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FOR IMMEDIATE RELEASE

National Climate Assessment Released; Implications for Agriculture Studied in Indiana

INDIANA...January 14, 2013. The National Climate Assessment, released in draft form on Friday, predicts “profound effects” on agriculture and rural economies. At Purdue University and 8 other universities in the Midwest, scientists are working to create a suite of farm management practices to stave off the worst effects for Corn-based agriculture and scientifically demonstrate how agriculture can play a role in reducing atmospheric greenhouse gases that are responsible for climate change.

From examining farmer perspectives, to analyzing winter cover crops, to soil carbon modeling—the extensive work of with the USDA funded Climate and Corn-based Cropping Systems Coordinated Agricultural Project is aimed at discovering and sharing ways to build resiliency into corn-based cropping systems in response to the impacts of a changing climate, while safeguarding crop production’s most basic components: fertile soil and fresh water. Among the practices the team is examining are cover crops.

Eileen Kladviko, a professor at Purdue University, and her team are studying how winter cover crops could help build resiliency of corn production as well as protect finite natural resources. In corn-based systems, winter cover crops are planted to cover soil during the 7 months the soil would ordinarily lay fallow. According to Kladviko, the majority of drainage flow and nitrogen losses out the bottom of the root zone occur precisely during this time in much of the Corn Belt.

“But if you have a living, growing plant, it’s going to be capturing sunlight, feeding soil organisms, sequestering carbon, and trapping and recycling nutrients. It’s simple but very effective,” said Kladviko.

Kladviko and others hypothesize that cover crops will affect the resiliency of corn-based cropping systems by improving soil quality and conserving soil water, thus reducing year-to-year variability in yield and increasing crop yield during dry times and over the long-term. In addition, nitrate export to streams and off-site production of nitrous oxide, a greenhouse gas, will be reduced, by reducing nitrate leaching during the normally fallow months.

Kladivko notes that the use of cover crops in a corn/soybean system is more challenging for farmers than in other cropping systems.

“Timing is difficult and limits your choices if you cannot plant the cover crop until after harvesting your main crop,” said Kladivko. “But there are other ways of seeding and a lot more work needs to be done to make cover crops more practical.”

Learn more about the team’s research at <http://www.sustainablecorn.org/>.

The National Climate Assessment can be downloaded at <http://ncadac.globalchange.gov/>

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The Climate and Corn-based Cropping System Coordinated Agricultural Project (CSCAP) is a transdisciplinary team creating new science and educational opportunities. The team seeks to identify productive corn-based cropping systems that have a light environmental footprint under changing climate conditions, that farmers will adopt and policy makers will support, with the next generation of scientists trained to further the science. The project spans 9 Corn Belt states and is supported by a grant from the US Department of Agriculture National Institute of Food and Agriculture. For more information about CSCAP, see <http://www.sustainablecorn.org>.

Eileen Kladivko, PhD is available for interviews...

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