

TILLAGE OFFSET CREDIT UPDATE

November 15, 2011

Greenhouse gas emission reductions from some farm management improvements can create carbon offsets which may be sold to other organizations to reduce their emissions. The end result is fewer greenhouse gases than would have otherwise occurred. Government of Alberta approved agricultural carbon offsets were used to meet 20% of reductions required by industrial emitters under Alberta's *Specified Gas Emitters Regulation (2007)*. This has removed 5.1 million tonnes of carbon dioxide equivalents (CO₂e) from the atmosphere, which is like taking 1 million cars off the road.

The Tillage System Management Protocol encourages "biological carbon capture and storage" using conservation tillage to increase soil carbon. This protocol gives early and recent adopters a chance to create carbon offsets, using policy that sets 2001 soil carbon storage rates to zero. The newly stored soil carbon is spread among all adopters, using an adjustment based on adoption rates of tillage in different soil regions of Alberta. This approach recognizes that numbers of offsets will decline as practices become business as usual and avoids creating disincentives to work up land that's already under conservation tillage in order to qualify.

The Alberta Offset System is committed to continuous improvement and reviews all protocols at regular intervals. A scheduled five year review of the Tillage Protocol has been completed. Changes posted in a draft Conservation Cropping Protocol posted for public comment include:

i) Baseline Adjustments

Offset credits for No Till management will be 30% lower in the Parkland area and 15% lower in the Dry Prairie area. This is due to higher rates of adoption of conservation tillage between 2001 and 2006 which lowered amounts of soil carbon to be spread among all adopters. Credits for Reduced Till will be eliminated since adjustments result in negative values.

ii) New Summerfallow Reduction Opportunity

New offset credits can be gained in the Dry Prairie area by increasing the proportion of continuous conservation cropping in a farm enterprise. The credit is based on reducing the three year average proportion of a farm area under any type of fallow with crops seeded under No Till. Lands must be managed for eight years (three baseline and five project) to be eligible. The summerfallow reduction credits are added onto No Till credits.

iii) Positive Proof of Practice Change

Verification standards for all Alberta offsets will increase to a reasonable level of assurance, following recommendations from Alberta's Auditor General for all offsets in the Alberta Offset System. This means that positive proof of a practice change will be needed to create tillage offset credits in five areas: ownership, farm

Beginning on January 1, 2012, the following changes will apply to a revised Conservation Cropping Protocol:

- *Updated coefficients to reflect increased adoption of reduced tillage will reduce credit potential*
- *Only credits that meet new evidence requirements will be eligible*
- *A new summerfallow reduction credit option will be added in the Dry Prairie area*

size/location, crop type, soil disturbance, and other management (e.g. irrigation, reseeding). There will be no opportunity to generate historical offset credits. Summerfallow reduction credits will also need proof that the average proportion of fallow acres on the farm enterprise has decreased after switching more area into continuous cropping under No Till.

Historical Offset Credits

Alberta farmers can use the current Tillage System Management Protocol to earn offset credits for management that occurred between January 1, 2002 and December 31, 2011, provided that they have the necessary records and can obtain the third party verification needed to complete their carbon credit registration. Since soil carbon is stored at a very slow rate, the value of the offset is only around a dollar per acre. This can add up when large numbers of acres are gathered together, which is what aggregator companies do to build pools that are attractive to buyers. Aggregators also identify and collect necessary records and set up the third party verification needed to complete a carbon credit registration. The Farmer's Advocate Office webpage provides a list of aggregators of agricultural carbon offsets as well as carbon credit contracting information (go to www.agriculture.alberta.ca and enter "carbon contracting" in the search field). Historic carbon credits under the Tillage System Management protocol must be registered before March 31, 2012. Earlier deadlines are needed to complete the process and will vary according to individual aggregator company. Registered historical offset credits may be retired or sold in the future.

Other Agricultural Offset Opportunities

There are 11 other government approved offset protocols about agricultural practice improvements that reduce greenhouse gas emissions, while also improving efficiency and enhancing the value of farm records. Although offset credits aren't large on a per field or per animal basis, they accumulate over large areas, or when added to different types of qualifying practices. Since there's often overlap between records needed, it makes sense to look at whether extra credits can be created by improving management in a number of areas, such as improving nitrogen fertilizer management - as specified in the newly approved Nitrous Oxide Emission Reduction (NERP) protocol, as well as tillage management improvements. Summaries of other protocols that support improved management of energy, beef, pork and dairy are posted online on Ropin' the Web, search for "Agricultural Carbon Offsets". New protocol development is also underway on topics such as converting land use from annual to perennial crops and improved grazing management.

More information will be available at agricultural meetings and tradeshow throughout Alberta this winter.

For more information contact the Ag-Info Centre at 310-FARM (3276)

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