



Developing resources for farmers, with farmers

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As REACCH helps prepare farmers to manage uncertain future conditions associated with climate change, we rely on their experiences to direct us. Farming systems and the impact of disturbances on them are not uniform, and neither are the management decisions necessary to make improvements. Yet, farmers are accustomed to creatively modifying their practices in response to unforeseen opportunities or risks.

Farmer-to-farmer learning is a well-documented strategy for enhancing information sharing that encourages adoption of better practices, and it is important to facilitate interactions among farmers and other stakeholders. Collaboration with farmers and their associates drives development of multiple extension-based

IMPACT

Directly involving farmers in extension product development acknowledges the significance of their experience, understanding, and concerns regarding wheat production systems. Tailoring resources to address producer-defined needs and preferred information sources increases the likelihood that practices that aid in climate change adaptation and mitigation will be adopted.

projects in REACCH that inform them about agriculture and climate change (Figures 1–3). Three examples of specific farmer-focused REACCH projects currently underway include: (1) surveys, (2) a decision tool for climate change communication, and (3) case studies. Each project involves stakeholders in different

ways, but all depend on their expertise and experiences to generate resources that can positively influence production decisions of many producers in the region.

Producer surveys: Two producer surveys were initiated in the first 3 years of REACCH. A longitudinal survey provides annual updates on the economic and environmental impacts of several conservation farming approaches used by wheat farmers, many of whom are noteworthy for experimenting with a new technology or innovative management in the region. A producer survey develops a picture of the farmer population throughout the region based on their current production practices

and perceptions of climate change. Although the survey results may not be used directly by farmers, they help scientists, industry, and other service providers to be better informed and directed to meet farmers' highest priority needs. When farmers candidly share opinions and information about their experiences in a confidential environment, they provide insights about their common concerns, barriers, and preferences. For example, by understanding economic inputs and outputs in various wheat-based farming systems we can help farmers proactively address future economic risks by creating tools to help them make profitable choices for their farm. Similarly, if we know that less reliable future precipitation is a concern for farmers, we can provide information about ways to reduce the associated risks by using improved irrigation practices, drought-tolerant wheat cultivars, or practices that improve soil moisture retention.

Decision tool for climate change communication: REACCH researchers are interviewing certified crop advisors (CCAs) and allied industry representatives to incorporate information from the producer survey they identified as important into a digital decision-support tool that assists with communication about climate change, and adaptation and mitigation practices. Farmers rely on CCAs and industry representatives to provide trustworthy and reliable support for farm management. It is therefore necessary for them to have access to current data and decision support in order to facilitate communication for identifying and choosing options for best practices. With their coopera-



Figure 1. Farmers interacting with researchers at the REACCH Field Day—Cook Farm, Pullman, Washington. Photo by Sylvia Kantor.



Figure 2. A farmer shares his experiences with growing alternative crops in Colfax, Washington. Photo by Dennis Roe.

tion, REACCH can provide them with a tool that allows them to access and organize complex information rapidly from many locations. For example, CCAs recognize the tension between increased reliance upon technology and loss of cultural management strategies. Knowing the degree to which a subpopulation of farmers relies on precision agriculture or other technologies can inform the way they communicate about adaptation to climate change—without breaking the bank or entirely changing the way they farm. Additionally, since findings from the REACCH producer survey are being incorporated into interview discussions, CCAs and industry representatives are able to gain a better understanding of the farmer constituency in their region.

Case studies: Several grower case studies are being developed by REACCH as digital documents that include short video pieces. The goal is to highlight farmers' conscientious efforts to improve their current farming strategies—strategies that may also allow them to adapt to a changing climate. The case studies focus on a variety of practices with specific environmental and economic benefits in four agroecological zones (AEZs), including: (1) variable-rate nitrogen application in the high rainfall zone; (2) intensive and alternative crop rotation in the intermediate rainfall zone; (3) flex cropping in the low rainfall zone; and (4) diverse crops, intensive rotation, and cover cropping in the irrigated zone. Each one examines how farmers make decisions and manage risk and offers suggestions about the challenges and benefits that farmers have experienced when implementing these practices. As research has shown, farmers are more likely to trust the knowledge and experience of their peers. Thus, case studies can improve the appreciation and unconventional but innovative farming practices and lead to their adoption. Observing conservation practices that are successfully used throughout the region allows farmers to evaluate options for improving practices on their own farm. Exposure to multiple examples encourages farmers to experiment and tailor approaches best suited for their needs and location.

Products from the three projects identified in this report are expected this coming year. Involving farmers and their associated stakeholders in needs assessments and resource development is crucial for creating effective education materials and decision support. In the face of new challenges, it is necessary to learn from past experiences. Farmers have tremendous creativity and experience when dealing with risks, and REACCH will continue to collaborate with them in meeting future challenges and opportunities.

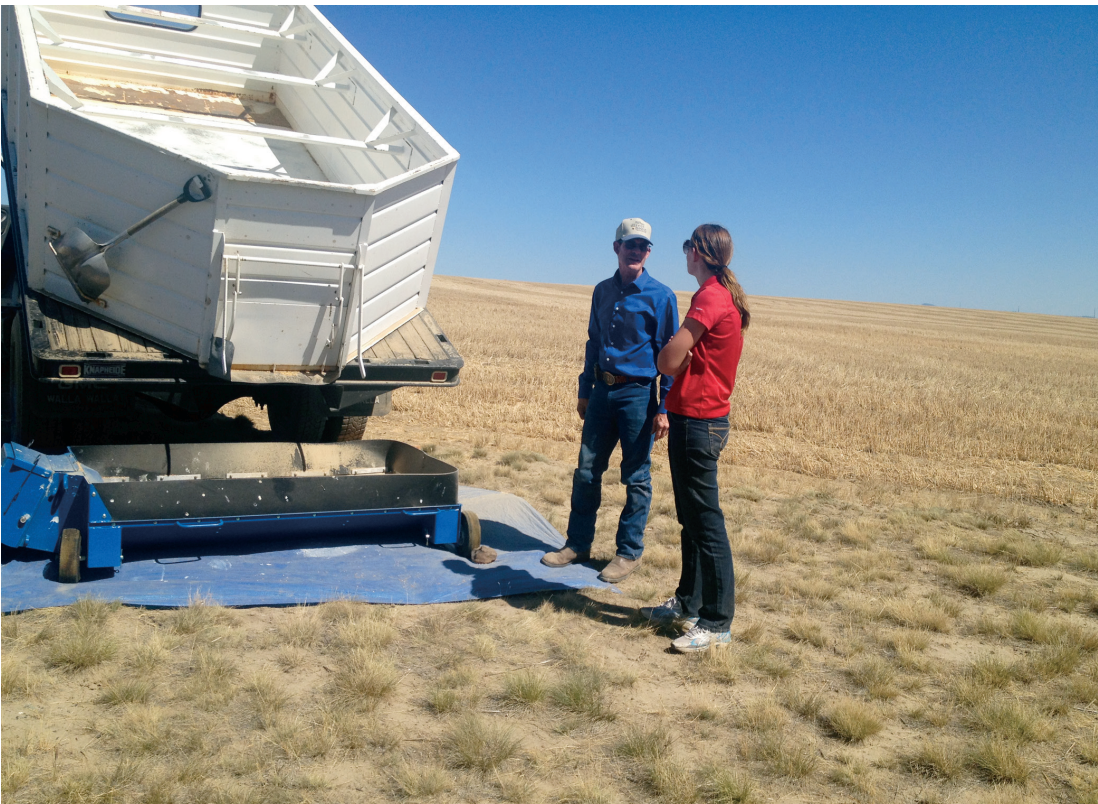


Figure 3. A REACCH graduate student discusses flex cropping with a grower in Lone, Oregon. Photo by Sylvia Kantor.