Climate Education Solutions for the US Corn Belt

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Introduction

The USDA Sustainable Corn Project "Climate change, mitigation, and adaptation in corn based cropping systems" involves more than 100 researchers focused on measuring greenhouse gases and carbon sequestration across the corn belt as well as building solutions that are resilient in times of drought, reducing soil and nutrient losses under saturated soil conditions, reducing farm field nitrogen losses, retaining carbon in the soil, and ensuring crop and soil productivity. The education component of the grant involves the farming community through increasing the climate change and agriculture knowledge of Grade 6-12 science and agriculture teachers. The education objective of the grant provides an avenue for accurate information and engagement with others in the agricultural community by our connection with the National Council for Science and the Environment (NCSE).

Ohio State University Stone Lab Climate and Corn Sustainability Course in Lake Erie

Learning from Farmers

In stream sampling for HHEI measurements.

Measuring the Lake Erie alga bloom using a secchi disc.

Invertebrate identification for HHEI measurements.

Agricultural Educators Climate Camp
Iowa State University & Lincoln University

In an effort to train future scientists and raise awareness regarding climate change adaptation and mitigation, the Sustainable Corn Project's Education Team hosted a climate camp at Iowa State University in June of 2014. Approximately 20 agriculture and science teachers were invited to learn about the methods, purposes, and initial findings of the diverse studies, which are part of the Sustainable Corn Project. Activities included classroom presentations, field and laboratory demonstrations, and hands-on experiences.

Learning how to take a soil sample for chemical analysis

Learning how field measurements are taken and recorded

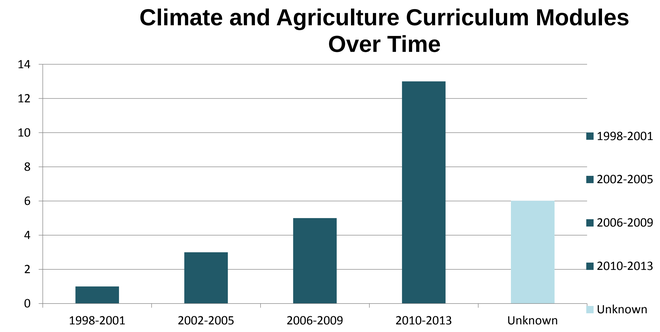
NCSE CAMEL – Sustainable Corn Project Partnership

CAMEL can offer value to the Sustainable Corn Project to raise awareness within the agriculture sector about the impacts of climate change and options for mitigation and adaptation strategies within the corn-based cropping system in the following ways:

1. Help educate farmers involved with the project about climate change science and the relationships between agriculture and climate change.
2. NCSE (CAMEL) and the Sustainable Corn Project will collaborate to develop an Agriculture and Climate Change Resource Collection that will be integrated into CAMEL and linked to the Sustainable Corn Project web resources.

An Assessment of Climate Change Curriculum in Agriculture

The purpose of this project is to gain a better understanding of climate change and agriculture curriculum as it relates to 9-12 grade science students, and to identify gaps and develop activities or curriculum accordingly.



Curriculum Development

This graph shows that since 1998, curriculum development pertaining to climate change and agriculture has continually increased through present day.

Webinars Series and Evaluation

A six-week webinar series was held in 2013 and 2014 with the goal of strengthening the ability of Sustainable Corn Project graduate students to become transdisciplinary scientists. Speakers discussed their work and emerging needs within their specific fields; sociology, statistics, agriculture, crop production, entomology, hydrology, soil science, climatology, plant pathology, and outreach and engagement. In evaluations, Participants reported learning about agriculture, climate change transdisciplinary cooperation, and new ways of viewing their work..

This research is part of a regional collaborative project supported by the USDA-NIFA, Award No. 2011-68002-30190 "Cropping Systems Coordinated Agricultural Project (CAP): Climate Change, Mitigation, and Adaptation in Corn-based Cropping Systems"
sustainablecorn.org

United States Department of Agriculture
National Institute of Food and Agriculture