

“Plants absorb carbon dioxide from the air, and store it in their biomass and soil. It can stay there for years to centuries as long as we help to maintain those ecosystems.”

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Cropland-Soils for Carbon Management

- Soil-based carbon dioxide (CO₂) storage in croplands is a low-energy, inexpensive, immediately deployable strategy for CO₂ removal from the atmosphere that increases drawdown of CO₂ via photosynthesis and stores the additional CO₂ as organic matter in soil and perennial vegetation.
- Roads to Removal goes beyond previous analyses by spatially integrating the biophysical potential for soil-based CO₂ removal with economic constraints on farmers.

Three cropland management approaches that can reduce atmospheric CO₂:

Cover Crops

unharvested vegetation planted on fallow fields



Perennial Field Borders

trees or native grasses planted along edges of cropland



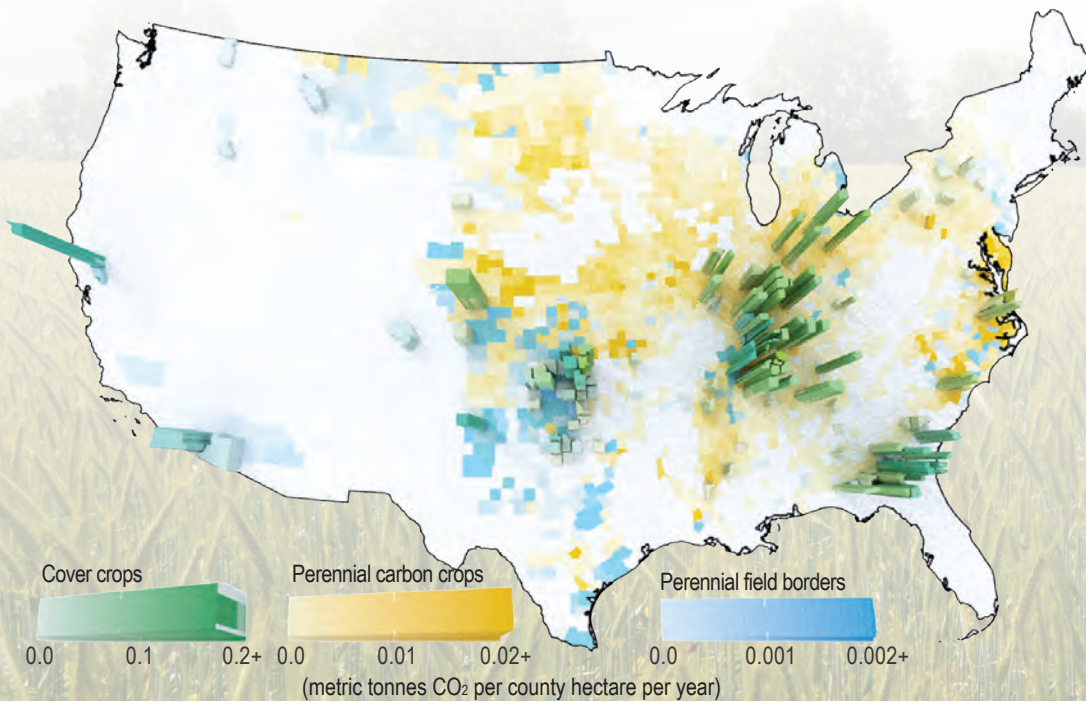
Perennial Carbon Crops

native grasses to harvest for carbon biomass market



Economically viable CO₂ removal potential over total county land area

(if priced at \$40/metric tonne of CO₂-equivalent climate benefit)



Key Findings:

- For \$40/metric tonne CO₂-equivalent, these practices could economically remove 130 million metric tonnes of CO₂ between 2025 and 2050.
- For \$100/metric tonne CO₂-equivalent, these approaches could remove >850 million metric tonnes of CO₂ between 2025 and 2050.
- Without sustained application, gains in CO₂ removal could be reversed. As such, techniques should develop in tandem with CO₂ removal approaches that use highly durable geologic storage and follow rigorous monitoring, reporting and verification standards.

Every region has a story. Every region has an opportunity.

To learn more about each carbon dioxide removal pathway, go to **Roads2Removal.org**