10.60	7
10	Untreated Control	11.5	81.69	--	722.95	--	--

L.S.D. .10% Level = 2.10
 CV (%) = 1.78

Gross income is (bu/a x \$8.85/bu). Return on Investment is bu/a difference from Untreated Control x (8.85/bu) minus cost of treatment. Foliar Fungicide/Insecticide (Quadris Top/Endigo-low use rates)-\$23; Toggle-\$9.65/a; Ascend-\$6.53/a; MicroShield-\$4.12/a; Stimulate-\$4.67/a; Symbol Advanced-\$7.12/a; SRN25B-\$12.90/a; Regalia was experimental. Application is not included in calculations as several of these products would ordinarily be added to an existing tank mix.

Discussion

There was a moderate amount of insect activity in the trial area (grasshoppers, stink bugs, bean leaf beetles). Septoria Brown Spot was the primary soybean foliar disease and yet the foliar fungicide/insecticide provided the highest yield compared to the untreated control (+2.69 bu/acre). The value from the foliar insecticide in this replicated trial may be uncertain as a re-infestation of insects would be much quicker into these treated strips as compared to a treated field.

The data shows a solid yield response from **MicroShield** alone (+1.5 bu/acre; triple rate of return on investment) which is similar to what we have seen at the field level the past (2) years. Other treatments of interest include Regalia and Toggle which United Prairie has several side by side field trials in 2015 to help assess their overall effectiveness and profitability.