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## **Conducting Research on Private Farms and Ranches: Approaches, Issues, and Tips**

**Kimberly A. Nicholas**

Assistant Professor

Lund University Centre for Sustainability Studies

Lund, Sweden

[kimberly.nicholas.academic@gmail.com](mailto:kimberly.nicholas.academic@gmail.com)

**Eve-Lyn S. Hinckley**

NSF Earth Sciences Postdoctoral Fellow

Institute of Arctic and Alpine Research

Boulder, Colorado

[eve.hinckley@colorado.edu](mailto:eve.hinckley@colorado.edu)

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**Abstract:** We describe factors to consider when establishing collaborative research projects with agricultural growers, issues that can arise in establishing these relationships, and key steps that researchers can take to improve collaborations and increase the likelihood of project success. We conclude that the most important features of successful collaborations between researchers and agricultural cooperators include: (1) discussing research goals and objectives early in the project process, (2) identifying appropriate times and modes of communicating management and research activities, and (3) finding appropriate forums to disseminate research results to the participating growers and larger agricultural community.

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### **Importance of Researchers Partnering with Growers**

Both fundamental and applied insights can come from studies in which scientists partner with ranchers or farmers (collectively, "growers") to investigate a question of interest. Growers' input may range from granting researchers with land access to designing and carrying out the research. Together, scientists and growers can work to integrate their findings with management decision-making (Matson, Luers, Seto, Naylor, & Ortiz-Monasterio, 2005), foster collaborative problem solving (Hinkey, Ellenberg, & Kessler, 2005), and perform successful strategic planning for resource management (Lee, 1997). Regardless of the research question, the success of the dialogue between researchers and growers relies on building a strong partnership from the ground up.

We define partnerships between researchers and growers as "successful" when they result in scientifically and practically valuable information being collected, analyzed, and disseminated to academic and agricultural stakeholders. Communication and implementation of results can occur through a variety of forums, which may range from peer-reviewed journal articles to informal discussions. The researcher has the responsibility to communicate his or her findings to the relevant practitioners, agencies, and research groups. Informally, successful partnerships are also those where both parties had positive experiences and would be willing to undertake or allow research again. Surveys are one way to evaluate the success of a project and

identify areas for improvement (e.g., Mitchell et al., 2001). In general, partnerships between researchers and growers are built on mutual trust and understanding of the sometimes very different worlds of academia and agriculture.

In this Tools of the Trade summary, we draw on our own experiences conducting research in vineyards to identify strategies for creating effective research partnerships and dealing with common issues that can arise during different stages of a project. As academic researchers, unlike Extension agents, we did not receive training in effective outreach, but we found that establishing partnerships in working agriculture was essential to answer our research questions. Our audience includes both Extension agents and growers in an increasingly collaborative and resource-constrained world, where effective partnerships can determine the success of research enterprises.

## **Establishing Research Partnerships with Growers**

Fundamentally, agricultural systems provide outstanding opportunities to study human manipulation of Earth's land cover and soil structure, and intensive management of water and nutrients. In vineyards, cultivating winegrapes involves challenging, diverse management issues, such as canopy optimization, pest control, and addressing nutrient deficiencies. Field-based trials can provide important results that aid growers' management decisions and promote sustainability of the industry. For winegrowers, current environmental concerns include the impacts of climate change (Hayhoe et al., 2004), limited water resources (Langridge, Christian-Smith, & Lohse, 2006; Hinckley, Kendall, & Loague, 2008), and pressure to maintain ecosystem health and integrity (Merenlender, 2000).

Motivated by these issues, we began our research projects in the North Coast winegrowing region. Identifying grower partners interested in our research topics was our first major hurdle. We established initial contact with several growers through talking with a variety of groups. These included representatives at the local County Agricultural Commissioner's office, Extension agents, members of regional grower and trade organizations, and growers who had collaborated with our scientific colleagues in the past. In a matter of months, word traveled through the winegrowing community, and we were able to find collaborators who were interested in hosting our respective research projects. Through our experiences, we developed the following tips for building successful research collaborations.

## **Tips for Building Successful Collaborations**

### **Get Informed**

Growers are more likely to participate in, and benefit from, a study that addresses a question of personal or general industry interest, so spend some time reading trade journals and talking to growers to understand current concerns and questions in the field.

### **Define Your Project Goals**

A researcher should be forthcoming and transparent about his or her study goals, the intended uses of the project results, whether information will be shared publicly or published, and how the grower's privacy will be protected. In this way, the role of a researcher differs from that of an agricultural consultant, a distinction that the researcher should make clear. While both individuals may provide useful information to a grower, a researcher is focused on collecting data to provide new knowledge, while the consultant is supplying information to inform time-sensitive management decisions.

## Understand Each Side of the Partnership

Agricultural managers must respond in real time to shifting weather and market conditions; in winegrowing, the harvest will not wait. In contrast, academic projects can take years to establish and more years to analyze and write up to meet the standards of peer-reviewed journals. Research partners should understand the need for scientists to produce and share new knowledge, and for growers to have practical applications.

## Share Information

Growers can contribute to a project's success by weighing in with their observations and records to help shape the research direction and design, and introducing the scientist to staff members with whom they will interact.

## Communicate Frequently

Communication is vital to a successful collaboration between researcher and grower. In the agricultural context, this includes discussing the expected duration of the research project and the frequency and purpose of sampling events. The researcher and grower need to agree on the preferred mode of communication (e.g., phone, email, or in-person meetings). The researcher should plan to be in touch regularly to communicate the sampling schedule, get updates on shifting management plans, and share results with growers. An initial written plan for the research, including key objectives and dates, is helpful.

## Do Time

Finally, spending time in the field is the best way for a researcher to gain insight about the system from first-hand observations and to talk with people involved in managing day-to-day operations. Designing a research project from one's desk in a university office could lead to a trial design that is theoretically valid but impossible in practice. Incorporating the questions and suggestions of growers can enhance the research process and lead to a more relevant study. It is also critical that the researcher be physically present during activities important to his or her study question, such as harvest or irrigation.

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