



## Carbon Sequestration Contracts for Farmers

This research brief explores carbon sequestration contracts available to farmers, focusing on the year 2024. It offers practical insights into the available carbon credit programs, including eligibility criteria, payment options and relevant carbon farming practices. The brief is designed to help farmers understand how to participate in these programs and make the most of available incentives during this specific timeframe.

### Carbon Sequestration in General

Carbon sequestration refers to the process of capturing and storing carbon dioxide (CO<sub>2</sub>) from sources such as power plants or industrial activities. In agriculture, carbon sequestration occurs naturally through practices that improve soil health and promote plant growth. These practices include no-till, strip-till or reduced-till farming, cover cropping, agroforestry, grazing management practices, and crop rotation, etc.

Carbon sequestration contracts, available through carbon credit programs, allows farmers to receive compensation for the carbon stored in their land. These programs offer financial incentives to encourage farmers to adopt carbon-capturing practices that also benefit the environment.

### Carbon Sequestration Contracts: Market Overview and Key Players

This section covers important considerations for farmers and landowners regarding a selection of private carbon capture programs, including the minimum acreage required, eligible practices for program participation, qualifying crops, payment structure, general contract terms, and the potential for dual enrollment in both private carbon contracts and federal or state programs.

#### **Bayer**

[Bayer—Carbon Program](#); [Bayer—Carbon Program Frequently Asked Questions](#)

- **Enrollment requirements**

- Fields must cover a minimum of 10 acres to be eligible for the program.
- Eligible practices for the 2025 Bayer Carbon Program include cover crops, no-till, strip-till, and reduced-till methods.
- Eligible crops include 12 cash crops: corn, soybeans, wheat, barley, sorghum, chickpeas, dry beans, oats, lentils, millet, peas, and rye.
- The program is available in 28 states: Alabama, Arizona, Arkansas, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Mexico,



North Carolina, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Virginia, and Wisconsin.

- **Payment structure**

- Farmers can earn up to \$6 per acre for adopting sustainable practices.
- Fields with sustainable practices since August 15, 2019, may receive up to four years of historical payments, with a maximum of \$48 per acre for those continuously applying these practices since 2021.

- **Contract duration**

- The Bayer Carbon Program has an initial contract period of five (5) years, beginning when the field is enrolled. There is an option to extend the contract for an additional 5-year period, up to three times, potentially extending the total length of participation to twenty (20) years.

- **Dual enrollment**

- Before enrolling in the Bayer Carbon Program, farmers must inform Bayer if their field was part of any carbon credit or conservation programs in the past 10 years. Once enrolled, the field cannot be part of another carbon credit programs, but may still qualify for conservation or stewardship programs, as long as those programs do not generate carbon credits.

- **The Nitrogen Management Program**

- The Nitrogen Management Program is available to growers with corn fields enrolled in the Bayer Carbon Program.
- Farmers are eligible to earn \$4 per acre if they have applied nitrification inhibitors since August 5, 2019, and reduced synthetic nitrogen use by 5% compared to the average of the last four years.

## **Cargill (RegenConnect® Program)**

### Cargill—RegenConnect® Program

- **Enrollment requirements**

- Participants must work with one of Cargill's partners registered in the Cargill RegenConnect® program to be eligible.
- There are no minimum or maximum acreage requirements for implementing practice changes.
- Participants must enroll land where sustainable practices have been implemented or expanded. These practices can include cover crops and reduced tillage.
- Eligible acres must primarily grow corn, soybeans, or wheat.
- The program is available in 24 states: North Dakota, South Dakota, Minnesota, Wisconsin, Michigan, Nebraska, Iowa, Illinois, Indiana, Ohio, Colorado, Kansas, Missouri, Kentucky, Texas, Oklahoma, Arkansas, Tennessee, North Carolina, Louisiana, Mississippi, Alabama, Georgia, South Carolina.

- **Payment structure**

- Farmers will receive \$35 per metric ton of carbon sequestered.



- **Contract duration**
  - The contract period is 3 years, beginning at enrollment.
- **Dual enrollment**
  - Fields enrolled in Cargill RegenConnect® cannot participate in other private programs; however, farmers can still receive payments from public or government programs.

## Corteva

### Corteva—Carbon

- **Enrollment requirements:**
  - Farmers must have implemented a practice change after the 2022 harvest to qualify for the program.
  - Eligible crops include 15 common crop types: barley, canola, corn, cotton, dry edible beans, dry field peas, flax, oats, peanuts, rye, sorghum, soybeans, sugar beets, sunflowers, dry wheat.
  - Eligible practices include (1) introducing cover crops, (2) reducing tillage, (3) improving nitrogen efficiency, and (4) increasing biodiversity.
  - The program is available in 30 states: Alabama, Arkansas, North Carolina, South Carolina, Colorado, North Dakota, South Dakota, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, Vermont, Virginia, and Wisconsin.
- **Payment structure**
  - The program guarantees a minimum of \$20 per carbon credit, with the possibility of earning up to \$30 per credit depending on factors such as market conditions.
- **Contract duration**
  - Enrollment in the program requires a 5-year contract.

## Indigo Ag

### Indigo—Carbon Credits; Indigo—Carbon Calculator; Indigo—6 Questions to Ask Before Signing Up for a Carbon Program

- **Enrollment requirements**
  - Farmers must have a minimum of 150 acres to participate in the program, with at least one field enrolled.
  - Only cropland is currently eligible. Examples include alfalfa, barley, corn, cotton, soybeans, wheat and more.
  - These fields should have exclusively grown eligible crops in the last five years and must have been used for agricultural production for at least the past 10 years.
  - Eligible practices include planting cover crops, reducing tillage, diversifying crop rotation, and improving nitrogen timing.
  - The program covers all 48 continental states.



- **Payment structure**
  - Farmers can earn an average of \$31 per acre per year, with earnings ranging from \$7 to \$31 depending on factors such as farming practices and carbon storage.
- **Contract duration**
  - The program offers a renewable five-year contract.
- **Dual enrollment**
  - Fields enrolled in other carbon credit programs, such as the Conservation Reserve Program (CRP), are not eligible. However, fields under conservation programs such as the Environmental Quality Incentives Program (EQIP) or Conservation Stewardship Program (CSP) may still qualify.

## **Truterra LLC—Land O’Lakes Program**

### [Truterra, A Land O’Lakes Inc. Company](#)

Truterra LLC, a subsidiary of Land O’ Lakes, Inc., offers two carbon credit programs: (1) the 2025 Truterra® Carbon Program and (2) the 2025 Truterra® Early Adopter Program for farmers who transitioned to strip-till or no-till practices prior to 2015.

## **The 2025 Truterra® Carbon Program**

### [2025 Truterra® Carbon Program](#)

- **Enrollment requirements**
  - Each enrolled field must be at least 10 acres in size. While there is no limit on the acreage an individual farmer can enroll, the program has a total cap of 1.5 million acres, allocated on a first-come, first-served basis.
  - Farmers must use strip-till, no-till, and/or cover crops in the 2025 crop year to qualify.
  - For the 2025 crop year, eligible crops include corn (grain only), soybeans, and wheat (grain only). Fields may include a different cash crop or be left fallow up to twice between 2019 and 2024.
  - Eligible farmers must reside in any state other than Alaska, Hawaii, or New Mexico.
- **Payment structure**
  - Farmers will receive \$30 per metric ton of carbon captured along with a \$2 per acre minimum, regardless of the amount of carbon captured. Minimum payments are based on the entire farm, not individual fields. Payments are expected in Q2 of 2026.
- **Contract duration**
  - The contract period is one year.
- **Dual enrollment**
  - Farmers can enroll their fields in this program as well as the Truterra® Early Adopter program or another publicly funded program.

## The 2025 Truterra® Early Adopter

### 2025 Truterra® Early Adopter—a USDA-Supported Program

- **Enrollment requirements**
  - Farmers can enroll a maximum of 1,000 acres in the program, with a total program cap of 300,000 acres, allocated on a first-time, first-served basis.
  - Strip-till or no-till must have been adopted before 2015 and used in at least five years between 2019 and 2025.
  - Eligible crops include corn (grain or silage), soybeans, cotton, wheat (grain or silage). These crops must have been part of the field's rotation for at least three different years.
  - Eligible farmers must reside in select counties within Alabama, Arkansas, Mississippi, Louisiana, Georgia, Tennessee, Kentucky, Missouri, and Florida.
- **Payment structure**
  - Farmers will receive \$25 per acre, with payments expected in Q1 of 2026.
- **Contract duration**
  - The contract period is one year.
- **Dual enrollment**
  - Farmers can enroll their fields in this program alongside the Truterra® Carbon Program or another commercially funded Truterra program.

## Yara (Agoro Carbon Alliance)

### Yara—Agoro Carbon; Agoro Carbon™ Alliance—Our Carbon Program; Agoro Carbon™ Alliance—Qualify

- **Enrollment requirements:**
  - Farmers must have at least 500 acres and a minimum of 3 years of crop or livestock production to be eligible for the program.
  - All agricultural carbon practices must be newly implemented to qualify for the program, with at least one conservation practice maintained for 10 years. Eligible practices include pasture/rangeland improvements (improved grazing, biodiversity/seeding, fertilization) and row crop methods (reduced tillage/no-till, cover crops).
  - Eligible farmers must be located in the United States.
- **Payment structure**
  - Payments are based on the amount of carbon captured beyond an initial baseline measurement.
  - Payments are issued in years 5 and 11, after carbon credits are verified and issued (excluding buffer withholding credits). If financing is chosen, prepayments can be made up front and will be deducted from the final payments in years 5 and 11.
  - A per-ton price is set for each payment method and may increase over time based on market value.



## Carbon Sequestration Guide for Farmers and Landowners

U.S. Department of Agriculture (USDA), [Carbon](#)

The National Agricultural Law Center, [Carbon Resources](#)

Rusty Rumley, [Carbon Contracts: Common and Uncommon Provisions](#), The National Agricultural Law Center (a webinar prepared for Penn State Dickinson Law, Center for Agricultural and Shale Law) (September 2024)

[Voluntary Carbon Markets Joint Policy Statement and Principles](#), signed by the U.S. Secretary of the Treasury, Janet L. Yellen, the U.S. Secretary of Agriculture, Thomas J. Vilsack, the U.S. Secretary of Energy Jennifer M. Granholm, the Senior Advisor to the President for International Climate Policy, John Podesta, and National Economic Advisors Lael Brainard and Ali Zaidi (May 2024)

Alejandro Plastina, et al., [How to Grow and Sell Carbon Credits in U.S. Agriculture](#), Ag Decision Maker, Iowa State University Extension & Outreach (May 2024)

Michelle Perez et al., [Top 10 Things You Wanted to Know About Ag Carbon Markets](#), American Farmland Trust (January 2024)

U.S. Department of Agriculture, [Report to Congress: A General Assessment of the Role of Agriculture and Forestry in U.S. Carbon Markets](#) (October 2023)

Penn State Extension, [Understanding Carbon Credits and Offsets](#) (February 13, 2023)

Stephen Carpenter, [Farmers' Guide to Carbon Market Contracts](#), Farmers' Legal Action Group, Inc. (a webinar prepared for the National Agricultural Law Center) (September 2022)

Penn State Extension, [What is Carbon?](#) (August 2022)

## Carbon Sequestration in the News

*Developments from the Agricultural Law Weekly Review*

### **[ALWR—Aug. 9, 2024. Environmental Credit Trading: Pennsylvania Passes "Carbon Capture and Sequestration Act"](#)**

On July 17, 2024, Pennsylvania Governor Josh Shapiro signed into law [S.B. 831](#) (Act 87), titled the "Carbon Capture and Sequestration Act." The law vests "ownership of all pore space in all strata below the surface lands and waters of th[e] Commonwealth ... in the surface property interest owner above the pore space" and provides that "a conveyance of the surface ownership of real property shall be a conveyance of the pore space." Additionally, the law directs the Environmental Quality Board to promulgate regulations for carbon injection and storage, authorizes the state Department of Environmental Protection (DEP) to administer permits for carbon storage, and establishes the Carbon Dioxide Storage Facility Fund to cover administrative costs incurred by DEP. The law became effective upon the governor's signature.

### **[ALWR—June 4, 2024. Environmental Credit Trading: Executive Agencies Publish "Voluntary Carbon Markets Joint Policy Statement and Principles"](#)**

On May 28, 2024, Agriculture Secretary Tom Vilsack, Energy Secretary Jennifer Granholm, Treasury Secretary Janet Yellen, and several senior advisors published a [Joint Statement of Policy and Principles for Voluntary Carbon Markets](#) (VCMs), which the [Department of Energy \(DOE\) defines](#) as "markets in which carbon credits—each representing one tonne





of carbon reduced or removed from the atmosphere—are bought and sold by companies . . . governments, and others on a voluntary basis.” DOE states that “challenges in these markets, such as projects that don’t deliver the positive climate impact they promised, have undermined confidence in VCMs” and, for VCMs to effectively function, “stakeholders must be certain that one credit truly represents one tonne of carbon dioxide (or its equivalent) reduced or removed from the atmosphere, beyond what would have otherwise occurred.” Additionally, the White House published a [Fact Sheet](#) on the joint statement, which outlines seven principles “that codify the U.S. government’s approach to advance high-integrity VCMs”:

1. “Carbon credits and the activities that generate them should meet credible atmospheric integrity standards and represent real decarbonization.”
2. “Credit-generating activities should avoid environmental and social harm and should, where applicable, support co-benefits and transparent and inclusive benefits-sharing.”
3. “Corporate buyers that use credits should prioritize measurable emissions reductions within their own value chains.”
4. “Credit users should publicly disclose the nature of purchased and retired credits.”
5. “Public claims by credit users should accurately reflect the climate impact of retired credits and should only rely on credits that meet high integrity standards.”
6. “Market participants should contribute to efforts that improve market integrity.”
7. “Policymakers and market participants should facilitate efficient market participation and seek to lower transaction costs.”

#### **[ALWR—June 4, 2024](#). Environmental Credit Trading: USDA Seeks Public Comment on Growing Climate Solutions Implementation**

On May 29, 2024, the U.S. Department of Agriculture (USDA) Agricultural Marketing Service (AMS) published in the Federal Register a notice ([89 FR 46335](#)) seeking information to “support the preparation of proposed regulations intended to implement the Growing Climate Solutions Act,” and new [Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program](#). Also [announced](#) by USDA, the agency requests feedback on the program, including:

1. “Options for interpreting and applying criteria used to evaluate protocols ... designed to ensure consistency, reliability, effectiveness, efficiency, and transparency.”
2. “Information pertaining to specific protocols to be evaluated for inclusion in the program.”
3. “Qualifications needed by covered entities who provide technical assistance to farmers, ranchers, or private forest landowners.”
4. “Qualifications needed by covered entities who serve as third party verifiers of processes described in protocols for voluntary environmental credit markets.”

The comment period is open until June 28, 2024. For background, see [ALWR—Mar. 11, 2024](#), “*USDA Announces Intent to Establish Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program*.”

#### **[ALWR—March 11, 2024](#). Environmental Credit Trading: USDA Announces “Intent to Establish Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program”**

On February 27, 2024, the U.S. Department of Agriculture (USDA) published a [report](#), also [announced](#) by the agency, detailing USDA’s intent to establish the “Greenhouse Gas Technical Assistance Provider and Third-Party Verifier Program” ([7 U.S.C. § 6712](#)). The program is authorized by the Growing Climate Solutions Act, introduced in both the House



and Senate in 2020 ([H.R.7393/S.3894](#)) and 2021 ([H.R.2820/S.1251](#)) and passed through the 2023 Consolidated Appropriations Act ([P.L. 117-328](#)). USDA states that, through the program, the agency intends to “reduce market confusion by serving as a trusted authority on relevant carbon market information.” According to the report, the program will “list widely accepted voluntary carbon credit protocols” and “provide a list of qualified technical assistance providers and third-party verifiers who work with producers to generate carbon credits.” USDA states it will “soon solicit information on protocols to be evaluated for inclusion in the list to be published as part of the program” and plans to “establish the charter for the program’s advisory council and seek membership nominations in Summer 2024.” See also [ALWR—Oct. 30, 2023](#), “*USDA Publishes Report on ‘Role of Agriculture and Forestry in U.S. Carbon Markets’*”

### [ALWR—Jan. 8, 2024](#). **Dairy Policy: Dairy Farmers of America, Athian Conduct First Carbon Credit Sale**

On January 3, 2024, Dairy Farmers of America [announced](#) that it had conducted, with carbon credit technology company Athian, “the first sale of verified carbon credits in the ... livestock carbon insetting marketplace.” According to the announcement, “Texas dairy farmer Jasper DeVos utilized Athian’s first accepted protocol to generate carbon credits by reducing enteric methane and improving feed utilization through use of an innovative feed management product and quantification tool from Elanco Animal Health, resulting in nearly 1,150 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) reduction.” See also [ALWR—Dec. 4, 2023](#), “*Elanco and Athian Announce Carbon Marketplace for Dairy Farmers.*”

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### **CENTER MISSION AND BACKGROUND**

The Center for Agricultural and Shale Law conducts research and educational programs to serve a wide variety of stakeholders including agricultural producers, landowners, mineral interest and royalty owners, business professionals, judges, attorneys, legislators, government officials, community groups, and the general public. Center programs are funded in part by the Commonwealth of Pennsylvania through the Pennsylvania Department of Agriculture. The Center for Agricultural and Shale Law is a partner of the National Agricultural Law Center (NALC) at the University of Arkansas System Division of Agriculture, which serves as the nation’s leading source of agricultural and food law research and information.

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