1. Abstract

Climate change is a worldwide environmental problem that will affect every citizen of the planet. Agriculture is a major contributor to the problem of climate change but also has the capacity to be a part of the solution. Carbon markets present farmers with the opportunity to be paid for practices that decrease emissions and sequester carbon, such as no-till farming.

Investigation is needed to determine the extent to which no-till farmers participate in carbon markets. The data for this study consists of a survey of farmers attending a conservation tillage conference. Results show that no-till farmer rates of participation in carbon credit programs are very low.

2. Introduction

Agriculture emits greenhouse gases through many processes including plowing (Lal 2004a). When carbon is released from the soil much of it is released into the atmosphere where it contributes to climate change (Lal 2004b).

The target population for the study was farmers who are currently engaged in no-till farming practices. The frame consists of participants of the Conservation Tillage and Technology Conference in Ada, Ohio on February 26 and 27, 2009.

In order to ensure reliability, a pilot test for reliability was conducted at a meeting of the Ohio No-Till Council. Face content validity of the questionnaire was established by a panel of experts.

A total of 228 questionnaires were completed by respondents who defined themselves as producers. Qualitative interviews were also conducted with producers and agriculture industry professionals.

3. Methods

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4. Results

<table>
<thead>
<tr>
<th>Respondent No-till Practices and Carbon Credit Eligibility</th>
<th>Frequency</th>
<th>Percent</th>
<th>Eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>All land in continuous no-till</td>
<td>84</td>
<td>36.6</td>
<td>Eligible for carbon credits</td>
</tr>
<tr>
<td>Some land in continuous no-till</td>
<td>52</td>
<td>22.8</td>
<td>59%</td>
</tr>
<tr>
<td>Use no-till practices occasionally</td>
<td>82</td>
<td>38.5</td>
<td>Not eligible for carbon credits</td>
</tr>
<tr>
<td>Do not use no-till practices at this time</td>
<td>10</td>
<td>4.7</td>
<td>41%</td>
</tr>
</tbody>
</table>

The majority of the sample, 59 percent, has all or some of their land in continuous no-till. These producers are eligible for carbon credits.

Producers who use no-till practices occasionally, 35.8 percent of the sample, are not eligible for carbon credits.

Although 59 percent of the sample is eligible for carbon credits, just 2 percent of the sample is currently receiving carbon credits.

5. Discussion

Survey results indicate that many producers are engaging in continuous no-till activities but are not signing up for carbon credits. A compelling research question is generated: Why aren't no-till farmers enrolling in carbon credit programs?

The question “why?” forms the basis for an exploratory study that focuses on producer knowledge and perception of carbon markets, barriers to participation and the factors that influence their decision to participate.

The role of farmers as stewards of the land has long been a prominent aspect of agrarian culture. Many farmers characterize themselves as the “original environmentalists”, citing their sense of responsibility as stewards of the land. It may be these exact sentiments that are turning the farmers’ attention toward the land and away from the skies. An industry professional said it best: “Farmers think of themselves as good stewards of the land, not good stewards of the atmosphere.”

References and Acknowledgements


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