



On-Farm Demonstration Trial: Cover Crop Studies Termination Timing Trials

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

Lyle Rossiter—farm superintendent, Allee Demonstration Farm

Objective

Determine the effects of termination timing of cover crop on corn yields to define best management practices.

Introduction

Planting soybean into a living cover crop is a practice more farmers are doing across the Midwest. There has been data that shows a minimal yield penalty to soybean when “green” planting occurs. This practice has the benefit of weed suppression to reduce early season herbicide costs. It also assists with improvement of overall soil health. The objectives of this trial are to study soybean yield differences with different herbicide application and planting timing in a winter wheat cover crop.

Materials and Methods

Crop Year–2021

Trial	210206
Trial County	Buena Vista
Soil Type	Canisteo clay loam
Previous Crop	Corn
Tillage	No-Till
Current Crop	Soybean
Hybrid–Variety Number	1989 En 3
Hybrid–Variety Company	Champion
Row Spacing	30 in.
Seeding Rate	130,000/ac.
Planting Date	May 12
Harvest Date	October 15
Experimental Type	On-Farm Demo
Replications	5
Cover Crop	Winter Wheat
Termination Timing	May 3: 6-8 in. height; May 13: 12 in. height
Termination Method	Glyphosate, 24-D

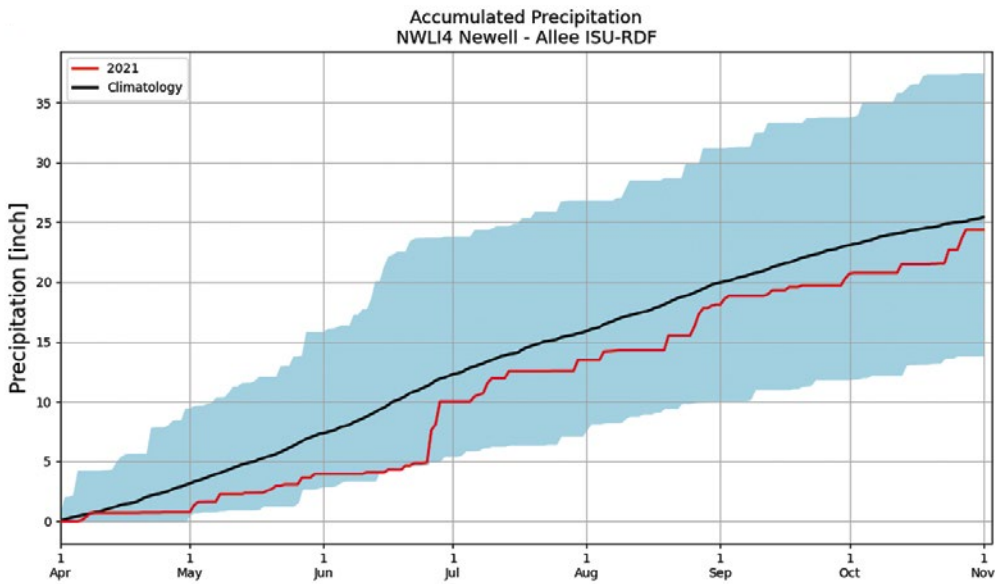
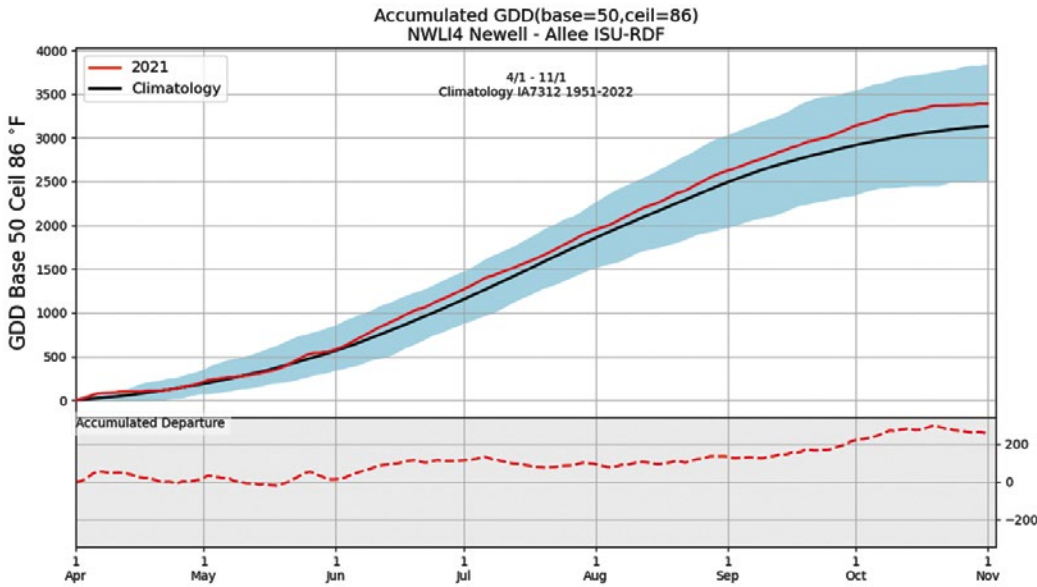
Results

Trial Number	Treatment	Yield (bu./ac.) ^a	P-value ^b
210206	Winter wheat termination May 13: “green planting”	61.4 a	0.45
	Winter wheat termination: May 3	60.1 a	

^aValues denoted with the same letter within a trial are not statistically different at the significance level of 0.10.

^bP-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

- There was no statistical difference between treatments for yields in experiments.
- Planting soybean “green” was not detrimental to yield in this trial.
- Observation: Late termination timing delayed growth of waterhemp in field.

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.