On-Farm Demonstration Trial: Crop Protection Studies Veltyma® Fungicide Application on Corn

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Objective

Determine the effects of foliar fungicide application on corn yields to define best management practices.

Introduction

An application of foliar fungicide to corn and soybean has become a common practice for many farmers in Iowa. The effect of fungicide on corn and soybean yield, however, can vary from year to year. Environmental conditions, such as rainfall and temperature, influence disease development, which will determine whether a fungicide affects yield. Because environmental conditions vary from one year to the next, it is difficult to predict how and when to use a fungicide. The objective of these trials was to evaluate whether the application of the foliar fungicide Veltyma® from BASF corporation would result in a significant yield difference.

Materials and Methods

Crop Year–2021

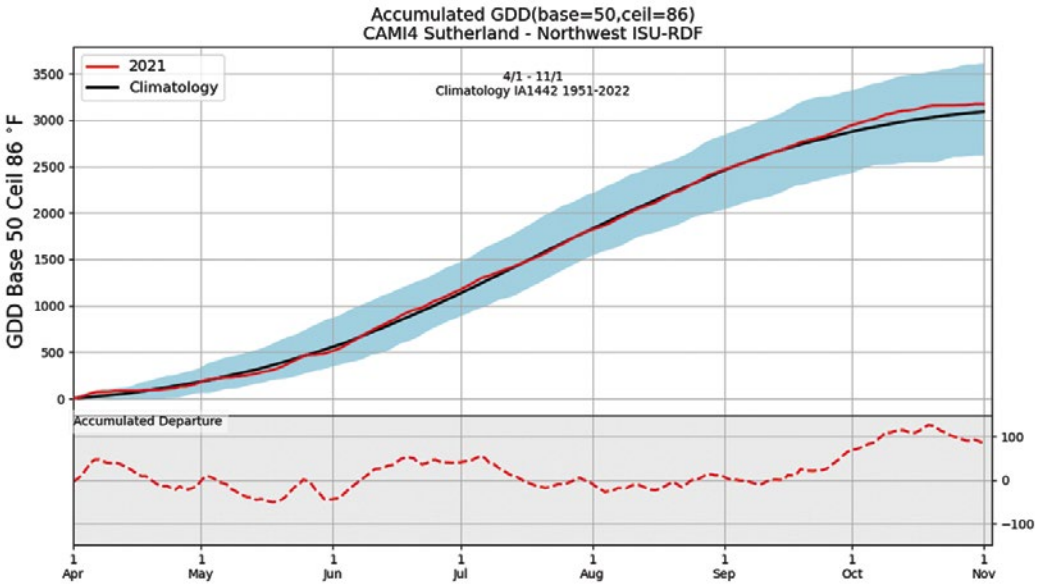
Trial	210101	210102
Trial County	O'Brien	O'Brien
Soil Type	310B, 77B, 91B	310B, 77B, 91B
Previous Crop	Soybean	Soybean
Tillage	Conventional	Conventional
Current Crop	Corn	Corn
Hybrid–Variety Number	4246	4246
Hybrid–Variety Company	Wyffels	Wyffels
Row Spacing	30 in.	30 in.
Seeding Rate	34,000/ac.	34,000/ac.
Planting Date	April 22	April 22
Harvest Date	October 22	November 1
Fungicide	Veltyma 7oz/ac.	Veltyma 7oz/ac.
Fungicide Application	July 21	July 21
Experimental Type	On-Farm Demo	On-Farm Demo
Replications	3	3

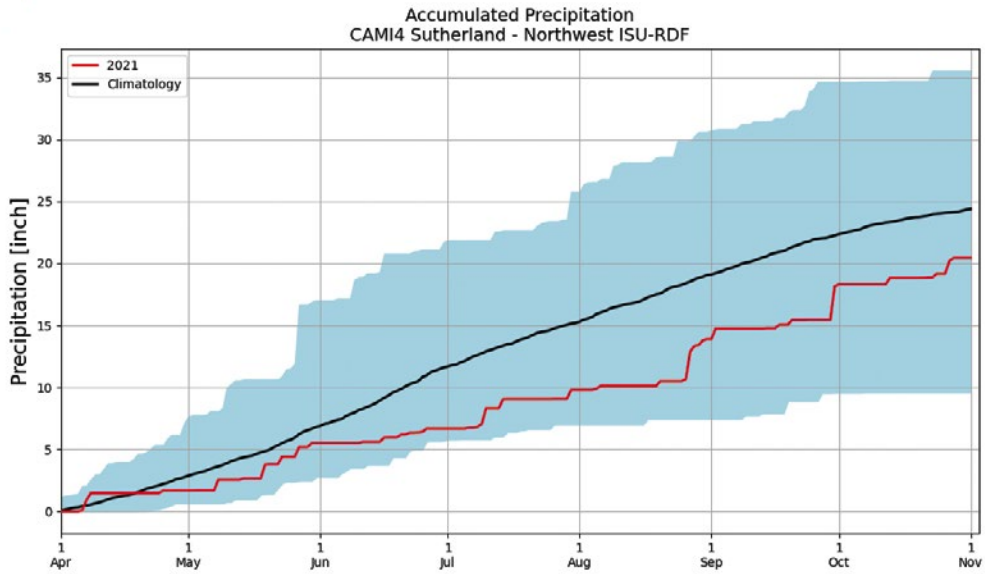
Results

Trial Number	Treatment	Yield (bu./ac.)[a]	P-value[b]	Moisture	P-value[b]	Return on Treatment[c]
210101	Veltyma® 7oz./ac.	244.2 a	0.63	15.5 a	0.59	$1077.23/ac.
	Control	239.8 a		15.7 a		$1086.29/ac.
210102	Veltyma® 7oz./ac.	228.2 a	0.48	16.4 a	0.06	$1004.75/ac.
	Control	221.3 a		16.0 b		$1002.49/ac.

[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.
[c]Profit of Production based on $17/ac. cost of Veltyma® product and $12/ac. application cost, $4.53 corn commodity prices. ((Yield x Price)-Costs) Commodity price is the 2020 national average cash price for corn.

Location Climate Analysis





Key Takeaways

- The three multiple planting dates did not have a significant difference in corn yields.
- The three multiple planting dates had a statistical significant effect in the moisture of the corn at harvest. The earlier planting date had significantly drier corn than the later planting dates by 0.7%.
- This decrease in moisture with the earlier planting date is not an unexpected outcome based on the standard corn maturation process.

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.