

2013-2014
Field Trial
Summaries



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Executive Summary

The AgroSpray Research Farm (ARF), located in Oxford County, Ontario, has over 100 acres of field-sized research trials. Our research focuses on combining environmentally-responsible nutrient application and modern technology to maximize agricultural yields. This report provides some of the cumulative results from trials carried out in both the 2013 and 2014 growing seasons.

In 2013, there was a cool, wet season in Oxford County. In 2014, there was another slow start to the year. Temperatures did reach seasonal highs until August, when temperatures began to dip below seasonal norms. There were also excessive rainfall levels in 2014. The trials highlight the strengths of Agro-Culture Liquid Fertilizer (ACLF) products, even in challenging growing conditions.

Overall, the trials emphasize the importance of matching fertilizer programs to the nutrient needs of the specific fields and farms, as dictated by soil test results. For example, the field used for our Foliar Feed on Soybeans (Early) trial in 2013 had a potassium deficiency, and the soybeans with the Sure-K application had a strong yield. ACLF products allow for the creation of speciality mixes; notably, even calcium and phosphorus can be combined, unlike in traditional liquid fertilizer programs.

Our soybean trials demonstrate the benefits of a foliar feed application of Ferti-Rain. This fertilizer has a balanced mix of N-P-K and micronutrients, thus allowing the plants to optimize yields. The Ferti-Rain in these trials was applied as early as the R2 stage (or full bloom stage) in one foliar feed trial, and as late as the R4 stage (or full pod stage) in another trial, suggesting that the timing of the foliar application is not of key significance.

Our Side-Dressed Fertilizer on Corn trial highlights the strengths of ACLF nitrogen products. An application of High NRG-N increases yields over the standard 28% UAN application; notably, less volume of High NRG-N is necessary than of the standard 28% UAN, which allows growers to cover more ground with fewer fill-ups. High NRG-N is also a slow release and stabilized form of nitrogen, which is important in years with high amounts of rainfall.

The Side-Dressed Fertilizer trial also demonstrates a second option for those growers interested in continuing the use of their traditional 28% UAN program. The addition of eNhance to the fertilizer mix reduces the necessary amount of 28% UAN, as it helps to stabilize nitrogen. Please speak with your Area Sales Manager to explore the best nitrogen program to fit your needs.

Our Area Sales Managers are eager to work with you to build on the knowledge presented in this report, and to help you develop a custom fertilizer program to meet your specific soil needs.

Side-Dressed Fertilizer on Corn

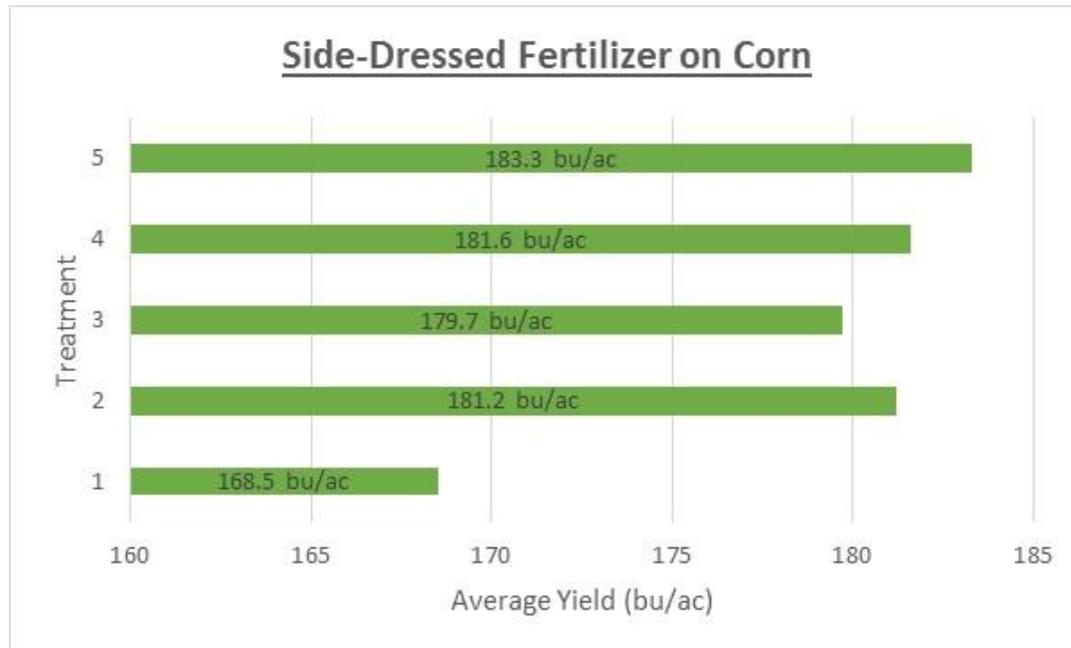
Cropping Years: 2013 & 2014

Application Stage: V7-V8

Replications: 3 replications for each treatment in each trial

Additional Information: Starter fertilizer applied, as per soil test

Increases in energy costs have not only resulted in higher fuel costs for farmers, but also higher nitrogen (N) fertilizer prices (Williams et al. 2010). Environmental concerns stemming from N levels in groundwater, lakes and rivers over past decades continue to stimulate interest in improved agricultural management of N (Williams et al. 2010). Historically, producers have applied more N fertilizer on corn than is used by the crop in a given season (Williams et al. 2010). This is because of the previously low cost of applying ample N fertilizer to ensure that it would not be limited, regardless of environmental and climatic conditions (Williams et al. 2010). Here at ARF we aim to fertilize crops in an environmentally responsible manner while still meeting the needs of the crop, using side-dressed applications of fertilizer.



Treatment	Product	Rate
1	28% UAN	50 GPA
2	28% UAN	40 GPA
	eNhance	5 L/ac
3	28% UAN	40 GPA
	eNhance	5 L/ac
	Sure-K	5 GPA
4	28% UAN	40 GPA
	S-Calate	4.5 GPA
5	High NRG-N	30 GPA

If your operation utilizes the traditional 28% nitrogen application, eNhance provides a good yield increase; switching to High NRG-N allows farmers to apply less product and achieve strong results.

Foliar Feed on Soybeans (Early)

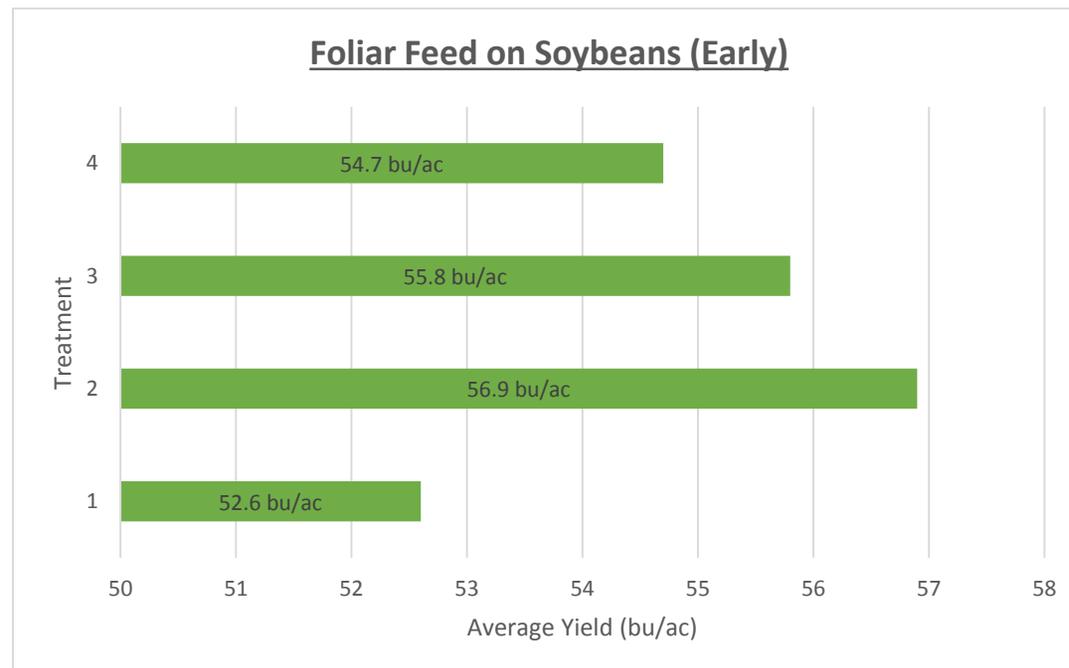
Cropping Years: 2013 & 2014

Hybrid: PS2393NR2 (Maturity Group 2.3)

Replications: 3 replications for each treatment in each trial

Application Stage: R2 – Full Bloom

The Spring of 2013 and of 2014 saw cool temperatures and an excess of rainfall, which slightly delayed the soybean planting season in Southwestern Ontario. This left some producers wondering if foliar fertilization could help to improve soybean growth and yield. Therefore, here at ARF, we set out to determine the effects of early (R2) and late (R4) foliar fertilization on soybeans that started the growing season in cool, wet conditions.



Treatment	Product	Rate
1	Untreated Check	
2	Ferti-Rain	3 GPA
3	Sure-K	3 GPA
4	Sure-K	3 GPA
	Manganese	2 L/ac

When a field has a potassium deficiency, Sure-K is a good option for a foliar feed on soybeans. Ferti-Rain has also proven as a strong and consistent foliar feed option.

Foliar Feed on Soybeans (Late)

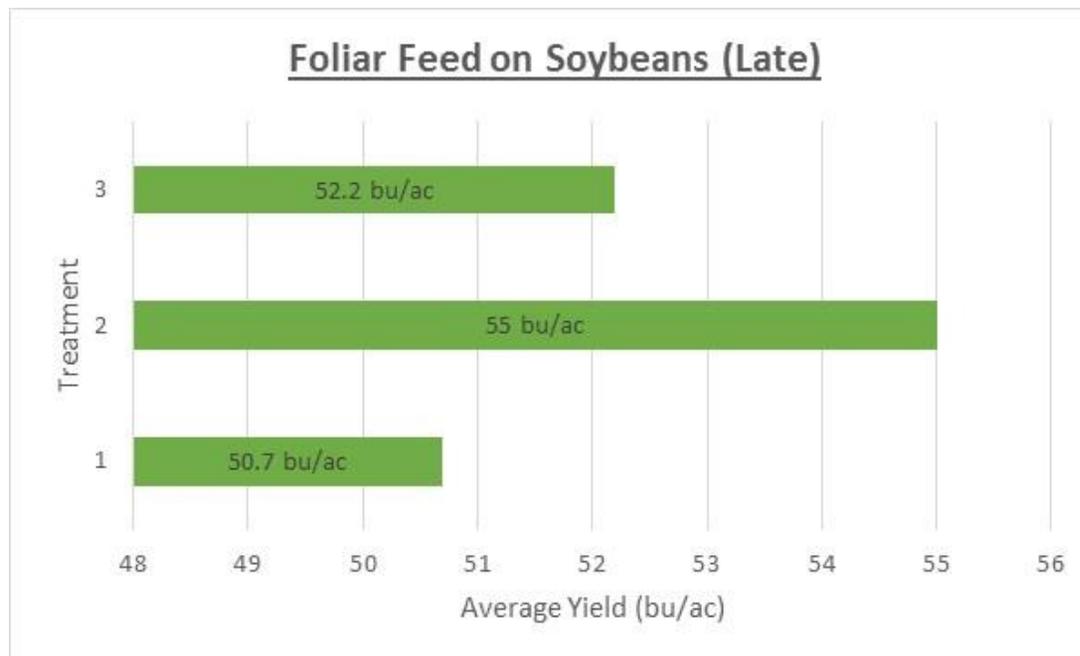
Cropping Years: 2013 & 2014

Hybrid: PS1162R2 (Maturity Group 1.1)

Replications: 3 replications for each treatment in each trial

Application Stage: R4 – Full Pod

Additional Information: No starter fertilizer applied to this trial.



Treatment	Product	Rate
1	Untreated Check	
2	Ferti-Rain	3 GPA
3	iNPaKt + Mn	3 GPA

Regardless of application stage, Ferti-Rain is a foliar feed product which achieves consistent results.

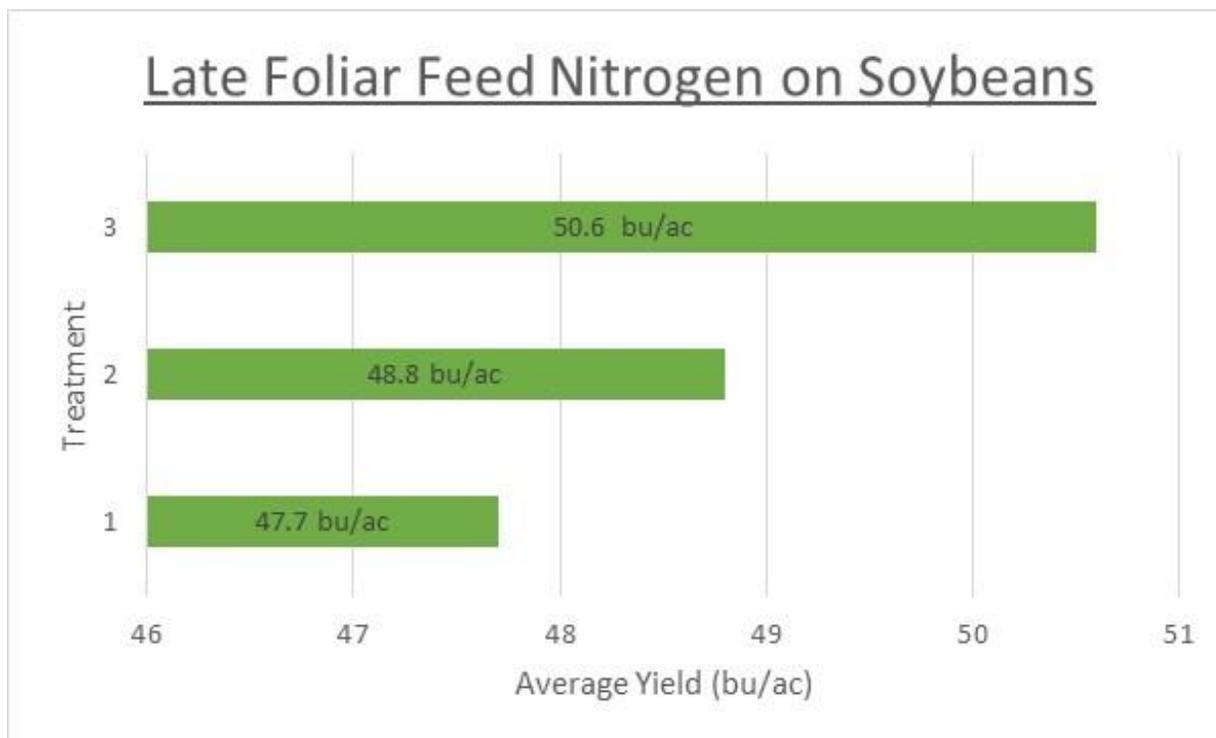
Late Foliar Feed Nitrogen on Soybeans

Cropping Years: 2013 & 2014

Replications: 3 replications for each treatment in each trial

Application Stage: R4 – Full Pod

Additional Information: No starter fertilizer applied to this trial.



Treatment	Product	Rate
1	Untreated Check	
2	NResponse	3 GPA
3	Ferti-Rain	3 GPA

Ferti-Rain has once again demonstrated its benefits as a foliar feed.