2012 AgroVantage Plot Results

Location: Colfax, ND

Corn Test Plot

WEX® Multi-purpose wetting agent

	Check	WEX 1 pint	Advantage
Yield, bpa	184 bpa	192.5 bpa	+8.5 bpa
Moisture %	18.7%	18.9%	+0.2 pts.

WEX Multi-Purpose Wetting Agent is used for two primary purposes; as an adjuvant to optimize pesticide spray applications and as a soil amendment to enhance crop root development which can lead to higher yields and quality. In this study the soil amendment aspect of the product was tested. Typical yield response to this treatment is in the 4-5 BPA range, in this case a larger response was measured; 8.5 BPA! A $60.00 return on a $5.00 investment! Early on North Dakota's growing season was ideal, however late season it turned dry and the extra root mass produced by WEX proved beneficial.

Amplify®-L Seed Treatment

	Check	Amplify-L	Advantage
Yield, bpa	209.1 bpa	214.2 bpa	+5.1 bpa
Moisture %	19.7%	20.0%	+0.3 pts.

Amplify-L is a seed germination aid based upon the concept of providing an extra source of adenosine mono-phosphate as a seed treatment. Research has shown that maintaining adequate levels of this critical bio-chemical in the germinating seed enhances the rates of germination and emergence. The end result, better plant stands and fewer low vigor plants that fail to produce grain. In this study, yields were excellent and the Amplify-L treatment produced a 2.5 percent yield advantage versus the check! The extra yield translated into $36.00 of extra income on a $3.00 investment. The Amplify technology is a consistent performer in all growing conditions.

Magnify® -LAI Seed Inoculant

	Check	Magnify-LAI	Advantage
Yield, bpa	198.4 bpa	207.7 bpa	+9.3 bpa
Moisture %	19.3%	19.5%	+0.3 pts.

Magnify LAI is an azospirillum bacterial inoculant which is applied as a seed treatment or as an additive to in-furrow applied fertilizers. The product was applied as a seed treatment in this study. The two primary modes of action are enhanced nitrogen nutrition as the result of fixation of atmospheric nitrogen in the root zone and production of plant growth regulators which produce enhanced plant vigor. In this study, grain moisture was slightly higher, perhaps due to higher levels of available nitrogen provided by the inoculant's activity. Grain yield was also greater, by 9.3 bushels per acre; this increase provided a $65.00 return for a $1.15 investment for the seed treatment.

Starter Fertilizer Comparison

	Check no starter	**10-34-0** 5 gallons	**Nutraflo 6-24-6** 5 gallons	**Nutraflo 3-18-18** 5 gallons	**Feast 3-18-18** 5 gallons
Yield, bpa	188.8 bpa	188.9 bpa	191.3 bpa	178.0 bpa	198.6 bpa
Moisture %	20.0%	20.0%	21.4%	19.2%	19.2%
Difference from Check, BPA		+0.1 bpa	+2.5 bpa	-9.2 bpa	+9.8 bpa

The Feast starter fertilizer products provide two primary benefits. Number one, they are extremely efficient and effective sources for the essential nutrients N-P-K, reducing the need for application of less efficient broadcast applications. Number two, they are made from readily available plant food sources that produce rapid early growth and high vigor plants that are high yielding. A third and equally important characteristic of the Feast products that relates to performance is quality as compared to some competitive products and to commodity materials like 10-34-0.

In this study Feast 3-18-18 is the only material that produced a significant ROI; plus 9.8 bushels of additional grain or about $70.00 additional dollars revenue for an investment of about $38.00. Nutraflo 3-18-18's ROI, minus $76.00!

Starter Fertilizer Comparison

	Check no starter	**10-34-0** 5 gallons	**Nutraflo 6-24-6** 5 gallons	**Nachurs 9-18-9** 5 gallons	**Feast 9-18-9** 5 gallons
Yield, bpa	188.8 bpa	188.9 bpa	191.3 bpa	189.6 bpa	203.7 bpa
Moisture %	20.0%	20.0%	21.4%	19.7%	19.9%
Difference from Check, BPA		+0.1 bpa	+2.5 bpa	+0.8 bpa	+14.9 bpa

The Feast starter fertilizer products provide two primary benefits. Number one, they are extremely efficient and effective sources for the essential nutrients N-P-K, reducing the need for application of less efficient broadcast applications. Number two, they are made from readily available plant food sources that produce rapid early growth and high vigor plants that are high yielding. A third and equally important characteristic of the Feast products that relates to performance is quality as compared to some competitive products and to commodity materials like 10-34-0.

In this study Feast 9-18-9 is the only material that produced a significant ROI; plus 14.9 bushels of additional grain or about $104.00 additional dollars revenue for an investment of about $32.00. Nachurs 9-18-9's ROI, $5.60 of extra grain for an investment of about $25.00, not too good!

AgroVantage System Plant Food Comparison

	Check no starter	**AgroVantage System** Feast 9-18-9 – 6 gallons, Side-Kick – 1 gallon, Feast Manganese – 1 pint, Feast Zinc – 1 pint, Feast Calcium – 1 pint	**Advantage**
Yield, BPA	188.8 bpa	204.5 bpa	15.7 bpa
Moisture%	20.0%	19.6%	-0.4 pts.

A major aspect of the AgroVantage System's approach to efficiently providing plant food is the application of fertilizers in-furrow. In this study a combination of plant foods as prescribed by soil analysis were applied in-furrow and compared to a zero starter check. The yield advantage produced by the in-furrow treatment provided about $110.00 extra income per acre on an investment of about $52.00.

AgroVantage Rate Comparison

	Check no starter	**AgroVantage System** Feast 9-18-9 – 5 gallons, Side-Kick – 1 gallon, Feast Manganese – 1 pint, Feast Zinc – 1 pint	**AgroVantage System** Feast 9-18-9 – 10 gallons, Side-Kick – 2 gallon, Feast Manganese – 2 pint, Feast Zinc – 2 pint
Yield, BPA	188.8 bpa	209.6 bpa	206.2 bpa
Moisture%	20.0%	19.9%	19.7%
Difference from Check, BPA		+20.8 bpa	+17.4 bpa

Does increasing the rate of plant food always result in increased yield? This study would indicate it does not and Conklin's agronomic research used to develop optimum use rates also support this finding. The current maximum rates; for any of the Feast N-P-K formulations is 5 gallons per acre and for 0-0-25-17S (Side-Kick) is 1 gallon per acre. The results of this trial also support the use if soil testing to determine rate and formulation to use.

Foliar Feeding

	Check No foliar	**Foliar** Feast-XL – 3 gallons, Stratego YLD	**Advantage**
Yield, bpa	176.7 bpa	181.2 bpa	+4.5 bpa
Moisture%	22.3%	22.4%	+0.1 pts.

Foliar feeding is an effective method for supplementing plant nutrition at critical times during the plants lifecycle. In this study Feast XL 26-0-0-0.5B was applied in combination with Stratego fungicide at pre-tassel stage of growth. The cost for plant food was $21.15 for a return of $31.50. The economic result for this investment (including the cost of fungicide) was near break-even. The likely reason that a greater response did not occur, dry conditions followed the treatment application making moisture a limiting factor. The basic building blocks for plant growth and development are always required as foundations for high yield!

Soybean Test Plot

Feast Starter Fertilizer

	Check	Feast 3-18-18 3 gallons	Advantage
Yield, bpa	50.2 bpa	54 bpa	3.8 bpa
Moisture %	13.0%	13.0%	--

The AgroVantage System's approach to feeding soybeans is two pronged. Feast starter fertilizer products provide some of the required nutrition and an early vegetative stage foliar feed provides additional plant food. Both application techniques provide extremely efficient and effective sources for the essential nutrients N-P-K, reducing the need for application of less efficient broadcast applications.

In this study Feast 3-18-18 in a starter application produced an extra 3.8 bushels of beans or about $60.00 additional dollars revenue for an investment of about $23.00.

Feast Starter Fertilizer, Side-Kick and Manganese

	Check	Feast 3-18-18 3 gallons	Feast 3-18-18 2.5 gallons, Side-Kick - 0.5 gallon, Feast Mn – 1 pint	Feast 3-18-18 2.5 gallons, Side-Kick - 0.5 gallon, Feast Mn – 1 pint, Soil X-CYTO – 10 oz.
Yield, bpa	50.2 bpa	54 bpa	56.7 bpa	58.1 bpa
Moisture %	13.0%	13.0%	13.0%	13.0%
BPA increase vs Check		3.8 bpa	6.5 bpa	7.9 bpa

The AgroVantage System's soil test and recommendation program relies on a complete soil analysis to identify all required plant food components. This study demonstrates the importance of including all essential nutrients. Adding 0.5 gallons Side-Kick and 1 pint of Feast 6% Chelated Manganese to the starter fertilizer application increased yield by 2.7 BPA, a return of $43.00 on an investment of about $7.00!

Once all of the plant food requirements for a crop are in place another opportunity to increase yield exists in the AgroVantage System's X-CYTO plant growth regulator products. Adding the Soil formulation to the complete starter program increased yield by 1.4 BPA, producing extra revenue of about $22.00 on an investment of $7.00.