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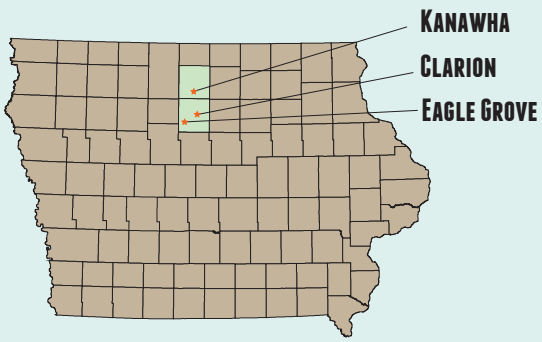
Seeding Technique and Date Effect on Cover Crop Establishment

Summary

The highboy seeding technique allows for an early seeding date that resulted in additional cover crop growth when compared to the drilled treatment that followed corn and soybean harvest. When comparing biomass of cover crop mixtures, the cereal rye and oats in the cover crop mixes made up the majority of the growth recorded. Corn and soybean yields tended to be unaffected by the cover crops.

Study Design

3 Locations



3 Cover Crop Seeding Techniques

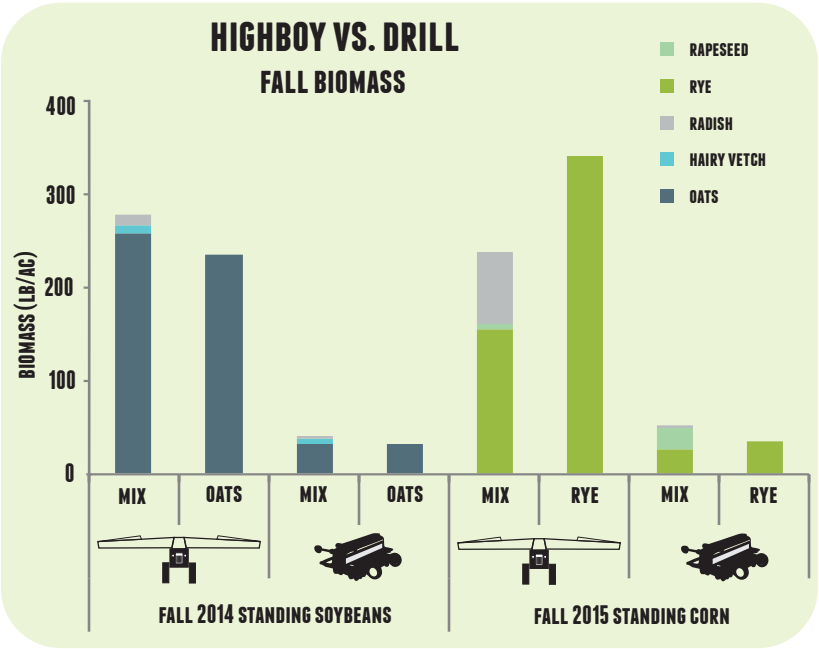
1. Highboy without tubes into standing crop
2. Highboy with tubes into standing crop
3. Grain drill following harvest

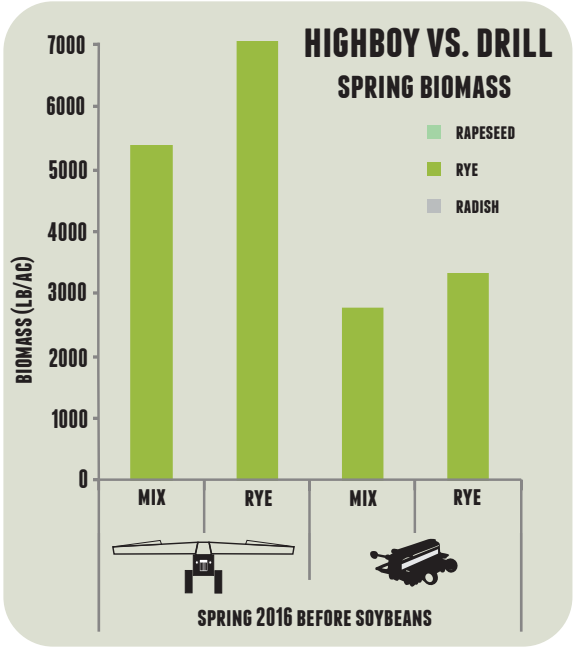
Treatments replicated at each location

	Fall 2014: Cover crop seeded into soybeans			Fall 2015: Cover crop seeded into corn		
	Single: (seeding rate lb/ac)	Mix: (seeding rate lb/ac)		Single: (seeding rate lb/ac)	Mix: (seeding rate lb/ac)	
	Oats (67 lb/ac)	Oats (52 lb/ac)	Hairy vetch (10 lb/ac)	Radish (4 lb/ac)	Cereal rye (67 lb/ac)	Cereal rye (32 lb/ac)	Rapeseed (2.5 lb/ac)	Radish (3.5 lb/ac)

Yield Results

- ✓ Corn and soybean yields were unaffected by cover crops
- ✓ Seeding techniques were yield neutral
- ✓ Cover crop species were yield neutral





BIOMASS RESULTS

Rye and oats made up the largest proportion of the aboveground cover crop mix biomass, regardless of seeding technique and location

Highboy consistently resulted in more biomass than the drill

A highboy allows for an earlier seeding date and longer growing window

No difference between highboy treatments across locations

Rye and oats provide the best biomass return on seed investment

CONCLUSION

The highboy consistently resulted in more fall and spring biomass as a result of the earlier seeding date. There were no differences in cover crop biomass observed between the highboy treatments. The drop tubes allowed the highboy to place the seed on the soil just below the crop canopy, but did not result in any advantage. Generally, the oats and cereal rye, alone and in the mix, were the most successful in producing aboveground biomass. Corn yields in 2015 and soybean yields in 2016 were mostly unaffected compared to where no cover crop was planted the previous fall.

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