

10 Steps for Conducting Research on Your Farm or Ranch



Lesson 4 Worksheet Design Your Project

The full workbook is available online or to order in print at www.sare.org/research-workbook.

ASSIGNMENT

The following assignments are provided to help you develop your research project. Later lessons will have you dive deeper into important parts of project design. And remember, we recommend you seek out additional support, through both publications (see www.sare.org/research) and consultants, as you do this assignment.

1. Describe your project design, using a slight variation on the classic list of questions:

- **WHAT** do you plan to do? What sort of experimental design will you use? What data will you collect?

- **HOW** will you set up and conduct your project? Is there a published method you'll follow? How many animals, plots, people, or other elements will your project involve?

Continued

- **WHERE** will you conduct your project? Do you have access to the land or facilities you need? Is the layout of the experimental design practical to manage with the equipment you have?

- **WHEN** does the project begin and end? How long will it take? Is this timeline consistent with constraints, such as the time limits for a grant-funded project? When will you apply your treatments? When will you collect samples, and how frequently will you collect them?

- **WHO** will do the work involved in this project? Think about who will obtain supplies, set up the project, collect and analyze data, write reports, and conduct any outreach activities, such as field demonstrations. Identify any outside contributors such as laboratories to analyze samples or process images. This person or people will need to balance the project with their regular duties.

2. Restate your hypothesis in terms of the specific data you plan to collect.

ASSIGNMENT SELF-EVALUATION

1. Does your design have an appropriate control? ☐ Yes ☐ No

If no control is needed, explain why not.

2. What's the relationship between the data you plan to collect and your hypothesis or objective? Have you selected the most reliable indicator of the effect you want to show?

3. Look at every kind of data you plan to collect. Is each piece necessary for determining whether your hypothesis or objectives are supported? If it's not necessary, collecting it is potentially a waste of your time and money.

☐ Yes ☐ No

4. If your data doesn't show what you think it will, what will you learn from this? Remember not to get discouraged by this outcome—even if it's not what you expected, you can still learn something that's potentially of value to you.

5. If you run this experiment, could your results be explained by any variables other than what you're testing? ☐ Yes ☐ No

If so, is there a way to adjust your design to minimize the effects of those variables?