

Key Facts about Carbon Trading & Ag Role in Global Warming Solutions

- Scientists, consumers and public policymakers are increasingly in agreement that global warming is occurring. The International Panel on Climate Change projects average temperatures to rise 3° Celsius by 2010.
- The goals of the Kyoto Protocol were to reduce emissions by 7% below 1990 baseline levels over the period 2008-2012. This would require an annual reduction of 620 MMT of CO₂. Carbon that can be sequestered through farm practices like NoTill/Direct Seeding is one of the most immediate and cost effective solutions to offsetting emissions. Implementation of these land based practices at current levels of global adoption has the potential to offset 20-25% of the targeted emissions reductions.
- Total projected GHG offsets that can be accomplished through cropping system practices such as no-till that reduce emissions and sequester carbon are 132 MMTC/yr; expanding production and use of biofuel (50 MMTC/yr); and carbon that can be sequestered from rangeland plantings (58 MMTC/yr).
- Revenue from carbon trading should be looked upon as both a value-added benefit to society as well as an economic incentive for farmers to practice more environmentally sustainable cropping system practices. Historically, agriculture has experienced serious degradation of soil quality in the U. S. Soil erosion and CO₂ emissions resulting from intensive tillage have resulted in a loss of about 50% of our original native soil organic matter levels. Reduced tillage practices have shown major potential to reverse soil quality degradation and become part of the global warming solution.
- In the top 7" of soil each one percent of organic matter = 20,000#/acre. At 58% carbon, that means 11,600# of carbon. Soil maintains a 10:1 ratio of carbon to nitrogen; a 100 to 1 ratio of phosphorous; plus sulfur, potassium and other micronutrients. The replacement value of all these nutrients has to be considered in addition to environmental damage when placing a value on practices that preserve more of our soil in the field and out of the atmosphere and water.
- The financial value of carbon lost from erosion, residue burning and other natural and man-made causes has not historically been well understood. If we could re-build organic matter at 0.1% per year through improved based on the values of N, P, K and H₂O that can be fixed in humus, the value of this increase in soil organic carbon could be as high as \$110/acre.
- One acre farmed under a NoTill/Direct Seed practice can annually: (1) sequester .50-.70 tons of CO₂ and (2) reduce emissions by .05 tons of CO₂ through reduction in fossil fuel consumption (3-5 less gal/acre/year).
- Carbon is becoming one of the most rapidly growing international commodities traded. Total value of carbon traded in 2005-6 nearly equaled the total value of commodity wheat and about 40% of corn grown annually in the U. S.
- Since carbon starting trading actively in 2005, it has traded in Kyoto compliant countries in the range of \$10-30/ton of CO₂ and in the U. S. (where emissions reduction is voluntary) in a range of \$2-4/ton. What value would you prefer if you were (1) an emitter needing to buy offsets vs. (2) an emissions offset provider such as a NoTill farmer, forester, grazing manager, etc?
- Those involved in agriculture represent less than 2% of the total U. S. population. If 98% of the population are concerned about global warming and don't realize the benefits agriculture can provide to help mitigate this problem, what is the chance we in agriculture will be allowed to participate and reap financial benefits from our efforts to reduce emissions and sequester carbon?