



Terrestrial Carbon Sequestration Opportunities in Colorado

Colorado Agriculture Outlook Forum

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Presentation Outline

1. Why we are involved?
2. What is the Chicago Climate Exchange?
3. Agricultural Practices and Carbon Credits
4. Enrollment Steps
5. Future Considerations



Why are we involved?

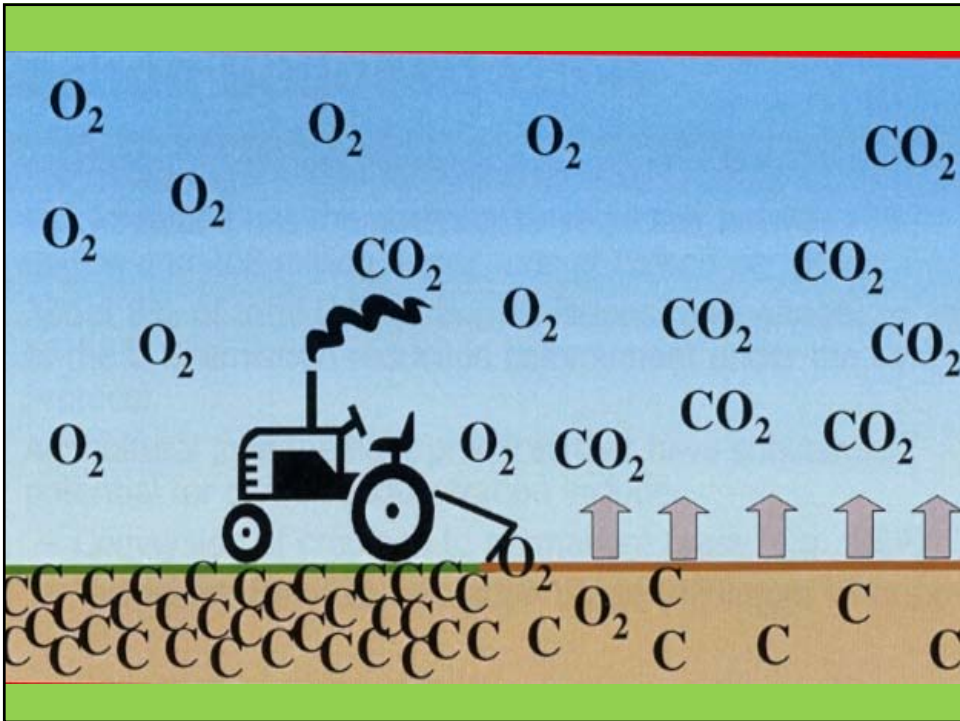
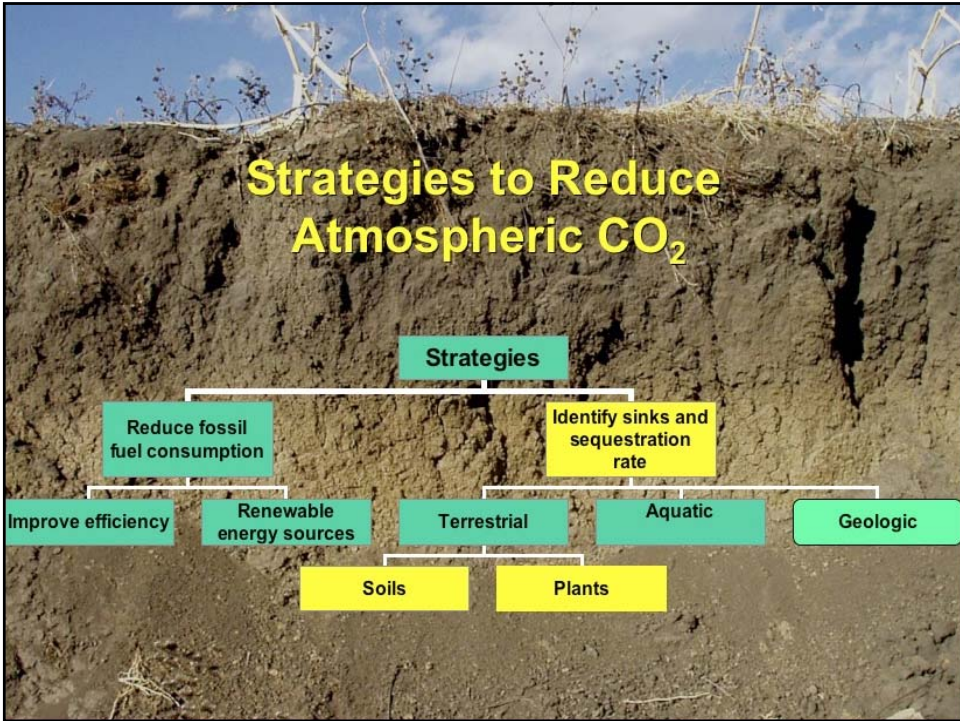
- Carbon trading is innovative way to **improve farm income** through economic/environmentally sound management practices.
- Incentive Based Approach
- 2007 Farm Bill discussion - budget concerns may limit participation in conservation programs of the Farm Bill.
- Contracts with CCX allow producers to benefit if carbon prices continue to increase.



Farmers Union Carbon Credit Program – Current Statistics, February 2008

- No-till and Seeded Grass
 - 2,500,000 acres in 25 states
 - 60,000+ acres in Colorado
- Managed Rangeland
 - applications for 1,000,000 acres in 8 states
 - verification this spring for first pool
 - 130,000+ acres in Colorado
- Forestry
 - applications for about 8000 acres of forestry offsets in 9 states
 - awaiting first verification
- \$2.7 million distributed from the first year no-till and seeded grass pools. (\$57,000 in Colorado)





Chicago Climate Exchange (CCX)

www.chicagoclimatex.com



What is the Chicago Climate Exchange?
(CCX), www.chicagoclimatex.com

- Greenhouse gas (GHG) emission **registry**
- **Reduction and trading system** for all six greenhouse gases
- **Self-regulatory, rules-based exchange** designed and governed by its members
- Members make **voluntary but legally binding commitments** to reduce GHG emissions



Chicago Climate Exchange (CCX)

www.chicagoclimatex.com

Greenhouse Gases traded daily

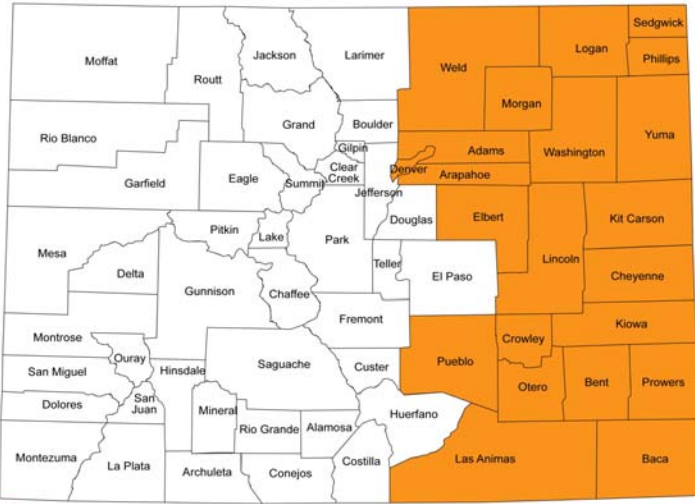


Eligible Ag Practices

- **No-till cropping**
 - 0.2-0.6 metric tons per acre annually, includes annual crops and hayed forages
 - No beginning date
- **Seeding long term grasses**
 - 0.4 or 1.0 metric tons per acre
 - Other seeded grasses, CRP, CREP
 - Has to be planted after January 1, 1999
- **Managed Rangeland with increased vegetative index**
 - 0.12-0.52 metric tons per acre
 - Cell grazing, rotational, intensive grazing practices
 - Grazing plan implemented after 1999
- **Forestry offsets(Afforestation)**
 - 1.5 - 7 tons per acre annually
 - Planted after 1990
- **Methane Capture**
 - 1 ton methane =21 tons carbon credits
 - Installed after January 1, 1999



Rocky Mountain Farmers Union Carbon Credit Counties for CONSERVATION TILLAGE ZONES



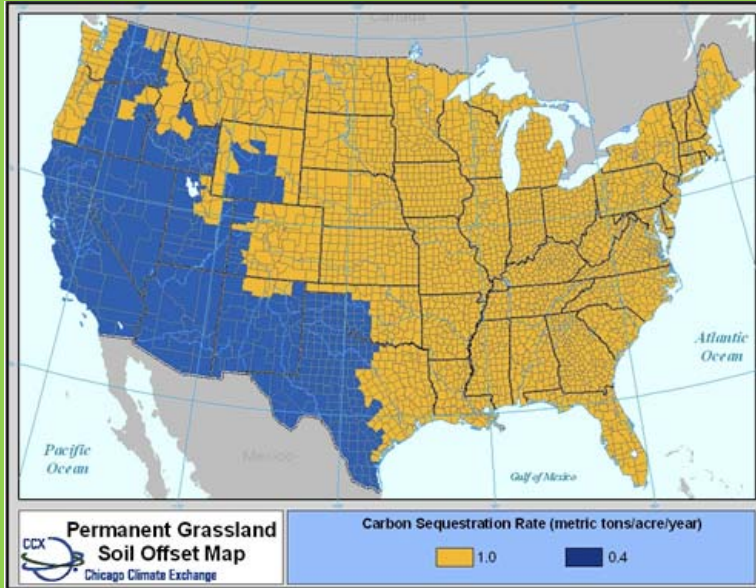
Colorado



CARBON CREDIT PROGRAM
www.nfu.org

Ton per acre annually
■ Zone D- .6 irrigated - .2 Dry

Long-term Grass – Eligible Counties



CCX
Permanent Grassland
Soil Offset Map
 Chicago Climate Exchange

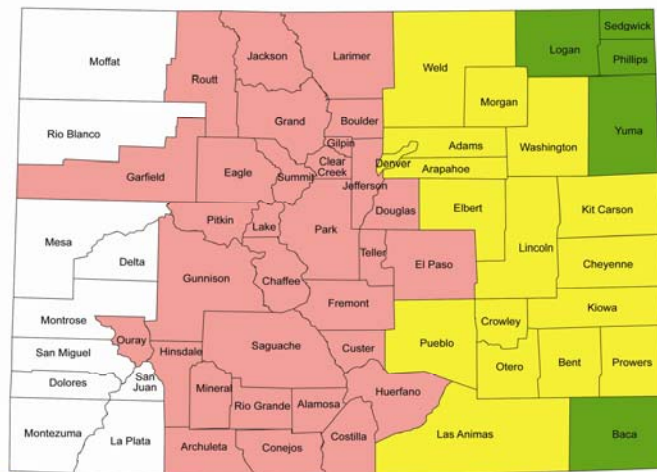
Carbon Sequestration Rate (metric tons/acre/year)
■ 1.0 ■ 0.4

Rangeland Management Eligibility

- Vegetation is managed through the control of livestock rather than agronomy practices
- Light or moderate livestock stocking rates (NRCS criteria)
- Sustainable Livestock Distribution (NRCS criteria): rotational and seasonal grazing



Rocky Mountain Farmers Union Carbon Credit Counties for RANGELAND MANAGEMENT ZONES



CARBON CREDIT PROGRAM
www.nfu.org

Ton per acre annually
 Zone E- .28 Degraded - Non Degraded - .12
 Zone G- .40 Degraded - Non Degraded - .27
 Zone H- .52 Degraded - Non Degraded - .20

Enrollment – Web Site Form

www.nfu.org or <http://carboncredit.ndfu.org>



Carbon Credit Calculator

| Management Practice | Acres | Seq. Rate/Acre | Metric Tons/yr |
|--|-------|----------------|----------------|
| No Till Cropping | 0500 | .60 | 300.0 |
| Seeding Long Term Grass | 0160 | 1.00 | 160.0 |
| Enhanced Rangeland Vegetation | 0 | 0.00 | .0 |
| Total Farm Tons Annually | | | 460.0 |
| Price per Ton | | 01/07/2008 | 1.9 |
| Total Annual Gross Payment | | | 874.00 |
| Less Aggregator 10% commission | | | 87.40 |
| Less CCX Offset Registration Fees (0.20 per ton) | | | 92.00 |
| Annual Net Contract | | | 694.60 |
| Annual Net Times 80% To Farmer (5 annual Payments) | | | 555.68 |
| Final Payment at Contract End | | | 694.60 |
| Total 3 year Contract Income | | | 3473.00 |

Disclaimer
The above listed projected payments are estimates only using the current price of stored carbon on the Chicago Climate Exchange. Actual producer payments may be more or less depending on future prices at the time the credits are sold. Verification costs may further reduce actual producer payments.



No-Till, Alfalfa and Seeded Grass

Not all agricultural land is eligible for carbon credit. Generally speaking, no-till credits may be paid to operators who commit to using conservation tillage practices for the entire term of a five-year contract. Hayland and alfalfa should also be enrolled as "no-till". Seeded grass stands may earn credits provided the acres have an FSA cropping history and the grasses were seeded after JANUARY 1, 1999.

Do I Qualify?

Take a few minutes to follow through the Questions below and study the [FSA 578 tutorial](#). Please remember carbon sequestration is not for everyone. Producers may have some acres that qualify for each type of offset, and many acres that do not qualify at all. Also, you need **NOT** enroll your entire farm.

1. Are your acres FSA Cropland? For help see [FSA Report of Acreage](#). - Yes
2. Is this land in continuous conservation tillage or "no-till"? - Yes
3. Is my county eligible?

State:

County:

Congratulations, your acreage is eligible for our no-till/seeded grass offset program. Please setup your Farmers Union database account and enroll your acreage as "no-till"



[Log-Out](#)

Add New Field

County:

Location: [\[info\]](#)

Owner / Landlord:

Farm Number: (from FSA578)

Tract Number: (from FSA578)

Year:

Select the Starting Year for this field!

No-Till Acres: Rate : 0.6

Grass Acres: Rate : 1

(Seeded after January 1, 1999)

Comments:

Location Information - The SE/4 of Section 4, Township 156 North, Range 76 West would be entered as 15607604D.

It is important that the Location field be entered properly. The format for this field lists the Township, Range, Section and Area with no spaces.

The first three digits represent the township (i.e. Township 156 North would be entered simply as 156)

The second three digits represent the range (i.e. Range 76 West would be entered as 076)

The next two digits represent the Section (i.e. Section 4 would be entered as 04)

Carbon Credit Mapservice Info

Grand Forks

Contract Number: ND-2857
 State: ND
 Seller: Ili
 Acres Enrolled: 283.6
 No Till Acres: 283.6
 Grass Acres: 0.0

Add a New Field

Select CLU Draw Field

How To How To

| Show All | Parcel ID. | No Till Acres | Grass Acres | County |
|-----------|------------|---------------|-------------|-------------|
| Edit Zoom | 17786 | 143.47 | 0 | Grand Forks |
| Edit Zoom | 17787 | 140.15 | 0 | Grand Forks |

In order to add fields, zoom in to the location of your fields using the navigation tools located just above the map area or by using the pop-up selection for Counties located above the Contract information.

0 0.4 mi 1: 28458 Update Resize Refresh

Future Considerations

- Colorado has a wide range of potential cropping, rangeland, forestry, and manure management projects for potential offset projects.
 - HB 07-1203, Colorado State University, Carbon Study
- Federal Cap-and-Trade System, (Warner-Lieberman and others)
- CO Climate Action Plan
 - Western Regional Agricultural Offset Initiative (www.colorado.gov/energy)
 - CO Carbon Fund
- “Duke Standards” from the Nicholas Institute for Environmental Policy Solutions





CARBON CREDIT PROGRAM

www.nfu.org or <http://carboncredit.ndfu.org>
or 1-800-366-8331 ext.116, ext. 154 or ext. 103

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