



Survey of Costs, Constraints, and Benefits of Soil Health in NY: Initial Report & Summary

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This survey of farmers in New York state was conducted during the winter of 2017-18 by New York Soil Health to 1) prioritize the most common costs and benefits experienced by farmers who use soil health practices, 2) explore how these costs and benefits change over time, and 3) evaluate and compare the performance of several different practices and cropping systems.

182 responses were received from farmers representing 46 different NY counties and approximately 172,000 acres of cropland. The two most commonly reported constraints on crop production were “Poor drainage” and “Soil Compaction”, which were identified by more than 60% of farmers. The third most common constraint was “Soil erosion”, which was identified by just over 40% of farmers. Other production constraints included “Low soil fertility” and “Inadequate water retention”.

Highlights:

- Averaging across all cropping systems, greater yields were reported by 52% of the reduced tillage group and by 50% of the cover crop group (Table 1, Table 2), while lower yields were reported by 10% and 3% respectively.
- Of farmers who used reduced tillage or cover crops, over 60% reported that flooding prevention, drought resilience, and less erosion resulted from these practices (Fig. 1).
- Some of the costs and benefits of cover crops and reduced tillage were associated with the length of time that farmers had been using those practices (Fig. 2).
- Vegetable growers experience different costs and benefits as a result of their cover crop and reduced tillage practices, compared to corn and/or soybean growers (Table 2).
- Both cover crops and reduced tillage were reported to be profitable by the majority of practitioners, while less than 5% reported a negative effect on profitability.

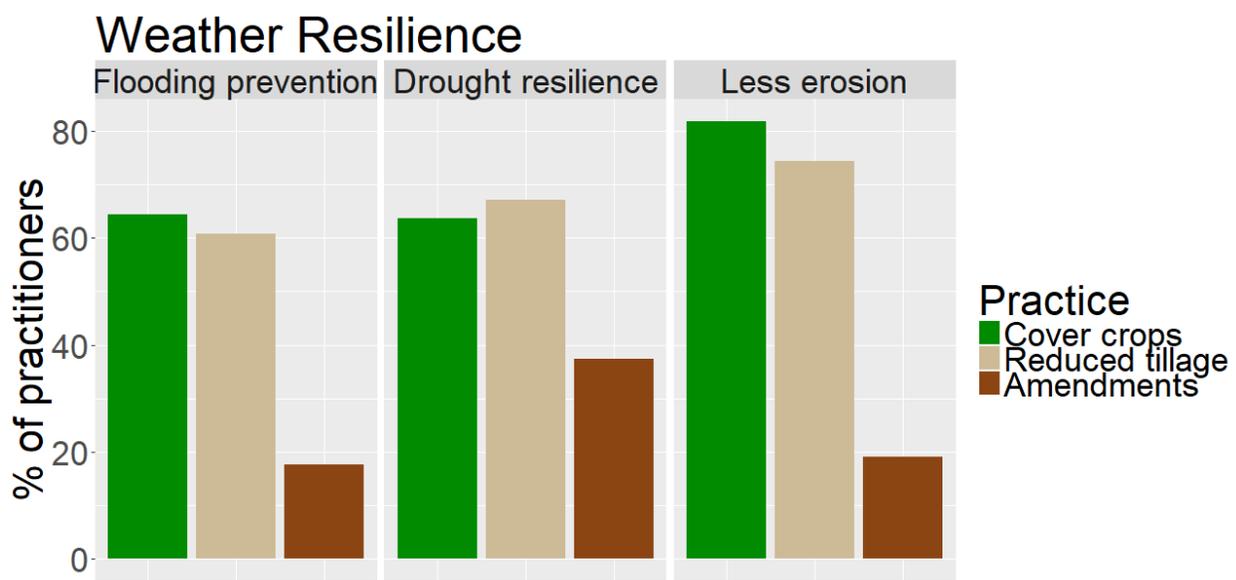


Figure 1: Soil health practices and their impact on resilience to extreme weather events.

Reduced Tillage

Less erosion or sedimentation repairs

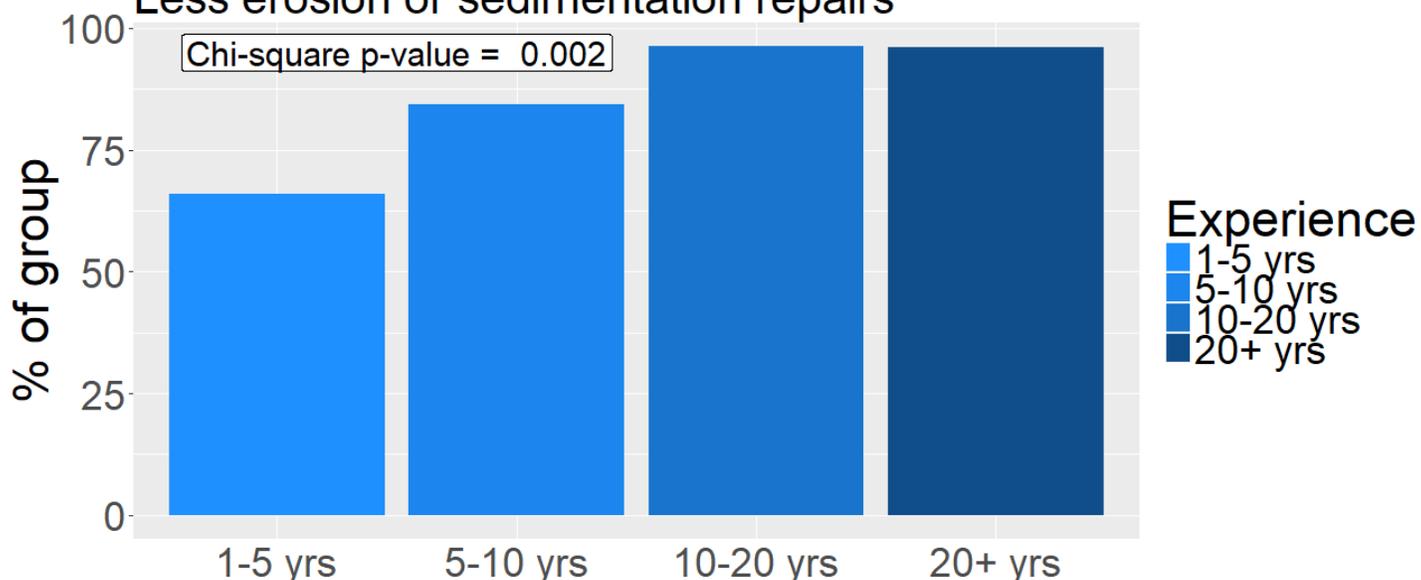


Figure 2: Prevalence of decreased erosion among reduced tillage practitioners at various levels of experience.

Table 1: Reduced Tillage. Ranking of the top three most common financial benefits experienced by farmers who use reduced tillage for all crops (n=125), exclusively corn and soybean production (n=17), and exclusively vegetable production (n=13). The percent of farmers within each group who confirmed a specific benefit is included in parentheses.

Rank	All Crops	Corn & Soybean	Vegetables
1	Less erosion repairs (83.2%)	Less labor, fuel, or equipment (88.2%)	Less erosion repairs (69.2%)
2	Less labor, fuel, or equipment (74.4%)	Less erosion repairs (76.5%)	Greater yields (69.2%)
3	Greater yields (52%)	Greater yields (35.3%)	Less labor, fuel, or equipment (53.8%)

Table 2: Cover Crops. Ranking of the top three most common financial benefits experienced by farmers who use cover crops for all crops (n=149), exclusively corn and soybean production (n=24), and exclusively vegetable production (n=19). The percent of farmers within each group who confirmed a specific benefit is included in parentheses.

Rank	All Crops	Corn & Soybean	Vegetables
1	Less erosion repair (83.9%)	Less erosion repair (95.8%)	Less erosion repair (78.9%)
2	Greater yields of cash crops (50.3%)	Source of animal forage (45.8%)	Greater yields of cash crops (78.9%)
3	Lower fertilizer inputs (47.0%)	Greater yields of cash crops (33.3%)	Lower fertilizer inputs (57.9%)

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