**Requirements:**

* 1. Describe how to prepare a seedbed. (.5 hours)
  2. Make and use a seed germination tester to test 50 seeds of four of the following plants: corn, cotton, alfalfa, soybeans, clover, wheat, rice, rye, barley. (1.5 hours)
     1. Determine the percentage of live seeds.
     2. You may ask your teacher for these seeds.
  3. Tell about one important insect pest and one important disease that damage each of the following: corn, small grains, cotton. Collect and name five weeds that compete with crops in your locality. Tell how to control these weeds without harming people, wildlife, or useful insects. (1 hour)
  4. On a map of the United States, identify the chief regions where corn, cotton, forage crops, small grain crops, and oil crops grow. Tell how climate and location of these regions make them leaders in the production of these crops. (1 hour)
  5. Complete ONE of the following alternatives:
     1. Corn (3 hours)
        1. Grow a plot of corn and have your plot inspected by your teacher. Record seed variety or experimental code number.
        2. Tell about modern methods of commercial corn farming and the contributions that corn makes to today's food and fuel supply.
        3. Tell about an insect that can damage corn, and explain how it affects corn production and how it is controlled.
     2. Forage Crops (3 hours)
        1. Collect, count, and label samples of each for display: perennial grasses, annual grasses, legumes, and broadleaf weeds. Indicate how each grass and legume is used. Keep a log of the site where you found each sample and share it with your teacher.
        2. Explain how legumes can be used to enrich the soil and how they may deplete it under certain conditions. Explain how livestock may enrich or deplete the soil.
        3. Name five poisonous plants that are dangerous to livestock, and tell the different ways of using forage crops as feed for livestock.
     3. Small Grains (3 hours)
        1. Give production figures for small grain crops listed in the U.S. Statistical Report or Agricultural Statistics Handbook for the latest year available. (found online)
        2. Help in harvesting a crop of grain. Tell how to reduce harvesting losses and about modern methods of growing one small grain crop.
        3. Visit a grain elevator, flour mill, cereal plant, feed or seed company. Talk with the operator. Take notes, and describe the processes used and tell your teacher, or class about your visit.
     4. Oil Crops (3 hours)
        1. Grow a plot of soybeans and have your plot inspected by your teacher.
        2. Modern methods of growing soybeans on a commercial scale, and discuss the contributions soybeans make to our food supply.
        3. Explain the uses of GMO soybeans and the types available.