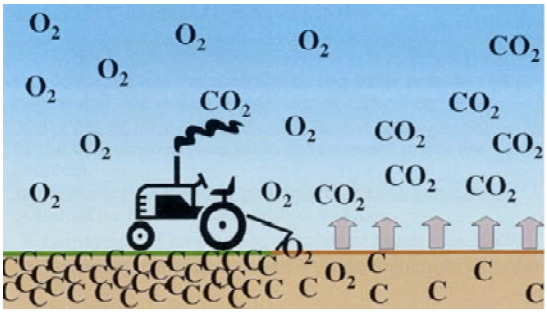
National Farmers Union Carbon Credit Program Questions and Answers

What is the concept of storing carbon in agricultural soils?



Through the process of photosynthesis, all plants absorb carbon dioxide from the atmosphere; release oxygen molecules; and store carbon in plant tissues, especially roots. As plants die, carbon molecules remain underground unless disturbed by tillage or any operation allowing carbon atoms to combine with oxygen and escape into the atmosphere as carbon dioxide.

Many soils in our region were native grasslands or forests prior to cultivation, containing high amounts of carbon. After years of tillage, a lowered equilibrium level of carbon in the soil has been attained, where the amount of carbon sequestered by plants annually is about equal to the amount lost in the atmosphere.

Converting to no-till crop production and long-term grass seeding practices result in higher levels of carbon being stored in the soil. Producers now can earn income in the carbon credit market for storing carbon, thereby reducing greenhouse gas emissions.

What are greenhouse gases?

Greenhouse gases allow sunlight to enter the atmosphere freely. When sunlight strikes the earth's surface, some of it is reflected back toward space as infrared radiation (heat). Greenhouse gases absorb this infrared radiation and trap the heat in the atmosphere, generally producing an increase in the average temperature of the earth. Rising temperatures may produce changes in weather, sea levels and land use patterns, commonly referred to as "climate change."

According to the National Energy Information Center, greenhouse gases have increased by about 25 percent since large-scale industrialization began around 150 years ago. In the U.S., greenhouse gas emissions occur mostly from energy use driven largely by economic growth, electricity generation, and weather patterns affecting heating and cooling needs. Globally, the U.S. produces about 25 percent of carbon dioxide emissions from burning fossil fuels.

What is the Chicago Climate Exchange?

CCX Chicago Climate Exchange™

The Chicago Climate Exchange (CCX) is North America's only, and the world's first, greenhouse gas (GHG) emission registry, reduction and trading system for all six greenhouse gases (GHGs) — carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons and sulfur hexaflouride.

CCX is a self-regulatory, rules-based exchange designed and governed by CCX members. Members make a voluntary but legally binding commitment to reduce GHG emissions.

Who buys carbon credits and why?

Many Fortune 500 companies, multinational corporations, utility and power generation companies and others have been buying carbon credits for a number of reasons. Some companies have subsidiaries based in foreign countries that have signed on to the Kyoto Treaty and are required to either reduce emissions or buy offsetting credits. Some companies are buying credits as part of a good "corporate citizen" public relations campaign and many are genuinely concerned about reducing greenhouse gas emissions. For others, buying credits is strictly a business investment in the event that carbon prices increase. Credits can be bought and sold easily by brokers much as other commodities are traded in other exchanges.

Why is National Farmers Union promoting a carbon credit program?

For two years, North Dakota Farmers Union and National Farmers Union worked to gain approval from the CCX as an official aggregator of carbon credits. Our goal is to enhance farm income through economically successful and environmentally sound land management practices that reduce or offset carbon emissions.

There is growing public concern that global climate change may be responsible for more severe hurricanes, shrinking polar ice and glaciers, droughts and floods, and other disruptions in our climate. Increasing energy prices are also peaking the public's interest in renewable fuels, alternative energy sources, energy conservation, and other practices that reduce greenhouse gas emissions. As stewards of the land, Farmers Union members want to help protect the environment and our natural resources.

North Dakota Farmers Union began the carbon credit program in the spring of 2006, and producers in other states allowed by the CCX were able to join in the program beginning in October of 2006. Producers who enroll in other states are part of the National Farmers Union program, and the aggregation fees earned will be split between and NFU and individual state Farmers Union organizations. North Dakota Farmers Union will continue to be the fiscal agent for selling the offsets, maintaining the database and Web site information, and enrolling producers.

How accepted is "No Till" Cropping?

Modern crop rotations, herbicide resistant crops, conservation tillage equipment improvements, more targeted herbicides, and improved crop varieties have all advanced the success of no-till cropping in the U.S. and Canada. Today's modern seeding equipment is capable of placing seed, fertilizer, and sometimes various chemicals precisely into optimum conditions without tilling the soil first. Along with storing carbon in the soil, no-till provides substantial fuel savings, improves soil tilth, water storage and water efficiency, and reduces soil erosion.

Granted, there are heavier soils that are not as well suited to no-till production and some form of reduced tillage may still be needed to get the soils to dry out and warm up for timely spring planting. So, no-till cropping has not been universally accepted nationally, but it certainly has been used on many acres in the central and northern plains and in other areas as well.

How are carbon credits priced and when is income received?

During each production year covered in the carbon credit contract, a database of all land tracts under contract will be assembled and transmitted to the CCX. After harvest, CCX will randomly select a portion of the tracts for a spot check by an approved verifying firm who will make actual field visits.

Immediately after the end of the calendar year, the credits will be placed in the Farmers Union trading account and sold. The individual producer will receive his or her share of the sale proceeds (less a 10 percent administrative fee to NDFU) immediately after the pool of credits is sold. The concept of carbon credits trading is similar to dealing with any other agricultural commodity exchange such as the Minneapolis Grain Exchange or the Chicago Board of Trade.

How much income can producers expect to earn from carbon credits?

Producers will be credited with 0.2-.6 metric tons of carbon for each acre of eligible no-till cropping and 1.0 ton per acre for qualifying grass stands each year of the contract. On native rangeland in the eligible territory, producers can earn .12 to .52 metric tons per acre with an implemented grazing plan to improve the range vegetative growth. Rotational or managed grazing is used to restore or maintain range conditions and increase the carbon stored.

The price per ton on the Chicago Climate Exchange varies every trading day, but current prices are about $3.50 to $4.00 per ton. That equates to up to $2.00 per acre for no-till and $4.00 per acre for grass stands, less the aggregation fees. On native rangeland in the eligible territory, producers can earn 50¢ to $2.00 an acre.

In addition, each year 20 percent of the tons earned will be placed in a carbon bank by the CCX that will be paid in a lump sum at the end of the contract. This provides an incentive for producers to complete all terms of the contract. There are also penalties for early termination of land management practices.

Forestry offsets are also available nationwide, with sequestration rates varying a lot depending on where the trees are grown, type and species of trees, tree age and size, and density of the trees. These offsets are on eligible land with trees planted or regenerated after 1990.

Why are the terms of contracts for four to five years?

Due to the nature of the pilot program status of CCX and due to the turnover in land ownership or rental agreements, a five- to six-year contract seems to be most practical. The Chicago Climate Exchange is still in a Phase 2 pilot project status until 2010. It is Farmers Union's hope that these contracts will be rolled into extended contracts for additional years.

Soil scientists indicate that carbon amounts may gradually increase for 20-30 years or more under some practices. As a result, there likely will be longer or different contract terms in the future for carbon storage in wetlands, native range, manure digesters and forestry stands.

Do farmers and ranchers have to prove they actually store carbon in their soil through soil testing?

The Chicago Climate Exchange and other overseas markets have adopted the following concept based on the best peer-reviewed soil science available, which is: If the practices of no-till cropping, grass seeding, range management or forestry are indeed carried out during the contract, sequestration or storage of carbon at the agreed upon amounts is assumed to have occurred. No beginning or ending soil testing protocols are needed to fulfill the contract requirements, just certification and verification that the practices are implemented.

Will farmers qualify for participation in the carbon credit program if they already no-till or seed grass?

Yes, carbon credits can be earned on land that has been no-tilled and seeded to grass previously. The only restriction on grass seeding credits is that the grass stand has to be established no earlier than January 1, 1999, as set by the CCX. Unfortunately, many Conservation Reserve Program (CRP) stands were planted earlier than that. They will be ineligible for credits at this time under current contracts.

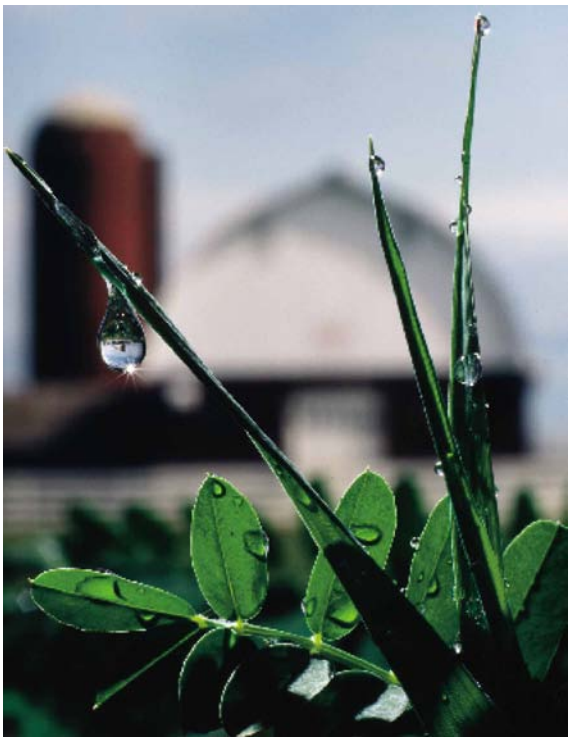
Some producers who already have contracts written for other government programs like the EQIP, Conservation Security Program or CRP will be able to stack carbon credit income on top of the government payments, assuming no-till practices or grass stands meet eligibility requirements.

What if the price of carbon changes?

Carbon credits are priced at the end of each year during the life of the contract, so the price received will be revised each year. If carbon prices increase, the value of the annual payments would increase as well.

Likewise, there would also be a chance that stored carbon could be worth less in future years, depending on the supply and demand of carbon offsets in world markets. A producer signing a five-year agreement would have the price set at least five times during the contract period.

In the case of rented land, does the landowner or the tenant get the credits?



No-till contracts will be written generally with the land manager, that being the person who is on record at the Farm Service Agency office as having control of the land and receiving commodity program payments. The logic here is that the tenant is the partner who has made the investment in no-till equipment and is responsible for cropping decisions.

This may require some negotiation with the landlord to make sure everyone understands his or her obligations under the carbon credit contract. If the land was to be rented to another tenant during the contract, the new tenant would have to agree to the contract terms and provisions and continue the no-till practice or there would be penalties and loss of the escrow account facing the contract holder. Transfers are allowed, as long as the agreed to practices remain on the land. If landlord and tenant agree, the contract could be written just with the landlord and proceeds of the carbon contract would be considered cash rent.

In the case of share-rent agreements, separate contracts will be written for the tenant and landlord reflecting their split shares in the crop as well as carbon contract payments. In the case of owned land, obviously payments go to the landowner; but again, if he or she were to rent out parcels of land in the future, there need to be agreements made for succeeding year payments.

While enrolling in a carbon credit contract is voluntary, once the contract is signed it is legally binding.

How might these contracts affect land sales or transfers?

The carbon credit contracts, though voluntary, are binding to the effect that the practices have to be completed for the life of the contract. If a landowner sells land that is covered by a contract, the next landowner would have to accept the arrangement and continue the practices or the first landowner would face penalties for breaking the contract.

Do soils vary in the amount of carbon they store?

Yes, generally the length of growing season, amount of annual rainfall and average temperatures determine the amount of sequestration. For the purposes of writing contracts suitable for a wide geographical area, a conservative amount of annual sequestration is assumed over an entire soils resource area or regions across several states

Is the Carbon Credit market a government program?

No. It is private industry, local and state entities, and even individuals purchasing offsets through the Chicago Climate Exchange.

Are there other similar programs in the U.S. and are there other programs competing for these acres?

The Iowa Farm Bureau Federation has been aggregating credits in Iowa and surrounding states and selling them on the CCX for four years. Other groups and firms have become aggregators approved by the CCX. Many of these firms specialize in certain geographic areas, or specialize in a particular practice, such as forestry or methane digesters.

What happened to previous efforts to sign up acres for carbon credits in some areas of the U.S.?

Previous attempts by others in North Dakota and other northern plains states occurred before the Chicago Climate Exchange had developed the system of trading and before the concept of soil carbon modeling was adopted. Some of those protocols would have required extensive soil testing to prove the sequestration amounts. In most cases, the cost of all the soil testing would have exceeded the value of the stored carbon.

The first contracts written required the producer to pay initial fees to the aggregator – a projected soil testing fee and a service fee of up to 40 percent of the credit value. Those contracts were written without having a market secured for the credits, so there was not likely to be a coordinated sale of credits.

What is the future for carbon credits?

In the greenhouse gas debate, the concept of emissions caps and higher costs of carbon offsets may eventually provide the incentives to more efficiently use energy. A similar cap and trade market developed regarding sulfur dioxide emissions in the acid rain debate a number of years ago. Over time, the cost of credits or offsets became high enough to force companies to place scrubbers on smokestacks, replace the highest emission plants and build newer low-emission facilities. Lowered emissions resulted from the market-based sulfur dioxide allowances trading, and acid rain and its damage were lessened. That may hold true for carbon emissions as well.

In addition, increased energy efficiency and possibly the hydrogen economy may further reduce carbon emissions.

In the meantime, if agricultural producers can adopt economically successful and environmentally sound land management practices that reduce or offset carbon emissions, and can get paid for it, it creates a “win-win” for all involved.