

GUEST COMMENTARY

Agricultural carbon sequestration: an opportunity for rural America

By Robert Coulter, Emissions Credits International Corporation

A well managed piece of land that uses environmental best practices enhances the soil's ability to absorb more carbon dioxide from the air. That is what can be measured scientifically and quantified. Some jurisdictions are using an adjusted baseline calculation to assess the volume of carbon credits created on their agricultural land.

Is this additional to that which would have occurred anyway? Science tells us that removing CO₂ from the atmosphere is only one benefit of enhanced carbon storage in soils. Improved soil and water quality, decreased nutrient loss, reduced soil erosion, increased water conservation and greater crop production may result from increasing the amount of carbon stored in agricultural soils. A number of benefits occur that help the farmer increase his crop yield and also help the environment by significantly reducing the amount of carbon dioxide in our atmosphere.

This process is called carbon sequestration. The term "soil sink" is used to mean agricultural soil that has implemented a change in practice to absorb more carbon dioxide from the air than would have occurred without that change.

Science has determined that carbon dioxide is generally absorbed by the land from the air. CO₂ in the atmosphere is absorbed by plants, which transform it into carbohydrates, cellulose and other sugars. Each plant uses some of the carbon compounds to meet its energy needs and converts them back into CO₂.

Some of the carbon remaining in the plant is then removed from the system when the plant is harvested; the rest ends up in the ground and is transformed into CO₂ again by microbes in the soil. This cycle is identical in all crop systems, but the quantities of CO₂ involved vary depending on climate, soil and type of plant.

It is important to remember that just because it is complex does not mean it is not real, measurable or verifiable

North America with its great plains could use the vast carbon sequestration capacity of its agricultural soil to reduce greenhouse gas emissions. The long-term carbon retention capacity of soil depends on sound land management. Soil sinks cannot be created unless practices are adopted that increase the carbon content of the soil.

At this time, estimates of soil sequestration capacity vary depending on region, soil type or best practices, but it presents at least another decade of opportunity for the North American farmer to help our environment.

Of all the market incentives being discussed, carbon credit trading is the one that seems to be best able to encourage farmers to adopt practices that promote carbon sequestration and thus the creation of carbon sinks.

Agricultural carbon sequestration activities should be – and in some cases are – being incorporated into emission trading systems

that create a carbon credit for each additional equivalent unit of CO₂ in the soil. Credit trading would give farmers much needed added revenue source for adopting methods that promote soil carbon retention.

This system is enjoying success in Alberta, Canada where farmers have generated and sold more than one million tonnes of verified sequestered carbon in the past eighteen months, using their best land management practices and have received significant revenue to support their farm operations and the rural economy.

There is much discussion about how to regulate greenhouse gasses in North America while renewing and rebuilding the economy. As a free marketer, I do not believe in any additional taxes, especially a carbon tax because of the devastating effect it would have on consumers.

We need a market mechanism that puts a buyer under a corporate or compliance obligation and an agricultural seller in a position whereby the changes he has made to his farm operation to sequester carbon can be measured and verified by an independent third party. This helps the farmer, helps the rural economy and helps our environment.

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