

Cover Crop Survey of Nebraska Farmers

Mary Drewnoski, Nathan Muller, Randy Saner, Paul Jasa, Gary Zoubek, Jenny Rees, Katie Pekarek, Roger Elmore, Daren Redfearn and Gary Lesoing

Introduction

The purpose of this survey was to assess the current level of cover crop use and gather insights from farmers in Nebraska regarding the use of cover crops. This survey was conducted in January and February of 2015 using paper surveys distributed to farmers attending Pesticide Safety Education Program Courses, Crop Production Clinics and those attending the Nebraska no-till conferences. A total of 258 farmers who attended these meetings participated in the survey. There were multiple versions of the survey with varying questions and not all participants completed every question; therefore, the number of responses that were analyzed for each question is indicated.

Participating farmers demographics

Of the farmers who participated, 87 (34%) reported using cover crops in the 2014 growing season. The farmers who planted cover crops directly managed 135,309 acres, with 34% of those acres being rain-fed. The 171 farmers who did not plant cover crops last year reported directly managing 204,339 acres, with 34% of those acres being rain-fed. Of those who did not plant cover crops last year, only 29% (46/151) reported that they had ever planted cover crops.

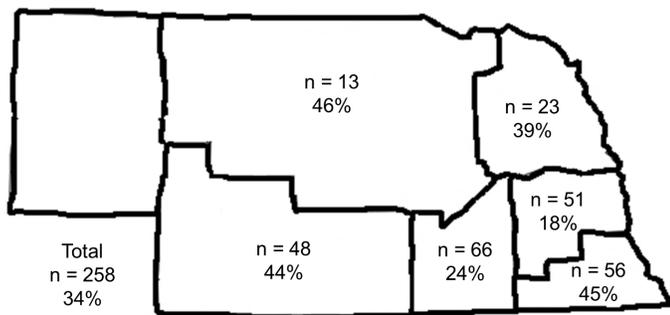


Figure 1. Number of farmers completing the survey in various regions of the state and the percent of farmers in each region that planted cover crops in the 2014 growing season

The profile of income sources of the those who did (n = 87) and did not plant cover crops (n = 171) appeared to be similar, with 77% of those who did not plant cover crops and 76% of those who planted cover crops having over 50% of their income from grain crop production. Farmers who did not plant cover crops, 63% reported having no off-farm income and 35% had some income from livestock production. Similarly, those who planted cover crops reported 66% had no off-farm income and 46% had some income from livestock production.

Those who did not plant cover crops reported that 48% of the acres they managed were used to produce dry corn grain and 31% were used for soybean production. Similarly, those who planted cover crops reported that 42% of their acres were used to produce dry corn grain and 32% were used for soybean production.

However, size of operation did appear to differ. Of the farmers who planted cover crops, 33% (29/87) had operations greater than 1500 acres whereas only 17% (29/171) of farmers who did not plant cover crops managed more than 1500 acres.

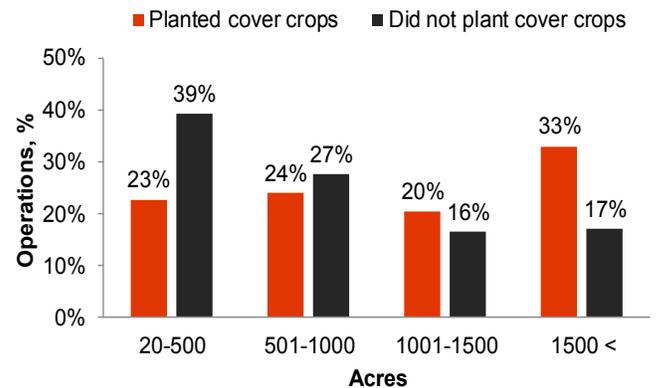
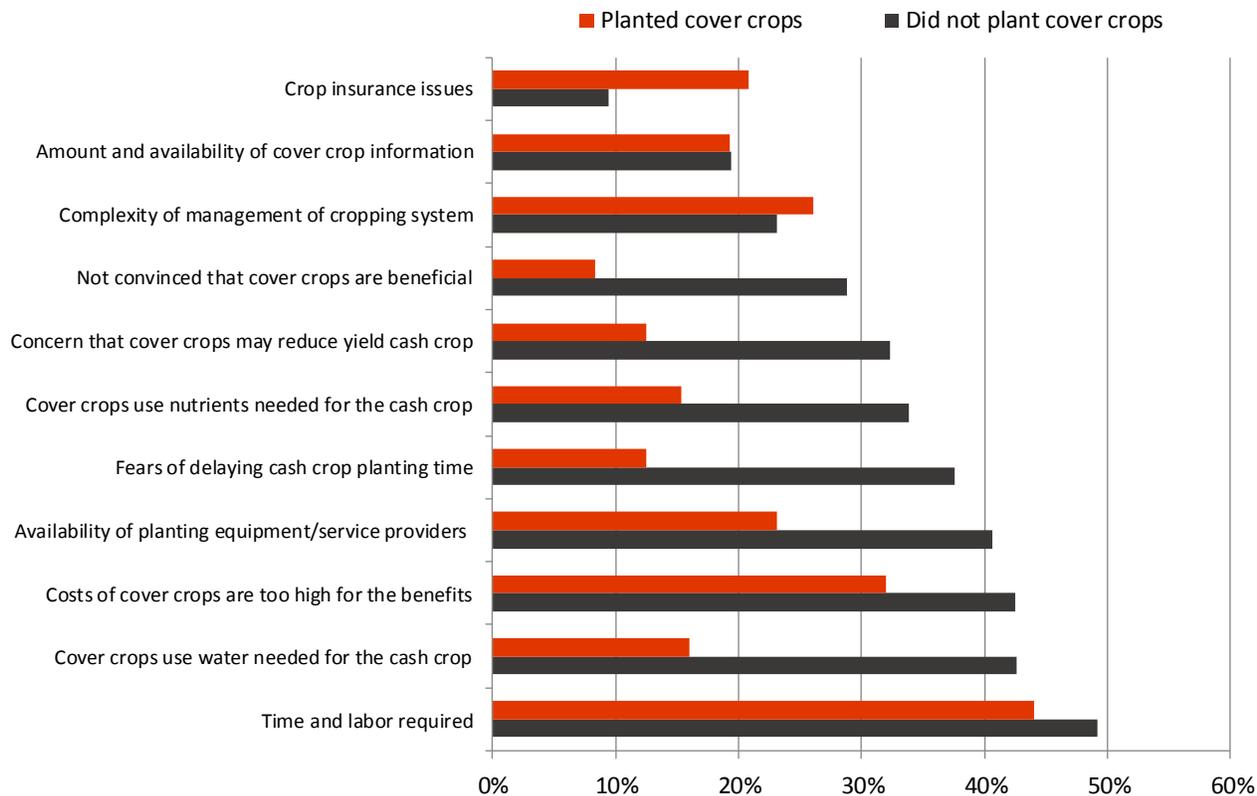


Figure 2. Percent of farmers who managed operations of various sizes in the 2014 growing season and either planted cover crops or did not plant cover crops

Figure 3. Factors rated as major barriers to the use of cover crops by farmers that planted cover crops and those who did not plant cover crops in the 2014 growing season



Perceived barriers with cover crop use

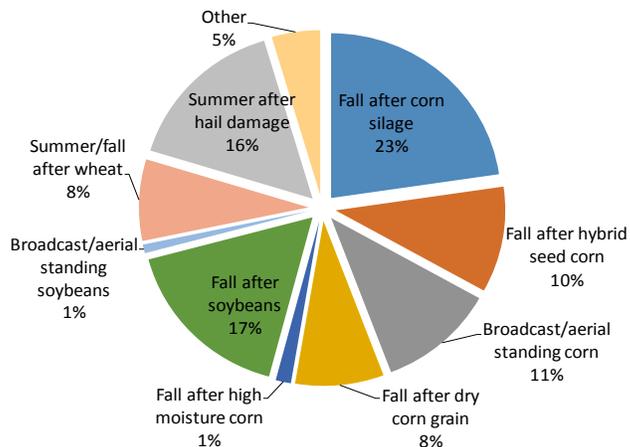
Both those who planted (44%; 11/25) and those who did not plant cover crops (49%; 61/124) ranked time and labor required as a major issue which limits the adoption of cover crops. The cost of cover crops relative to the benefits was also ranked as a major issue by both those who planted cover crops (42%; 8/25) and those who did not plant cover crops (32%; 51/123). Water use was reported to be a major issue for those who did not plant cover crops, with 43% (53/125) reporting it was a major issue. Only 16% (3/24) of those who planted cover crops reported water as a major issue.

Cropping systems with cover crop use

Of the 27,589 acres that were reported by the 87 farmers as being planted to cover crops, 23% were planted in the fall after corn silage. However, corn silage acres only made up 6% of the acres managed by those planting cover crops. When evaluated as a percent of the corn silage acres managed by those who planted cover crops, 77% of corn silage acres managed were planted to cover crops. When compared across all the corn silage acres reported by all participants (12,283 acres) in this survey, 51% of the corn silage acres were planted to cover crops.

Cover crops planted in seed corn production acres made of 10% of the cover crop acres planted. Like corn silage, seed corn acres made up a relatively large proportion of the cover cropped acres when the total number of cropped acres that seed corn production represented is taken into account. Cover crops were planted on 32% (2870 of 9062 seed corn acres) of the seed corn acres managed by the participants of this survey.

Figure 4. Cropping systems with cover crops (percent of all acres planted to cover crops)



Of the cover crop acres planted, 18% were planted in the fall after soybean harvest or broadcast seeded into standing soybeans. This only represented 11% of the soybean acres managed by farmers that planted cover crops. When compare across all the soybean acres reported by participants (106,740 acres) in this survey, only 4% of the soybean acres were planted to cover crops. Similarly, the dry corn grain and high moisture corn acres made up 20% of the cover crop acres planted, but only represented 3% (5806/ 181,288 acres) of the corn acres managed by the participants in this survey.

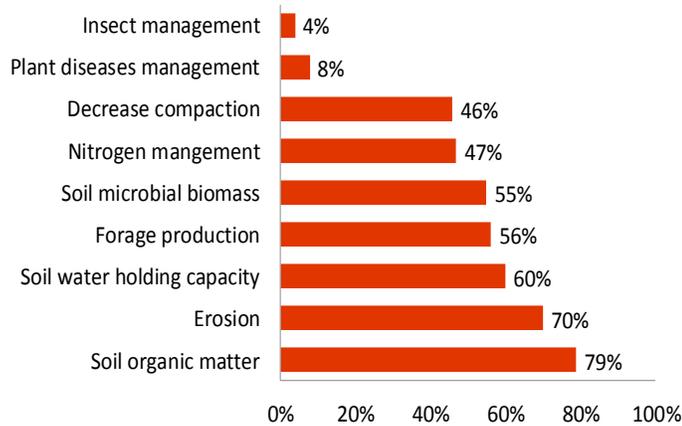


Figure 5. Factors rated as a major reason for planting cover crops by farmers who planted cover crops in the 2014 growing season

Reasons for planting cover crops

Building soil organic matter and preventing soil erosion were the most often reported (79 and 70%, respectively) major reasons for planting cover crops among farmers who planted cover crops (n = 80 participants responding). Almost 50% of the participants also responded that increasing soil water holding capacity, producing forage, improving soil microbial biomass, scavenging or fixing nitrogen and decreasing compaction were major reasons they planted cover crops. Insect and plant disease management were not a reason for the majority of farmers who planted cover crops in 2014.

Cover crop species planted

Of the 38 farmers responding to the number of acres of various species of cover crops they planted, the majority of farmers (25) planted brassicas (turnips, radishes, collards, etc.) with 60% of the cover crop acres containing a brassica. The second most commonly used class of cover crop was winter

hardy small cereal grain which was planted by 20 of the 38 farmers, resulting in 45% of the cover crop acres containing one of these species: cereal rye, winter wheat, winter barley or winter triticale. Only 8 of the 38 farmers planted winter sensitive cereal grains (oat, spring wheat, spring barley or spring triticale), resulting in 26% of the cover cropped acres containing a winter sensitive small grain.

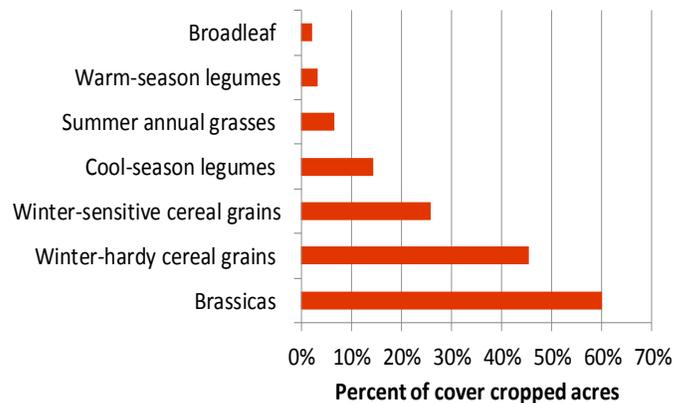


Figure 6. Species of cover crops planted in cover cropped acres

Grazing of cover crops

Of farmers who planted cover crops 51% (41/80) did not graze any of their cover crop acres, and 21% grazed all of the cover crop acres that they planted.

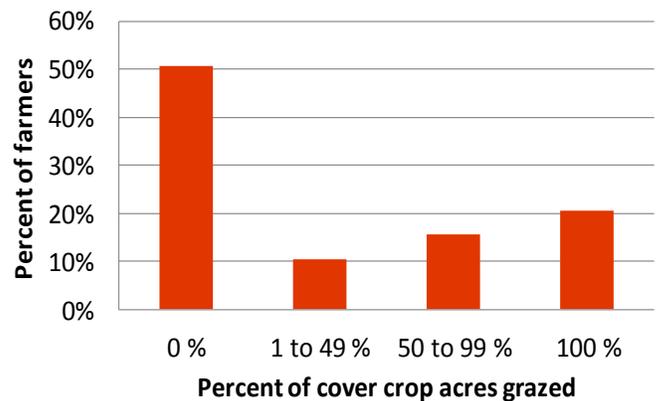


Figure 7. Prevalence of cover crop grazing.

Acknowledgements

The authors would like to thank all of the farmers who provided information. Without their willingness to take the time to complete surveys like this one, we would not be able to assess current management practices and determine research and education needs.

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