

The Scientific Method



Research

- Agricultural research includes many topics
 - Animal Disease
 - Plant Disease
 - Crop Genetics
 - Invasive Species
- For specific examples you can use <http://www.ars.usda.gov/is/AR/>
- Research is an important part of life, identifying problems and using science to investigate

Research

- Research projects use the scientific method
 - Requires thought of the entire study from beginning to end
 - By using basic steps one can guarantee successful of completion of the project

The Scientific Method Steps

1. Observe an aspect of the universe or identify a problem
2. Formulate question(s)
 - Organize facts through a review of the literature
3. Develop a hypothesis
4. Use the hypothesis to make predictions and test
5. Report the results

DOE

- The design of experiment (DOE) elaborates on the research
- This will help you to map and organize all details of study
- The design of experiment apply statistics to your data

Experimental Design

1. State the objectives of the study and identify research components
2. Decide what type of data to collect
3. Determine the proper sample size
4. Choose the experimental units
5. Collect the data
6. Analyze the data
7. Report the results

Example of Research Study

- <http://www.youtube.com/watch?v=LsU6Q4XBwhc>



Application

- Get with a partner and think of 5 agricultural or horticultural problems that you could test with the scientific method