



# Interseeding of Grass and Legume Cover Crops Into Early Vegetative Stage Corn

Mark Licht—associate professor and extension cropping systems specialist, Department of Agronomy

Fernando Marcos—research scientist, Department of Agronomy

Mike Witt—field agronomist, ISU Extension and Outreach

## Objective

Evaluate the effects of interseeded cover crop species as mix across corn population and row spacing on corn productivity.

## Materials and Methods

### Crop Year–2022

Soil type	Mahaska
Previous crop	Soybean
Hybrid	Stine 9808E-20
Planting date	May 13, 2022
Row spacing	30 in. and 60 in.
Seeding rate	25,000 and 35,000 seeds/acre
Tillage	Soil Finisher May 9, 2022
Fertilizer	24-114-200-12S using MAP, Potash, and CAL-SUL application December 3, 2021
Nitrogen	UAN at 170lbs. N/acre April 19, 2022
Harvest date	October 13, 2022
Experimental design	split-plot design
Replications	4
Treatments	Row spacing and seeding rate with and without cover crop mixture of cowpea, mung bean, cereal rye, and radish.

## Results

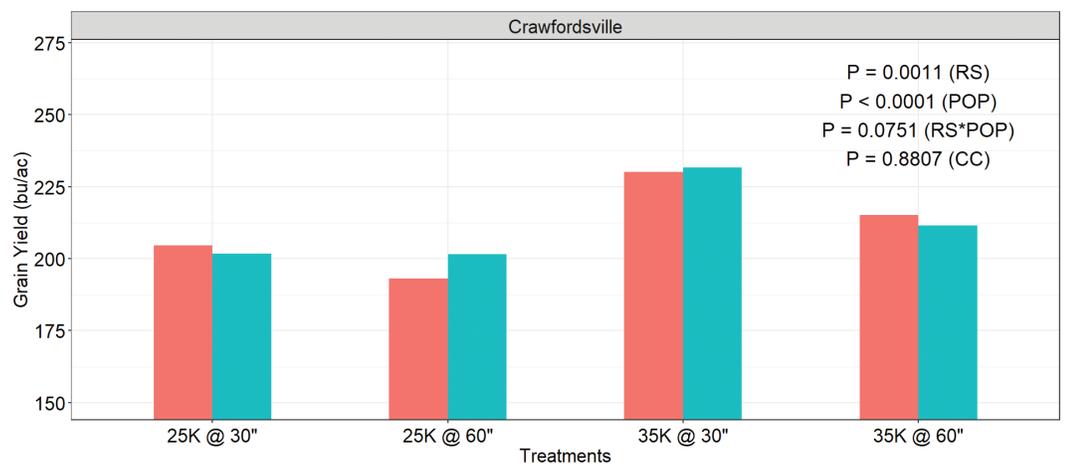
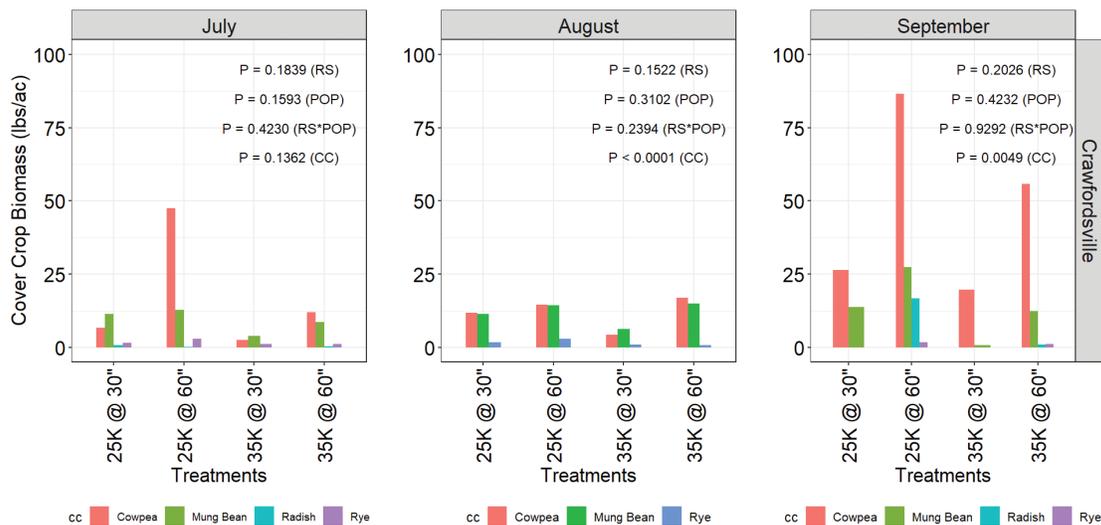


Figure 1. Corn yield at 15% across row spacings, seeding rate and presence/absence of cover crop interseeded in mid-June.



**Figure 2. Interseeded cover crop biomass dry weights across sampling timings (July, August, September) and treatments (corn row spacing and seeding rate).**

### Key Takeaways

- There was a significant interaction ( $P < 0.10$ ) between corn row spacing and seeding rate effect on grain yield, where 30-inch rows at 35,000 seeds/acre were superior to either row spacing at 25,000 seeds/acre.
- Cowpea growth was statistically higher than other species in August and September.
- Corn management practices did not affect interseeded cover crop biomass production.

### Acknowledgements

This project was funded by the Iowa Nutrient Research Center. Special thanks to Cody Schneider and Chad Hesseltine at the Southeast Research and Demonstration Farm.