

4-H CROPS & SOIL GUIDELINES

Helping youth develop life skills is part of the goal of 4-H. The following are guidelines for providing learning experiences in the crops and soil project area.

GENERAL GUIDELINES FOR ALL MEMBERS

- Understand soil management and its relation to high-quality crops.
- Understand the important relationship between cropping programs and other farm enterprises.
- Understand basic principles of plant growth.
- Gain an appreciation of the value of agricultural research.
- Acquire sound and resourceful soil and crop management practices.
- Explore career opportunities in crop and soil sciences.
- Understand the quality of exhibits - freedom from insect & disease damage.

CROPS & SOIL LEARNING EXPERIENCES

(These are some activities that members do to increase their knowledge and skills, activities should not be limited to those listed.)

Plant and Seed Identification:

- Make a collection of weeds and their seeds.
- Make a collection of crop plants and their seeds. Plant and seed identification forms are available.
- Make a collection of major Michigan crop plants and their seeds.
- Develop an illustrated key for identifying weeds of Michigan cereal plants and their seeds, and distribute it.

Crop Production:

- Grow one acre or more of a field crop.
- Perform a germination test on the seed before planting and correlate seed germination with field emergence.
- Measure the crop yield accurately and determine its moisture content.
- Keep accurate records of all cultural practices and cost of all farm inputs. Crops record cards are available from the Extension office.
- Demonstrate effects of planting rates, fertilizer rates, tillage practices, and other management practices on crop yield.
- Compare performance (field establishment) of inoculated alfalfa seed with that of non-inoculated seed.
- Study ways of disease control for important crops in your area.
- Compare the effectiveness of different herbicides for controlling weeds in different crops.
- Prepare an exhibit showing the marketing channels and processing cycle your crop undergoes from your farm to the ultimate consumer.

Soil Management:

Measure corn yield after spring plowing vs. fall plowing.
Measure the effect of three different nitrogen rates on crop yield.
Compare the yield of soybeans from banded vs. broadcast fertilizer application.
Compare soybean yields following conventional vs. foliar-applied fertilizers.
Compare corn yield using different locations of banded fertilizer placement.
Measure the fertility level of soils under different cropping systems by soil tests.
Compare the yield of irrigated vs. non-irrigated corn on sandy vs. non-sandy soils.
Measure the loss of nutrients from cropping areas by collecting runoff water samples and having them analyzed.
Perform a study of crop performance in soil with poor structure (compacted) vs. that growing in soil with a good structure.

Plant Science:

Germinate seeds of various crops in a window box.
Draw a picture of a bean seed and label its parts.
Study the influence of light on plant growth.
Prepare an exhibit to illustrate how hybrid corn is produced.
Compare the germination of 1-year-old vs. 2-year-old vs. 3-year-old seed.
Perform a cold test of corn or soybean seed and compare the results with germination in warm soil.
Perform a tetrazolium test for seed viability and compare the results with a standard germination test.
Study the effect of relative humidity on the decline of seed viability.

Turfgrass Science:

Experiment with different mowing heights.
Perform fertility experiments.
Develop a lawn maintenance program for a summer job.
Establish a small plot by seeding and by sodding.
Develop and record a complete maintenance program for different turf use programs.
Develop a key for turf species and one for weeds associated with them.

4-H FAIR CLASSES FOR CROPS

General Information:

1. Exhibits to be grown by exhibitor. No borrowed or purchased exhibits to be included.
2. Where appropriate, select for uniformity of size, shape, and color, trueness to variety, quality and market condition.
3. An exhibit that does not meet the established criteria for a class will be dropped one grade.
4. Attach index card to exhibit tag if member is disabled or has reached his/her capability. Use card to briefly explain this.
5. Exhibitors should relax while talking with the judge and understand the

background, variety, practices, and uses of the crops. Exhibits should be free from insect and disease damage.

DIVISION – AGRONOMY

SECTION - SMALL GRAIN (Only 4 entries per exhibitor in this section; where appropriate, may display in gallon jugs.)

Class

- * Peck previous year's Shelled Corn
- * 10 ears previous year's Yellow Corn
- * 10 ears previous year's Popcorn
- * 3 stalks current year's Field Corn
- * Peck or sheaf of current year's Wheat
- * Peck or sheaf of current year's Oats
- * Peck or sheaf of current year's Barley
- * Peck previous year's White Pea Beans
- * Peck previous year's Soybeans
- * First Cutting Alfalfa
- * Second Cutting Alfalfa
- * Peck previous year's High Moisture Shelled Corn
- * 3 current year's soybean plants
- * 3 current year's navy bean plants

SECTION – POTATOES

- * 20 Tubers, current year's crop

SECTION – OTHER EDUCATIONAL CROP EXHIBITS

- * An exhibit showing a crop growth experiment of at least 10 mounted weeds and their seeds properly labeled; or at least 10 mounted field crops and their seeds properly labeled; or posters on crops.
- * Notebooks as sole exhibit