On-Farm Demonstration Trial: Growth Promoter Studies Foliar Feeding Application on Corn and Soybean

Mike Witt—on-farm trials coordinator and agronomist, ISU Extension and Outreach

Andrew Weaver—agricultural specialist, Northwest Research and Demonstration Farm

Dordt University, Agriculture Department

Objective

Determine the effects of foliar feeding product on corn and soybean yields to define best management practices.

Introduction

Nutrient use efficiency is a major factor causing yield variation in corn. Many bacteria or biostimulant products are available that promote increased nutrient availability and use efficiency in plants. Transit™ is a foliar-applied nutrient product. It is promoted as built with a formulation that promotes the rapid absorption and translocation of nutrients within the plant. It is specially formulated with surface wetting and deposition agents to ensure product adherence and even coverage of foliar applications. This product is marketed by FBSciences Inc. The purpose of these trials was to investigate what effect Transit™ applied foliar has on corn and soybean yields.

Materials and Methods

Crop Year–2021

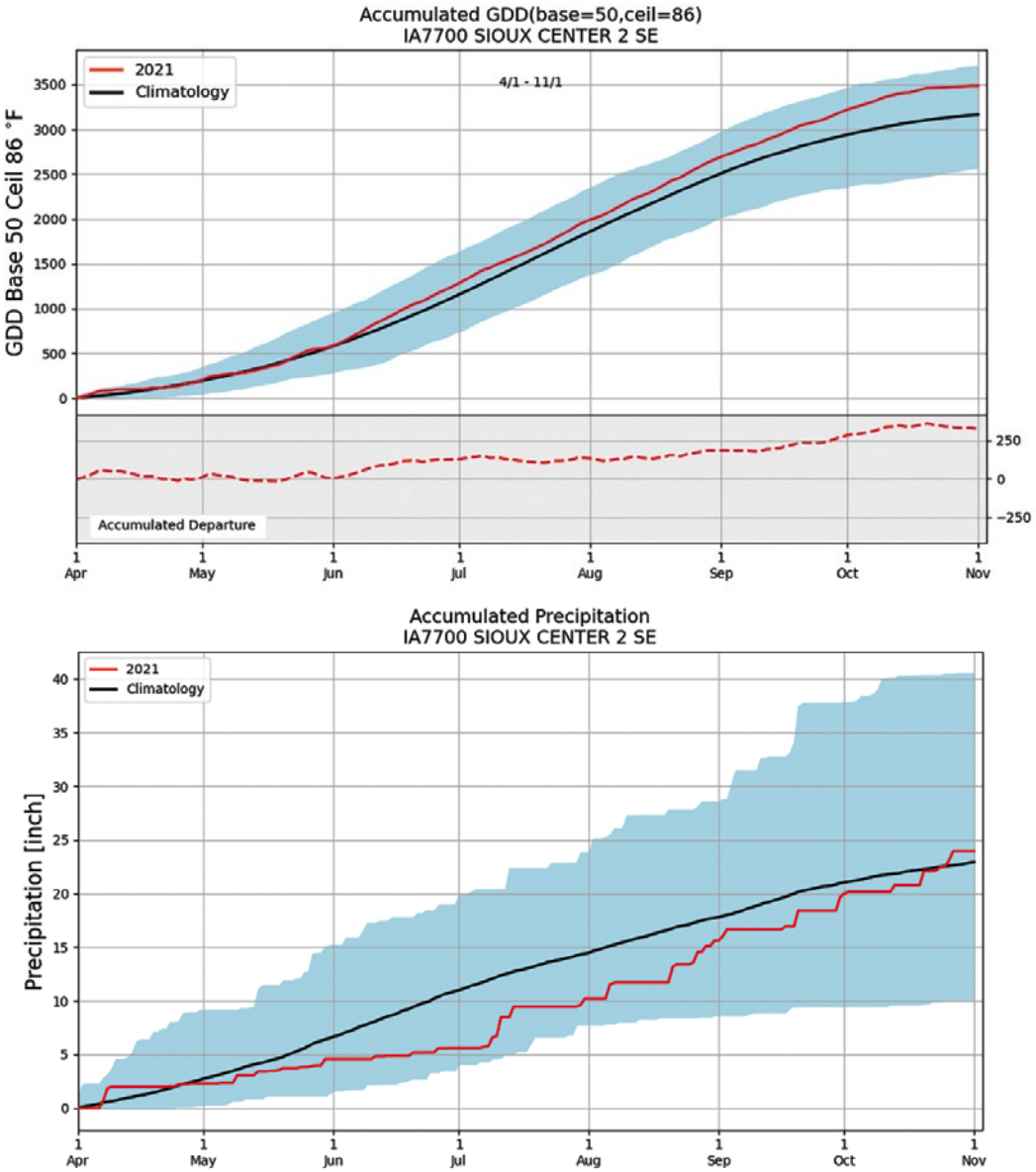
Trial	210109	210115
Trial County	Sioux	Sioux
Soil Type	8B, 31, 91, 91B, 133, 310B, 310B2, 310C2, 428B	8B, 31, 91, 91B, 133, 310B, 310B2, 310C2, 428B
Previous Crop	Soybean	Corn
Tillage	Conventional	No-Till
Current Crop	Corn	Soybean
Hybrid–Variety Number	P0595AM	P20T64E
Hybrid–Variety Company	Pioneer/Corteva	Pioneer/Corteva
Row Spacing	30 in.	30 in.
Seeding Rate	34,000/ac.	140,000/ac.
Planting Date	April 26	April 30
Harvest Date	October 12	September 23
Experimental Type	On-Farm Demo	On-Farm Demo
Replications	4	3
Foliar and Fungicide	Transit 12oz./ac., Approach 9oz./ac.	Transit 12oz./ac., Approach 9oz./ac.
Application Dates	June 15-July 21	June 15-30

Results

Trial Number	Treatment	Yield (bu./ac.)[a]	P-value[b]	Moisture	P-value[b]
210109	Transit (6/15 – 12oz./ac.)	210.3 a	0.84	18.7 a	0.63
	Transit + Approach (7/21 – Transit 12 oz./ac. + Approach 9oz./ac.)	204.9 a		18.8 a	
	Approach (7/21 9oz./ac.)	212.3 a		18.8 a	
	Untreated Control	209.6 a		18.6 a	
210115	Transit (6/15 – 6oz./ac.)	89.9 a	0.86	11.6 a	0.80
	Transit + Approach (6/30 – Transit 12 oz./ac. + Approach 9oz./ac.)	91.4 a		11.3 a	
	Approach (6/30 9oz./ac.)	90.7 a		11.6 a	
	Untreated Control	90.8 a		11.6 a	

[a]Values denoted with the same letter within a trial are not statistically different at the significance level of 0.10.
[b]P-value = the calculated probability that the difference in yields can be attributed to the treatments and no other factors. For example, if a trial has a P-value of 0.10, there is 90% confidence the yield differences are in response to treatments. This is consistent for demonstration trials.

Location Climate Analysis



Key Takeaways

- The usage of Transit™ foliar feeding alone or in connection with a fungicide Approach® did not result in a statistically significant yield increase.
- The treatments had no significant effect on grain moisture.
- Neither corn nor soybean showed a yield difference from the treatments.

NOTE: The results presented are from replicated demonstration trials. Statistics are used to detect differences at a location and should not be interpreted beyond the single location.