

# Blending Traditional and Contemporary Agricultural Extension Methods to Address Broad-Based Stakeholder Needs for Agriculture and Climate Change in Pacific Northwest Cereal Cropping Systems.

Chad Kruger<sup>1</sup>, Steven Petrie<sup>2</sup>, Georgine G. Yorgey<sup>1</sup>, Sylvia Kantor<sup>1</sup>, Elizabeth Allen<sup>1</sup> and Tara Zimmerman<sup>1</sup>

<sup>1</sup>Climate Friendly Farming, Center for Sustaining Agriculture and Natural Resources, Washington State University, Wenatchee, WA

<sup>2</sup>Columbia Basin Agricultural Research Center, PO Box 370, Oregon State University, Pendleton, OR

## Abstract

Promoting scientifically-based agricultural responses to a complex challenge like climate change mitigation and adaptation necessitates a coordinated Extension strategy that addresses multiple stakeholder audiences with different information needs and educational methods. The USDA NIFA funded Regional Approaches to Climate Change for Pacific Northwest Agriculture (REACCH PNA) Coordinated Agriculture Project includes an Extension Objective that targets educational programming to a variety of stakeholder groups using a combination of traditional, contemporary and experimental Extension methodologies focused on overcoming barriers to improved agricultural management. Our Extension Team utilizes a Stakeholder Advisory Committee (SAC) with broad representation from producers, producer organizations, allied industry, government agency, environmental services market interests, and environmental organizations to guide Extension needs assessment, programming and product development. The team will employ traditional methodologies such as field days, producer workshops and Extension publications as well as contemporary methodologies such as webinars, video, and electronic media. In addition, the team will pioneer experimental extension methodologies and products such as smart phone applications, web-based forums and decision-support tools that utilize the REACCH Cyber-Infrastructure and Research Databases. REACCH graduate students will participate in the development innovative and experimental Extension products.

## How Do We Communicate Agricultural Climate Change Science to a Diverse Stakeholder Audience?

Much of the research-based science on agriculture and climate change focuses on a long-term time horizon. Consequently, many individual farmers have limited interest in and / or capacity to effect management changes or make investments that will likely only accrue value in the distant future. Therefore, in addition to serving traditional extension audiences, achieving desired adoption of improved management practices and climate preparedness necessitates that Extension methodologies focus on a broader set of "influencers" that will direct future investments in policy and industry development. The REACCH Project established a Stakeholder Advisory Committee (SAC) comprised of individuals representing many of the "influencer" audiences for the future of PNW agriculture.

A needs assessment survey of the REACCH SAC provided insight into the complex blend of approaches and methods necessary to successfully communicate with the diverse stakeholder audiences of the REACCH project. The needs assessment indicated the importance of using a broad range of peer-reviewed extension product types and an increasing emphasis on high speed, mobile ready web-based delivery platforms.

**Traditional, experiential methodologies** are impossible to replace due the dynamic and interactive learning environment they create. Field days, tours and workshops provide important opportunities for scientists and stakeholders to learn from each other.



REACCH Extension will continue to support traditional outreach activities in the PNW cereal-based cropping systems, providing interactive learning opportunities for farmers, industry, field-based extension and government agency personnel, and research scientists. A Faculty Coordinator Position is being hired to facilitate these activities.

Print and web-based articles, bulletins, and technical materials relating the latest research-based findings will continue to be a key output of the Project.

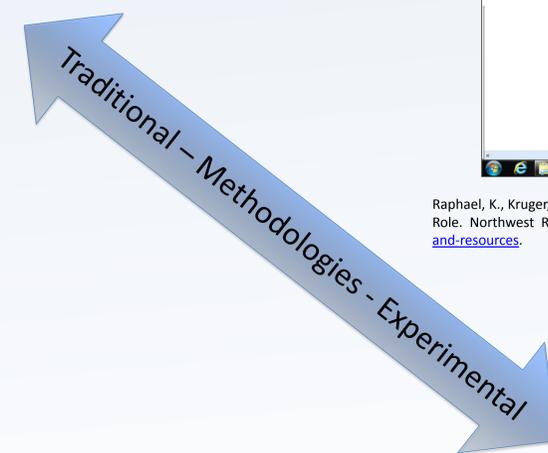
An invited article on the status of the science of climate change impacts and adaptations in the PNW was published in a special issue of the news magazine of the Western Rural Development Center in 2011.

**Electronic methodologies, including video and webinars,** are increasingly used by Extension to convey complex information efficiently and cost-effectively.

An educational video project was co-produced with the Northwest Regional Biocarbon Initiative. The video was targeted at improving public and policy-maker understanding of the role that agriculture can play in reducing greenhouse gas emissions.



Raphael, K., Kruger, C.E., Aeschliman, J., Brown, T., & Henry, A., 2011. The Second Solution: Agriculture's Role. Northwest Regional Biocarbon Initiative: <http://climatesolutions.org/programs/NBI/soil-stories-and-resources>.



Which of the following best describes your affiliation?	
Ag Industry	35%
Carbon Market/Finance	6%
Conservation District/NRCS	12%
Environmental Group	6%
Farmer	18%
Government Agency	6%
Grower Organization	6%
Teacher	6%
Tribe	6%

What modes of delivery are most useful to you or your organization?	
Web-based documents	26%
Print publications	24%
Webinars	20%
Announcement list serves	16%
Blog posts	6%
Discussion list serves	4%
Social media	2%
Videos	2%

What types of project outputs are you or your organization most likely to read or use?	
Fact sheets	16%
Ag media stories (e.g. radio, newspaper)	14%
Newsletters (i.e. general project updates)	14%
Project progress reports	13%
Journal articles	12%
Popular media stories	11%
Technical reports	11%
Extension bulletins/manuals	9%

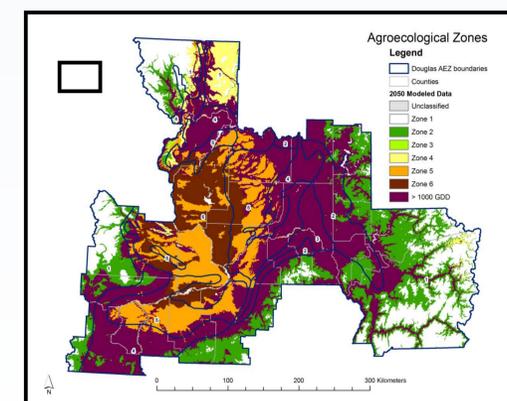
How important is peer reviewed information to you or your organization?	
Not at all	0%
Somewhat	24%
Very	65%
Extremely	12%

How do you access the internet?	
Dial-up modem	0%
Moderate internet speed	7%
Hi-speed internet	52%
Smart-phone/mobile device	41%



Kruger, C.E., Yorgey, G.G., & Stockle, C.O., 2011. Climate change and agriculture in the Pacific Northwest. Rural Connections: Climate Change Adaptations in the Rural West, 5:51-54.



Smart phone apps and web-based decision-support tools are under development to provide stakeholders with ready access to data-intensive research results necessary for on-farm management by farmers and strategic decision-making by policy-makers.

REACCH graduate students will have an Extension experience through producing Cyber-Infrastructure based tools.



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