



## **Biofuel Feedstock Production Practices and Climate Change – Talking Points**

- Technology and conservation practices are available to not only negate possibly adverse effects of expanded biofuel feedstock production, but actually promote benefits to our environment.
- Conventional tillage uses plow-based methods that turn the soil over, mixing oxygen with soil and organic matter and speeding up the decomposition of the organic content, including the loss of carbon that converts to carbon dioxide. Conservation tillage is a set of practices that provide minimal disturbance of the soil and leave at least 30 percent of the surface covered with crop residues.
- Using conservation tillage and other residue management techniques can provide a constant buildup of soil organic carbon – more than 50 percent over 10 years - that reduces greenhouse gas emissions by preventing carbon from transforming into carbon dioxide through decomposition.
- Researchers at Ohio State University say that the total carbon sequestration potential of U.S. cropland through improved management is as much as 208 million metric tons of carbon per year, or the equivalent of 763 million metric tons of carbon dioxide emissions, or nearly 14.5 percent of total U.S. greenhouse gas emissions.
- And because conservation tillage requires fewer passes over a crop field, less fossil fuel is burned, reducing another 4.4 million metric tons in carbon dioxide emissions.
- Another 300 million tons of carbon can be sequestered per year from U.S. forests.
- The total potential of carbon sequestration in U.S. soils, counting croplands, grazing lands and woodlands, is nearly 600 million metric tons of carbon, or the equivalent of more than 2,200 million metric tons of carbon dioxide emissions - about 33 percent of total U.S. emissions.
- The most current national data gathered the Conservation Technology Information Center show that some form of crop residue management, which includes conservation tillage plus "reduced tillage," was practiced on 62.2 percent of total cropland. And the number is growing.
- There are nontraditional feedstocks that offer even greater carbon sequestration while decreasing the use of fossil fuel. Switchgrass, for example, is a perennial native grass that doesn't require annual planting, and is harvested by taking annual cuttings. The plants

require fewer inputs such as fertilizer and pesticides and have tremendous root systems that sequester carbon continuously.

- Meeting the rapid increase in global energy demand with a wide variety of renewable resources has generated an important debate that should take into account the benefits of many production practices and technologies.

For more details on biofuel feedstock production and conservation tillage practices, see the *25x25 Background Paper: Carbon Benefits of Tillage Practices*, on the "Resources" page at [www.25x25.org](http://www.25x25.org).