

# PROGRESS REPORT

## REGENERATION ON THE AMERICAN FARM

JULY

2020

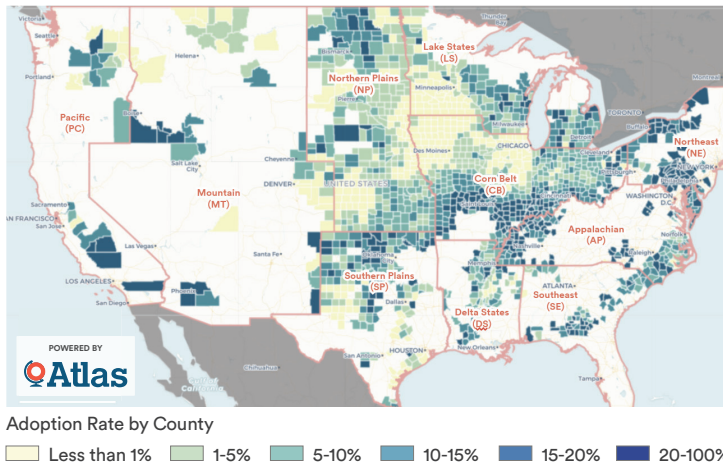


Regenerative farming practices—such as cover cropping, no-till, and extended crop rotations—are gaining momentum as farmers recognize their role in building a more profitable and resilient operation. Indigo has built the first current, coast-to-coast map for these farming practices, powered by Indigo's Atlas satellite technology as well as ground and historical agronomic data. The resulting impact on profit and land resiliency was a focus of this 1,498-county, 3.4M-field study from 2017 to 2019, covering 90% of American farmland. This survey will be updated annually and again in 2020.

### A CURRENT INVENTORY

On average, cover crops accounted for 17M acres and no-till accounted for 104M acres across 304M acres of U.S. farmland between 2017 and 2019. A vast number of acres, including over 52% in the Northern Plains, 64% in the Southeast, and 46% in the Delta States, have tried at least one regenerative practice on average during the same period. But only 0.7% of fields have used crop rotations, cover crops, and no-till simultaneously in that same timeframe – a little more than 2130K acres. Awareness of regenerative practices is spreading, but experimenting with practice combinations – the key to optimization – has only just started.

### Average Cover Crop Adoption Rate (2017-2019)



### Our Unique Approach to Mapping Practices



Combinations of cover crops, no-till, and crop rotations were identified for 3.4M single fields.



Remote sensing details practices in use, providing an outcome-based census.



Space and ground observations were connected at a new scale, with a training data set of over 4,300 fields.

To see your county's use of regenerative practices, go to [indigoag.com/progress](https://indigoag.com/progress)

### Regional View of Average Regenerative Farming Adoption Rates by Practice (2017-2019)

| USDA Production Regions | Total Planted Acres (Millions) | Field Count (Millions) | Cover Crops Planted (%) | No-Till (%) | Rotation (%) | Applied One Practice (%) | Applied Two Practices (%) | Applied Three Practices (%) |
|-------------------------|--------------------------------|------------------------|-------------------------|-------------|--------------|--------------------------|---------------------------|-----------------------------|
| Appalachian             | 13.9                           | 0.14                   | 10.1                    | 63.6        | 37.8         | 68.6                     | 25.6                      | 2.4                         |
| Corn Belt               | 76.2                           | 1.04                   | 3.7                     | 35.3        | 11.2         | 38.8                     | 6.5                       | 0.5                         |
| Delta States            | 14.0                           | 0.16                   | 7.0                     | 32.1        | 24.9         | 46.1                     | 10.0                      | 0.8                         |
| Lake States             | 36.0                           | 0.46                   | 6.8                     | 24.0        | 24.7         | 39.9                     | 8.5                       | 0.7                         |
| Mountain                | 28.1                           | 0.19                   | 5.2                     | 32.1        | 36.3         | 58.4                     | 10.8                      | 0.3                         |
| Northeast               | 8.9                            | 0.08                   | 17.7                    | 66.3        | 30.9         | 69.8                     | 25.2                      | 3.0                         |
| Northern Plains         | 76.5                           | 0.94                   | 2.9                     | 36.5        | 31.2         | 52.6                     | 12.9                      | 0.6                         |
| Pacific                 | 14.8                           | 0.08                   | 7.6                     | 24.2        | 25.6         | 41.7                     | 6.2                       | 0.4                         |
| Southeast               | 8.8                            | 0.06                   | 14.2                    | 41.2        | 37.9         | 64.6                     | 21.2                      | 2.5                         |
| Southern Plains         | 21.1                           | 0.24                   | 7.6                     | 22.6        | 21.7         | 42.0                     | 8.3                       | 0.5                         |
| <b>US Total</b>         | <b>304.3</b>                   | <b>3.4</b>             | <b>5.6</b>              | <b>34.3</b> | <b>24.8</b>  | <b>47.8</b>              | <b>10.8</b>               | <b>0.7</b>                  |

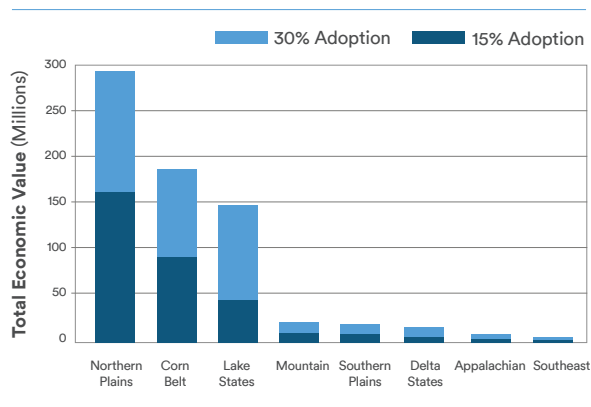
## ECONOMIC BENEFITS OF ENRICHED SOIL

By building soil health, farmers can reduce costs, improve crop resilience to damaging or extreme weather, and diversify their portfolios with new financial opportunities (e.g. carbon credits and grazing).

A meta-analysis of 29 land grant and peer-reviewed resources show how no-till and cover crops can collectively increase profitability from \$17 to \$26 per acre after three years of use, derived from reduced inputs, yield uplifts, and carbon credits. Considering the net return for corn production last year was at a loss of \$20.22 per acre (per the USDA), regenerative farming practices can be the difference between losing money and a profitable year.

If every state reached only 15% adoption of cover crops and no-till on its corn, soybean, and wheat acres, those farmers could collectively receive an additional \$600 million in profits; the scale of the regenerative opportunity could be as much as \$4B if the three practices studied saw widespread implementation.

**Total Farmer Value by Production Region if Adoption of Regenerative Practices Rose to 15% or 30%**



## RESILIENCY BENEFITS OF ENRICHED SOIL

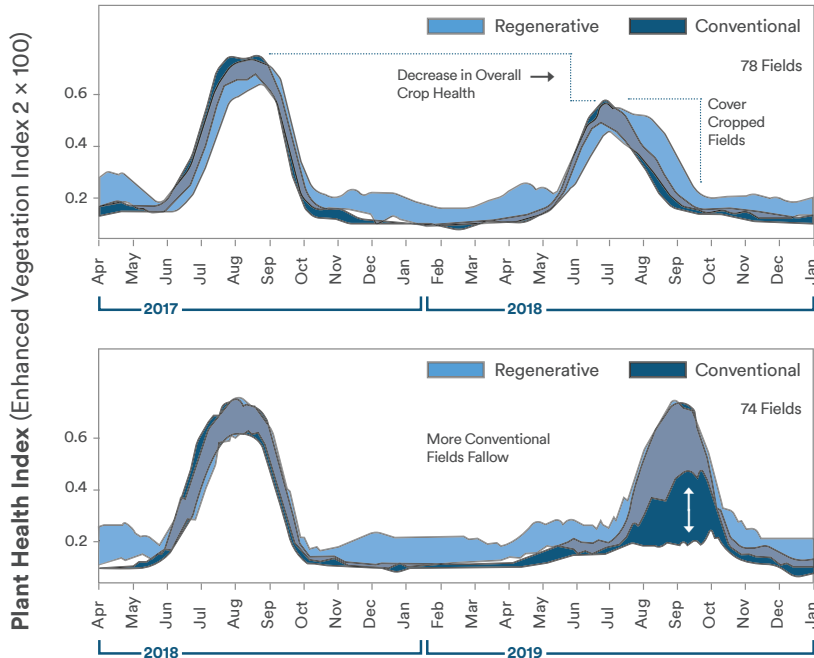
Regenerative practices have been proven to improve soil's water infiltration, organic matter content, and nutrient availability, which in turn more consistently sustains crops and field accessibility during extreme weather. A field using a combination of no-till, cover crops, and crop rotations is better prepared to withstand extreme weather.

### Grower Stories

**Soybean grower - Kansas, 296 acres** cover crops, reduced inputs, no till, grazing: \$67 per acre improved profitability as compared to conventional equivalent for soybeans

**Soybean grower - Iowa, 1,000 acres** cover crops, reduced inputs, no till: \$72 per acre improved profitability as compared to conventional equivalent for soybeans

Learn more about profitability strategies at [www.indigoag.com/carbon](http://www.indigoag.com/carbon)



### Case Study

In Livingston County, Missouri, a severe drought in 2018 led corn crop health to drop. Those fields where cover crops had been used in two out of the three previous years, however, saw their crop health trend higher throughout the season to harvest compared to conventional fields.



### Case Study

In Hancock County, Ohio, excessive rain in the spring of 2019 prevented planting access for many growers. But fields with a history of cover crops were less likely to experience prevent plant compared to conventional fields, allowing some growers to successfully plant a cash crop.



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## A PATH TO PROFITABILITY

The next report in this series will cover profitability by region resulting from cover crops and no-till practices. Until then, go to Indigo's website to watch videos featuring growers from around the country who have increased their profitability through regenerative practices.

To sign up for a webinar, go to [indigoag.com/profitability](http://indigoag.com/profitability)

This report is provided for general informational purposes only. The regenerative practice usage data predicted by Indigo's proprietary platform are estimates and may differ from actual usage. Actual results of adopting regenerative or any other agricultural practices will differ among growers and farms based on a large number of variables. Indigo does not make any representations, warranties or guarantees as to profitability of regenerative practices or the outcomes of any farming practices with respect to any individual grower.