On-Farm Demonstration Trial: Crop Production Studies Planting Date–Corn

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Objective

Determine the effects of multiple planting dates on corn yields to define best management practices..

Introduction

Maximizing yield potential for farming systems is a challenge for corn and soybean farmers in Iowa. Many small changes in products, practices and timing can lead to very different results in yields. However, managing for maximum yield outputs rarely is the most economically sound investment for farmers. Striking that balance is key to success. Planting dates are being adjusted by farmers to maximize time and yield potential of their hybrids. The objective of this trial was to investigate what effect various planting dates had on corn grain yield.

Materials and Methods

Crop Year–2021

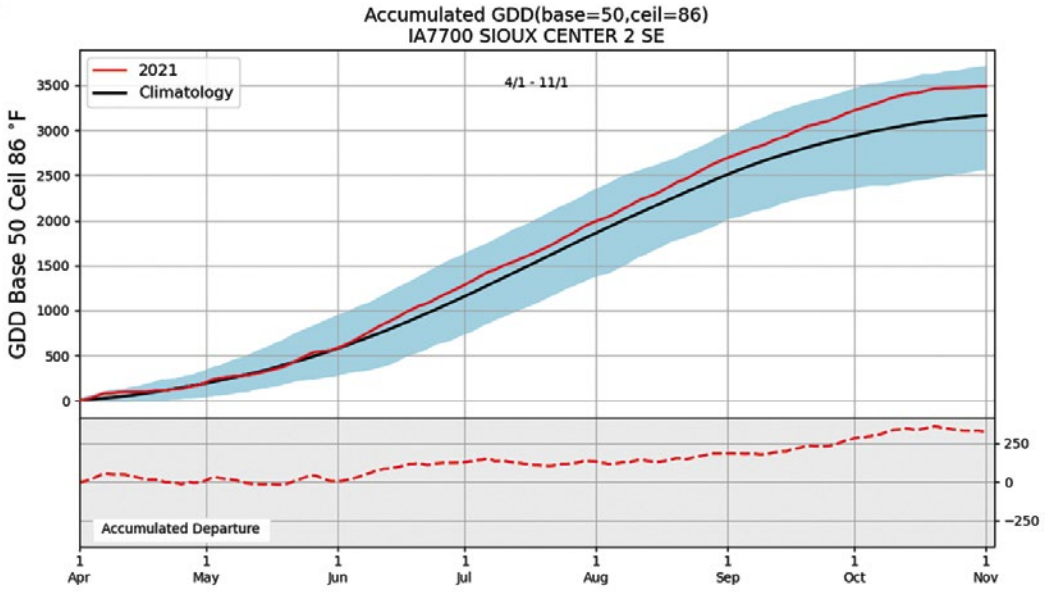
Trial	210105
Trial County	Sioux
Soil Type	8B, 31, 91, 91B, 133, 310B, 310B2, 310C2, 428B
Previous Crop	Soybean
Tillage	Conventional
Current Crop	Corn
Hybrid–Variety Number	P0220Q
Hybrid–Variety Company	Pioneer/Corteva
Row Spacing	30 in.
Seeding Rate	34,000/ac.
Planting Dates	April 24, May 1, May 11
Harvest Date	November 1
Experimental Type	On-Farm Demo
Replications	3

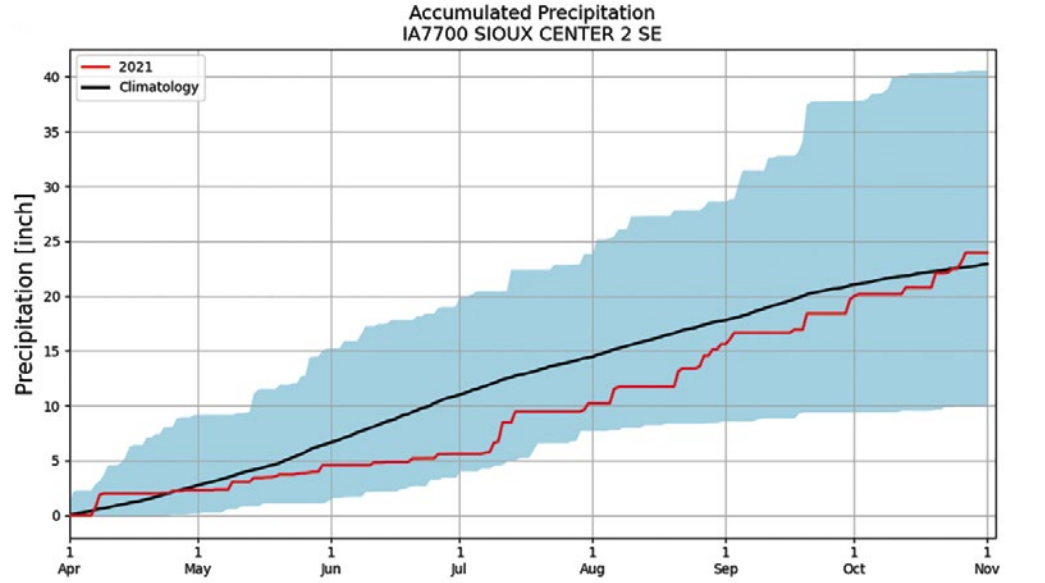
Results

Trial Number	Treatment	Yield (bu./ac.)[a]	P-value[b]	Moisture	P-value[b]
210105	Planting April 24	216 a	0.65	18.6 a	<0.01
	Planting May 1	218 a		19.3 b	
	Planting May 11	220 a		19.5 b	

[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 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.