

# Plants/ Crops



- 8 -

## CROPS & WEEDS – (GCA)

### AGRONOMY

#### BEGINNERS

(1-2 years in project/9-11 years old)

#### SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Learn about seeds and fertilizer.
2. Learn how to take a soil sample.
3. Learn how to prepare the soil and plant.
4. Learn about harvesting and storing.
5. Learn how to keep records.

#### SUGGESTED PROJECTS FOR BEGINNERS

- Compare certified and uncertified seed of the same variety.
- Compare crop varieties.
- Soil temperature, soil sampling, and testing.
- Complete field crop records.
- Complete educational exhibit to enter at Jackson County Fair.

#### INTERMEDIATES

(3-4 years in project/12-14 years old)

#### SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Learn about controlling disease, insects, and weeds.
2. Learn how to apply fertilizer.
3. Know irrigation principles.
4. Learn definitions of terms.
5. Learn practical application of scientific principles to crop production such as germination and rotation.

#### SUGGESTED PROJECTS FOR INTERMEDIATES

- Compare results of no fertilizer with recommended and twice recommended fertilizer.
- Compare excess tillage vs. minimum tillage.
- Visit with County MSU Extension Agent.
- Visit farmers' co-op and/or MSU Agriculture Experiment Station.
- Complete field crops records for crop raised.
- Complete educational exhibit to enter at Jackson County Fair.
- Tour a seed company.

- 9 -

### ADVANCED

(5+ years in project/15+ years old)

#### SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Learn practical application of scientific principles to crop production.
2. Learn about marketing and utilization of crops.
3. Become a teen leader in this project.
4. Learn about careers in field crops.
5. Assist younger members with their projects.
6. Learn about grain grading factors.

#### SUGGESTED PROJECTS FOR ADVANCED

- Complete field crop records. Prepare demonstrations and present them at different events.
- Do a report/educational exhibit on grain preferences around the world to enter at Jackson County Fair.
- Know the role of cereals in world food production.
- Study a career in this project area.

- 10 -

## CROPS & WEEDS – (GCA)

### SMALL GRAINS

#### BEGINNERS

(1-2 years in project/9-11 years old)

#### SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Learn about small grains and their importance to Michigan.
2. Learn practical application of scientific principles to crop production.
3. Learn about seeds and fertilizer.
4. Learn how to keep records.
5. Learn to prepare soil, plant, and apply fertilizer.

#### SUGGESTED PROJECTS FOR BEGINNERS

- Compare certified and uncertified seed of the same variety.
- Compare results of no fertilizer with recommended and twice recommended.
- Complete records for small grains raised.

#### INTERMEDIATES

(3-4 years in project/12-14 years old)

#### SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Learn about uses of small grains.
2. Learn about controlling disease, insects, and weeds.

#### SUGGESTED PROJECTS FOR INTERMEDIATES

- Use one of the recommended herbicides on a small area.
- Use at least two different rates of planting.
- Complete records for small grains raised.

#### ADVANCED

(5+ years in project/15+ years old)

#### SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Become a teen leader in this project.
2. Study a career in this project.
3. Plan and conduct field trips.
4. Demonstrate your skills and knowledge to other members.

- 11 -

SUGGESTED PROJECTS FOR ADVANCED

- Grain grading factors.
- Quality factors in international trade.
- Role of cereals in world food production.
- Different grain preferences around the world.

**PLANT SCIENCE - (HBG)**

**BEGINNERS  
(1-2 years in project/9-11 years old)**

SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Learn about soil.
2. Learn effects of water, temperature, and light on plant growth.
3. Learn parts of plants and flowers.
4. Learn how plants reproduce.
5. Learn how to grow and use plants.

SUGGESTED PROJECTS FOR BEGINNERS

- Visit an orchard, greenhouse, and/or nursery.
- Prepare a poster presenting information learned with captions.
- Do an educational exhibit and enter it in the Jackson County Fair.

**INTERMEDIATES  
(3-4 years in project/12-14 years old)**

SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Learn about integrated pest management.
2. Learn more about soil structure, texture, and characteristics.
3. Learn how to germinate seeds, cross-breed plants, grow plants from bulbs, about grafting and budding.
4. Learn about plant diseases.
5. Prepare seed mounts of different crop and weed species.

SUGGESTED PROJECTS FOR INTERMEDIATES

- Visit a local seed dealer, research facility, plant nursery, fertilizer manufacturer, local farms, County MSU Extension Agent, and/or soil testing lab.
- Participate in a land judging contest.
- Prepare a display presenting information learned.
- Do an educational exhibit and enter it in the Jackson County Fair.

**ADVANCED  
(5+ years in project/15+ years old)**

SUGGESTED KNOWLEDGE / SKILLS TO BE LEARNED

1. Become a teen leader in this project.
2. Explore career opportunities in plant and soil sciences.
3. Study plant biotechnology and genetic engineering.

SUGGESTED PROJECTS FOR ADVANCED

- Visit places/people not visited as an intermediate.
- Assist leader with younger members, field trips, demonstrations, etc.
- Prepare a display presenting information learned.
- Do an educational exhibit and enter it in the Jackson County Fair.