

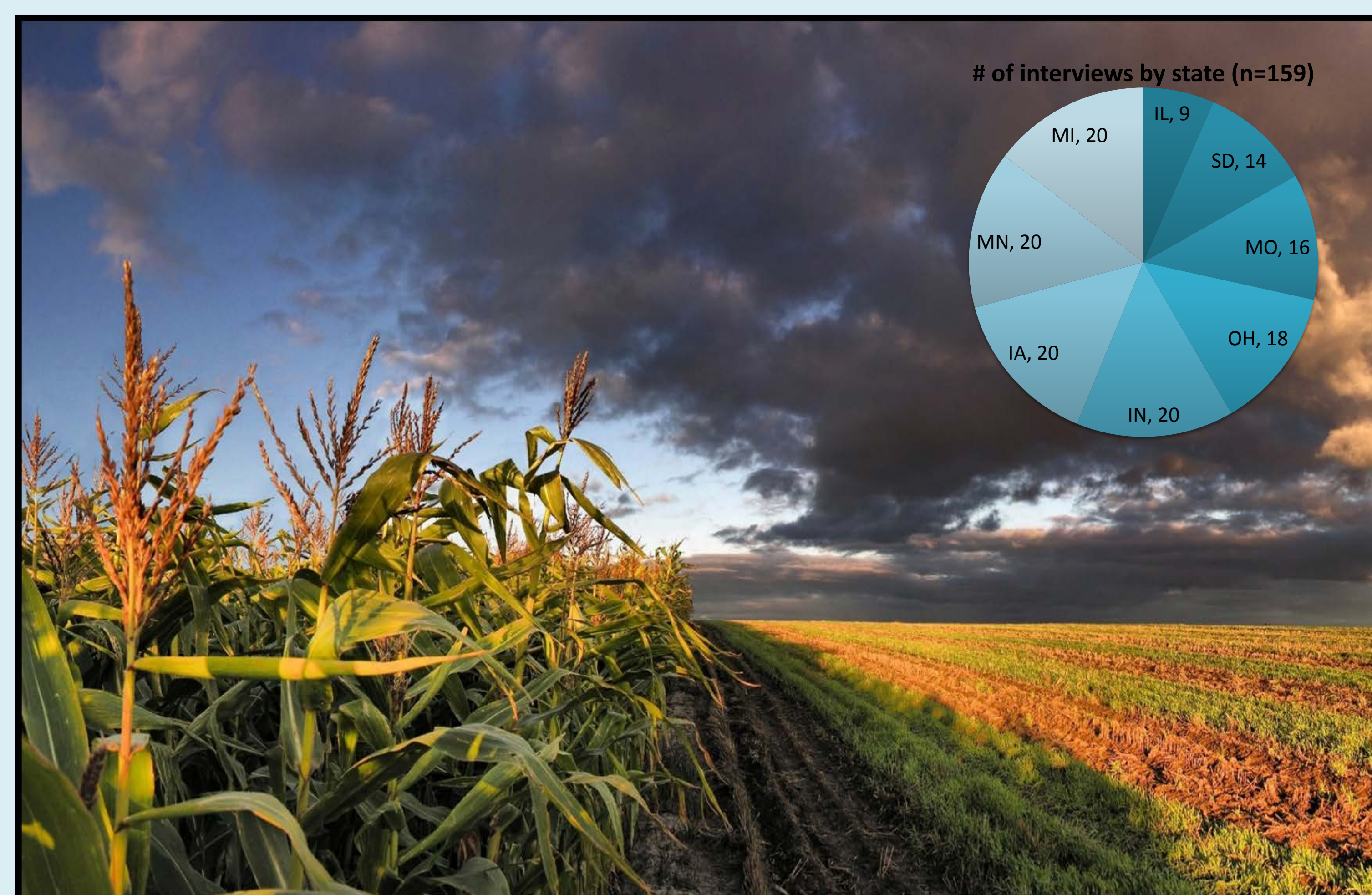
Corn Belt farmers' perception of soil health and cover crop adoption (benefits and barriers)

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Introduction

Climate change is likely to increase the variability of weather, including more frequent floods, droughts, and severe weather events with greater erosion potential from storm events across the Corn Belt. Although practices designed to improve soil health and reduce erosion have been researched and developed, most are not being implemented on a large enough scale across the Midwest. Our research team asked the following questions:

1. How do Corn Belt farmers assess soil health on their farms, and what motivates them to manage for improved soil health?
2. What do farmers identify as barriers and benefits to cover crop adoption?

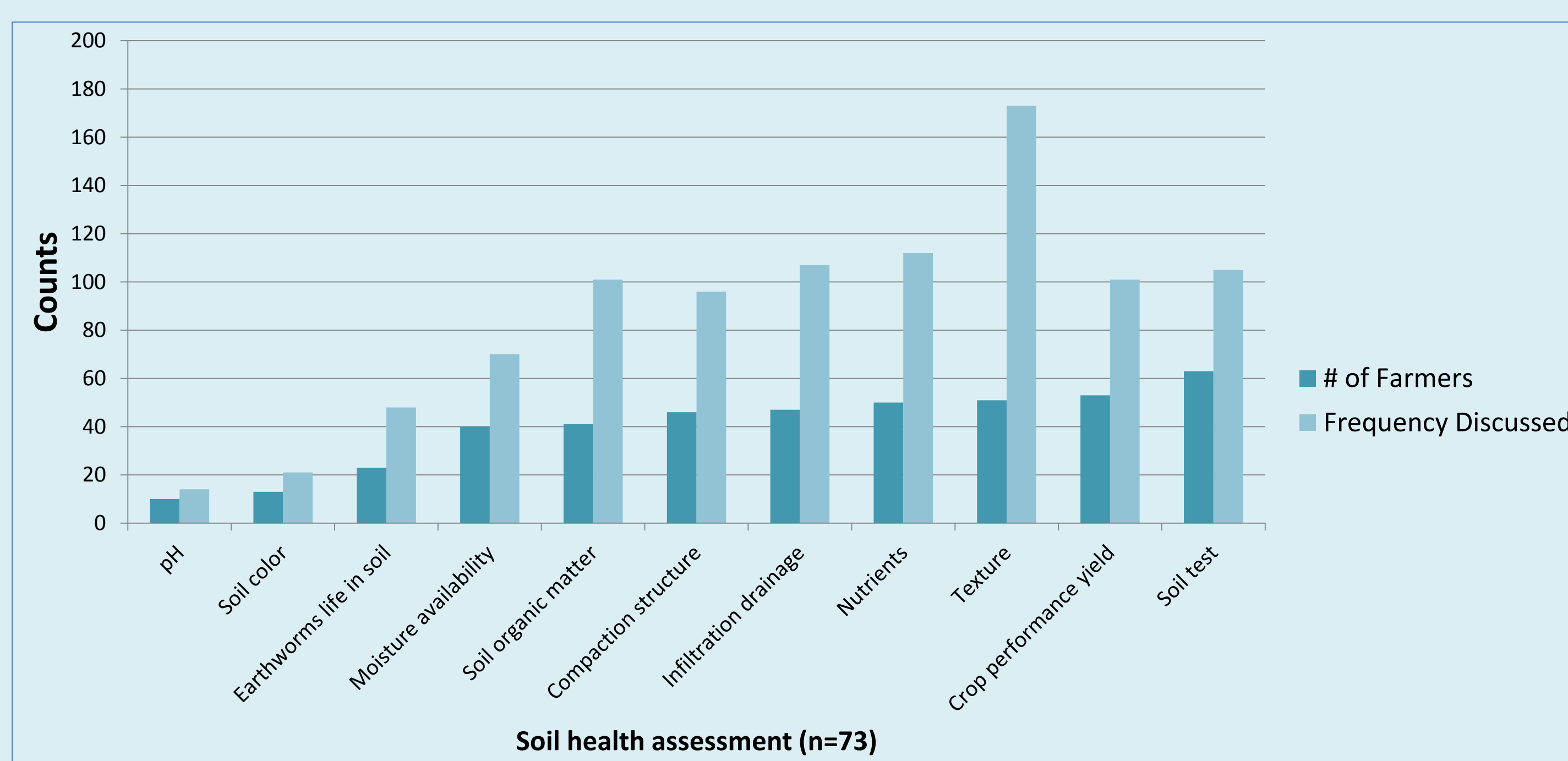


Methods

Data for this project was collected by extension educators across 9 Corn Belt states. In-depth interviews were conducted with total of 159 farmers. The interviews were analyzed using NVivo 10 with a grounded theory inductive approach in order to explore emergent themes. For this analysis, transcriptions were coded into themes regarding soil health perspectives, as well as the benefits and barriers to adopting cover crops. Frequency of themes discussed along with the number of farmers that explored these themes in the interviews are presented here.

Soil Health Assessment

In the interviews, farmers discuss many ways in which they assess soil health on their farm. Many of the farmers assess soil health through soil testing, crop performance/yield, texture and nutrient availability in the soil. However, many of the farmers are also looking at infiltration capacity, structure/compaction, soil organic matter and moisture availability.



Benefits of Soil Health

Farmers responded to a question, which asked what they viewed as potential benefits of specific conservation practices, and soil health emerged as an important benefit of using certain practices. Improved soil health was seen as a benefit that will help with preventing erosion, maintaining or improving productivity, and minimizing the costs of inputs. Additionally, some farmers felt that preserving soil is part of their identity as a good farmer.

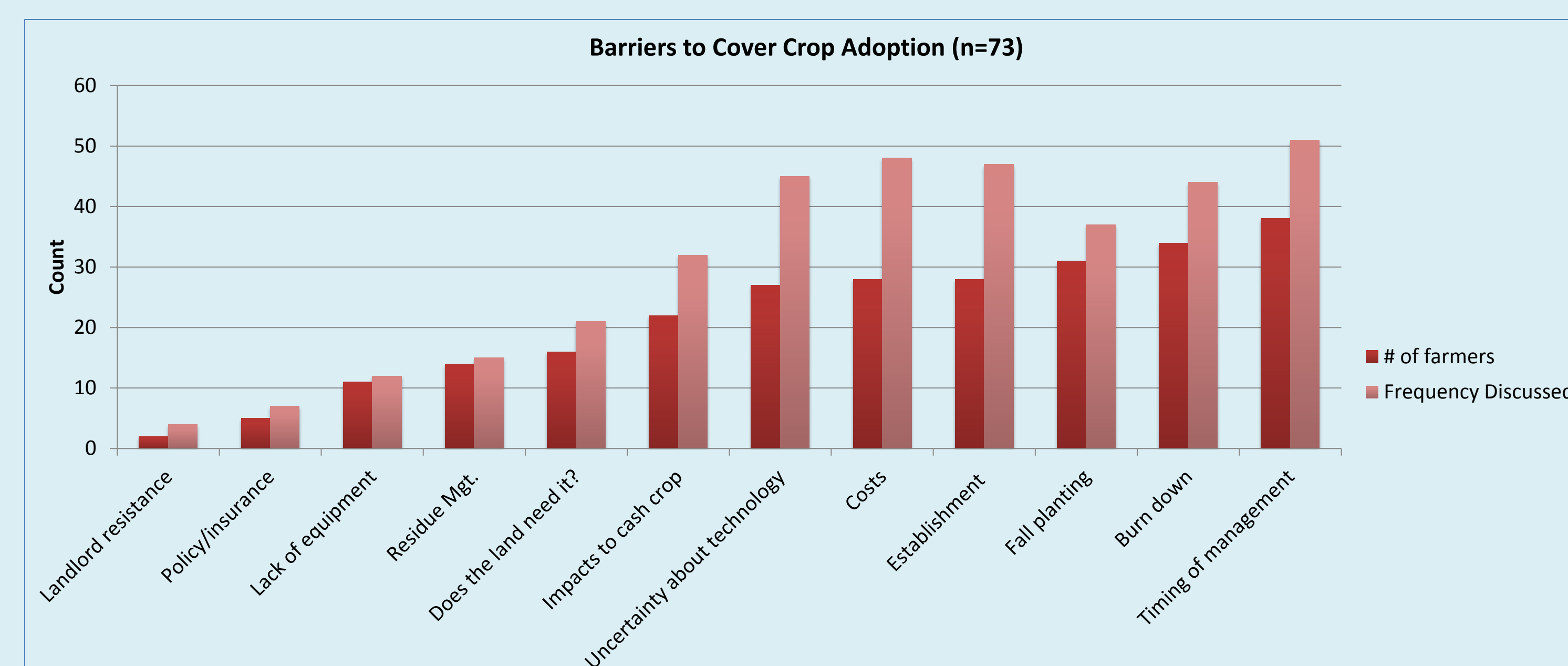
"I think we're just on the tip of ... beginning to understand all the things that are going on below surface...along with that, the economic benefits of ...holding that soil and you're banking these nutrients...especially nitrogen, be able to let it release for the following year's crop versus ...just going on down through our water systems and down to wherever it ends up, in the Gulf of Mexico." -IN Farmer

"I'm intrigued by this whole thing of soil biology and ... what we're just reading here now recently and how little we understand. And what could be accomplished with cover crops and other practices to really get this soil biology working for us and, possibly, really affecting the amount and kind of inputs that we put in, fertilizer, insecticides, and ... and so forth." -MN Farmer

Barriers to Cover Crop Adoption

Cover crops are gaining ground across the Midwest, but many farmers have real concerns about potential barriers. Timing of management, burn down, and fall planting were discussed by the largest number of farmers.

"I guess, I just question the fact [of] whether we have enough time...from the time we remove the crop to put something else on there and get it growing to the point that it would be beneficial." -MN farmer



Perceived Benefits of Cover Crop Adoption

Cover crops have the potential to improve agronomic and environmental outcomes, providing benefits to both farmers and the broader public. The main potential benefits of cover crops that farmers identified during the interviews include erosion control, improved soil health, and improved nutrient management. Fewer farmers mentioned reduced nutrient loss, weed control, water quality and livestock feed.

"[with cover crops we are] trying to break the cycle of the corn/bean rotation...you know, give that soil something to live on all year long and let that biological stuff work." -IN Farmer

