Carbon Sequestration

Conservation Practices and Programs

A new revenue source is available to landowners who plant trees or restore natural areas, thanks to a number of conservation practices that result in cleaner air through carbon sequestration.

Carbon dioxide (CO_2), a greenhouse gas, is increasing in atmospheric concentration due to human activities, such as burning of fossil fuels and land use changes. Trees, grasses and other plants remove CO_2 from the atmosphere, and the carbon is accumulated -- or *sequestered* -- in stable forms such as biomass and soil organic carbon.

A ***carbon credit or carbon offset*** is issued for a land use practice that is recognized by carbon trading markets to sequester carbon. Landowners can sell their ***credits/offsets*** in the Chicago Climate Exchange carbon trading market through local organizations such as the North Dakota Farmers Union and AgraGate Climate Credits Corporation.

Knowing which conservation practices sequester carbon is the key to getting the most return on practices that yield other benefits, such as reducing soil erosion and improving water quality. State and federal conservation programs provide landowners with incentives to implement various conservation practices that sequester carbon.

Conservation Programs / Practices That Sequester Carbon

	CRP	CSP	EQIP	GRP	Native Buffer Cost Share	RIM Reserve	WHIP	WRP
Tree planting	x	x	x		x	x	x	x
Grass planting	x	x	x	x	x	x	x	x
Habitat restoration			x			x	x	x
Wetland restoration	x		x			x	x	x
Grassland restoration	x			x		x		x
Windbreak / Shelterbelt	x	x	x			x	x	
Grassed waterway	x	x	x					
Contour grass strips	x	x	x					
Filter strip	x	x	x					
Riparian buffer	x	x	x		x	x		
Pasture / hay planting			x	x				
Cover crop			x					

Carbon Sequestration: Conservation Programs and Practices

How does carbon sequestration work?

Through photosynthesis, plants convert atmospheric CO_2 into starches and structural components thereby storing carbon in their tissues. Dead and decomposing plant materials are incorporated into the soil where the carbon is stored as soil organic matter. Carbon sequestration removes CO_2 from the atmosphere that would otherwise contribute to climate change if left in the atmosphere.

Why would I sell a carbon offset once on land that could yield revenue every year?

Strictly based on prices of commodities and carbon offsets, conservation practices won't necessarily be the most competitive option for landowners. But when weighing the options, it's important to factor in the input costs associated with lands in agricultural production, as well as the other benefits of installing conservation practices, including:

- Improved water quality
- Improved wildlife habitat
- Reduced soil erosion
- Enhanced soil quality
- Aesthetic value of natural areas

Where do I find more information about carbon credits / offsets?

Chicago Climate Exchange	www.ccx.com
North Dakota Farmers Union	http://carboncredit.ndfu.org/
AgraGate Climate Credits Corp.	http://www.agragate.com/

For more information about conservation practices, contact your local USDA Service Center or Soil and Water Conservation District.