

# Crops

## GOALS:

- How to keep accurate crop records
- Small Grains: Include a Crop Record Sheet!
- Small grains should be sorted. Entries will be judged on cleanliness, grain size, color, evidence of mechanical damage and disease.

## Classes:

- Wheat (4 quarts)
- Oats (4 quarts)
- Any other small grain

## **Field Crops: Include a Crop Record Sheet! (see last page)**

- Corn stalks should be clean and free of insect damage and cut just above the root system.
- Stalks should be tied together.
- Corn ears will be judged on uniformity of size and length, fullness of ears, straightness of rows, evidence of mechanical damage and disease. Ears should be clean, free of mold and insect damage at time of judging.
- Soybeans should be sorted and will be judged on cleanliness, bean size, color, evidence of mechanical damage or disease.
- Soybean stalks should include roots. Soybean plants will be judged on root system, number of pods, fullness of pods, maturity of plants, height of plants, degree of nodulation of roots and insect damage. Stalks should be tied.
- Potatoes should be cleaned and uniform in size and appearance.
- Hay must be one whole bale. Hay will be judged on stem quality, odor, leafiness, freedom from weeds, mold, foreign matter, insects and insect damage.

## Classes:

- Corn (4 stalks or 10 ears of previous year's corn)
- Soybeans (4 quarts or 12 stalks)
- Potatoes (display of 32)
- Hay (1 whole field bale of alfalfa, clover or mixed)
- Any other not listed above.

## Crop Science:

- Exhibit 20 labeled mounted weeds
- Exhibit on lawn management or crop production showing samples of crops, soils, fertilizers, etc.

## **Soil Science:**

- Educational exhibit: maybe poster, notebook or 3-D exhibit
- Fruit and Nuts
- One quart container of nuts
- One plate of fruit grown or planted
- Educational exhibit

# CROPS RECORD SHEET AND SUMMARY

CROP \_\_\_\_\_

\_\_\_\_\_ 19\_\_\_\_

NAME \_\_\_\_\_ ADDRESS \_\_\_\_\_

### 1. Description of Field

- a. Size of field \_\_\_\_\_ acres \_\_\_\_\_
- b. Kind of soil (texture) \_\_\_\_\_
- c. Topography  level  rolling  hilly
- d. Drainage  good  fair  poor

### 2. Previous Crops Grown

- a. Last year \_\_\_\_\_
- b. 2 years ago \_\_\_\_\_
- c. 3 years ago \_\_\_\_\_

### 3. Soil Test Report from Soil Lab

- a. pH \_\_\_\_\_
- b. P<sub>2</sub>O<sub>5</sub>  high  medium  low
- c. K<sub>2</sub>O  high  medium  low
- d. Would crops be benefited by the use of lime?  
 yes  no

### 4. Fertilizer Used

- a. Loads of barnyard manure per A. \_\_\_\_\_
- b. Commercial fertilizer broadcast.  
\_\_\_\_\_ lbs. per A. Analysis \_\_\_\_\_
- c. Commercial fertilizer in the row.  
\_\_\_\_\_ lbs. per A. Analysis \_\_\_\_\_
- d. Commercial fertilizer side dressing.  
\_\_\_\_\_ lbs. per A. Analysis \_\_\_\_\_

### 5. Preparation of Soil

- a. Date of soil preparation \_\_\_\_\_
- b. Kind of fitting tools used \_\_\_\_\_
- c. Did you try to use minimum tillage?  
 yes  no

### 6. \*Condition of the Soil at Planting Time? \_\_\_\_\_

\_\_\_\_\_

### 7. Seed

- a. Variety \_\_\_\_\_
- b. Was certified or hybrid seed used?  yes  no
- c. Was seed treated for disease?  yes  no
- d. If treated what chemical was used? \_\_\_\_\_

Was the seed tested for germination?  
 yes  no \_\_\_\_\_ %

### 8. Planting

- a. Amount of seed used per A? \_\_\_\_\_
- b. Date of planting \_\_\_\_\_
- c. Row crops—distance between rows \_\_\_\_\_  
—spacing in rows \_\_\_\_\_
- d. If potatoes, was seed cut?  
 yes  no
- e. Would your drill keep the fertilizer away from the seed?  
 yes  no

- f. Did you get the crops planted on time?  
 yes  no

### 9. Stand

- a. Did you get a good stand?  yes  no  
If not, what happened? \_\_\_\_\_

\_\_\_\_\_

- b. Population (corn) \_\_\_\_\_

### 10. Cultivation

- a. No. times cultivated \_\_\_\_\_
- b. No. times hoed \_\_\_\_\_
- c. Were chemical weed killers used?  yes  no
- d. If used, indicate kind, amount and when applied.  
\_\_\_\_\_

- e. Did this kill the weeds?  yes  no

### 11. Insects and Diseases

- a. What were your major insect & disease problems?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- b. Treatments to control them. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- c. No. of times sprayed \_\_\_\_\_  
Materials used \_\_\_\_\_

- d. No. of times dusted \_\_\_\_\_  
Materials used \_\_\_\_\_

### 12. Harvesting

- a. Date of harvesting \_\_\_\_\_

- b. Method of harvesting \_\_\_\_\_  
\_\_\_\_\_

- c. Total yield \_\_\_\_\_

- d. Yield of Marketable Crop \_\_\_\_\_

- e. Average yield per Acre \_\_\_\_\_

- f. Major harvesting problems \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\*Too wet, too dry, lumpy, etc.

## Financial Statement

If this project is a joint program between the 4-H member and the parent, then indicate share of income and expenses for each.

Use suggested rates per acre for machinery charges.

	Expenses	Income
Member	_____ %	_____ %
Parent	_____ %	_____ %

	Total Crop	Member's Share	Parent's Share
<b>1. Receipts</b>			
Yield of crop _____ bu. cwt., T @ \$ _____ per unit	\$ _____	_____	_____
Prizes (list) _____	_____	_____	_____
Others (specify) _____	_____	_____	_____
<b>Total Receipts</b>	<b>\$ _____</b>	_____	_____
<b>2. Production Expenses</b>			
Rent of land—use local cost per acre .....	\$ _____	_____	_____
Cost of seed and treatment .....	_____	_____	_____
Cost of chemicals, weed, disease & insect control .....	_____	_____	_____
Cost of commercial fertilizer .....	_____	_____	_____
Labor charge            club member _____ Hrs. @ _____	_____	_____	_____
adult            _____ Hrs. @ _____	_____	_____	_____
(use local labor rates)			
Tractor operating charges .....	_____	_____	_____
Other machinery charges—see note below .....	_____	_____	_____
Cost of custom work hired .....	_____	_____	_____
<b>Total Expense</b>	<b>\$ _____</b>	<b>\$ _____</b>	<b>\$ _____</b>
<b>Profit or loss (value less cost)</b>			

Note: Suggested Rates for Machinery Charges—Refer to MSU Bulletin E-0458, *Rates for Custom Work in Michigan*

Fertilizer Recommendations—Refer to MSU Bulletin E-0550, *Fertilizer Recommendations*

**Project Story:** Describe your experiences in completing this crops project.

(Use a separate sheet of paper if necessary.)



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1P-2M-4:84-MSU 4-H

## 4-H FLOWER INFORMATION PACKET

### 4-H Flower Project Objectives:

- Understand the process of sowing, planting, growing, and maintaining a flower garden.
  - Have fun with horticulture and realize the importance of horticulture as a leisure activity.
  - Develop a sense of accomplishment through raising and caring for a flower garden.
  - Develop creativity through gardening.
  - Understand the difference between different types of flowering plants (annuals, perennials, varieties, etc.).
  - To imagine and gain a working knowledge of influences that affect a landscape plan including flowers (height, color, spacing, etc.).
- bullet Understand the importance of improving our environment by landscaping.

### GETTING FLOWERS READY FOR EXHIBIT

1. Read the Fair book at home before picking flowers. If the book says 3 or 5 flowers, use only 3 or 5 flowers. It's ok to take more flowers with you so if one gets damaged on the way to the Fair you can replace it. But, take only the correct amount to the judge.
2. Choosing and Preparing for exhibit: Cut stems as long as possible with foliage. Cut flower stems at an angle with a knife and put in water immediately. Foliage is as important as the flower. Look for good green color. If you need to clean the foliage do so under running water, being careful not to bruise the foliage. Grooming the foliage is necessary. If there are holes (caused by insects) in the middle of the leaf, carefully remove the whole leaf. If there is some damage on the edge of the leaf, trim the edges with sharp shears. Remember, there should be no foliage in the water of the exhibit container. When selecting flowers, be choosy. Don't select a flower that has insect damage. Flowers should be close to but not a maturity. Do not select flowers that are old or past their prime. The flower color should be bright with no brown edges. Also, if you are exhibiting 3 or 5 flowers of the same species, the flowers should be close to the same size as possible.
3. Conditioning: When picking flowers pick more than you will need for your exhibit. The evening before put flowers and plant material in a container larger than exhibit container so the foliage is not crowded or damaged. The flowers should be in this larger water container for at least 2-4 hours at room temperature. Be careful to not get the flower heads wet. Do not remove all of the foliage from the flower stem, only leaves that have been chewed on by insects. When you need to shorten the flower stem, re-cut under water.
4. Exhibit Container: Select a container in proportion to the flowers and stems; a small jar for marigolds, a tall, sturdy jar for glads. You do not have to purchase a vase. You can use food container jars that have been washed and had their labels completely removed. There will be a few containers at the Fair.

### LEARNING ACTIVITIES

Have a flower identification party by having each member buy five types of flowers and talk about them.

Have each member develop a garden plan.

Have each member start a garden photo book.

Experiment with various flower arrangement styles and techniques; each member can take home a table arrangement.

Make corsages for each Community Club officer and/or leader to wear at an annual club or County event.

Visit each member's gardens and start a club photo album.

Plant flowering plants in a public space for others to enjoy – (wildflowers, spring flowering bulbs, etc.)

Develop a naturalized garden using native plants.

Get involved in area flower shows.

Perform color experiments to develop an understanding of the use of color in the garden.

Experiment with soils – plant the same variety of plant in different soil mixtures and document the results.

### **RESOURCES:**

4H 1337 4-H Flower Gardening Project Guide

M-257 Dried Flowers in Minutes

M-258 Gardening Resources

## ***PROLONGING THE BEAUTY OF CUT PLANT MATERIAL FOR YOUR 4-H FAIR EXHIBIT AND YOUR HOME***

### **CUTTING PLANT MATERIAL**

Gather one to three days before the show.

Carry a container of water with you to the garden in which to immediately place cut specimen. There is less chance for air to block the stems and cause premature wilting.

Cut in the late afternoon, after the sun is down, or early in the morning before the dew is dried.

Never cut when the sun is shining directly on flowers.

Cut soft stems on a slant with a sharp knife one or two inches longer than desired.

Choose blooms with firm, long stems in good proportion to size of bloom. In specimens with more than one bloom on stem, there should be some buds, some nearly open and some full blooms. None should be past prime.

Use sharp pruning shears or a small saw for heavy branches. But hollow stems through the node (swelling in stem where leaf or stems are formed).

Most single or semi-single flowers would be cut in bud stage and allowed to open in the house.

Those double in form and of dark shades should be cut when about ¼ to 1/3 open.

### **CONDITIONING PLANT MATERIAL**

Choose a conditioning container that is made of glass, pottery, plastic, or other non-rusting materials. Containers should be roomy and clean. Wash them after each use.

Use clean, fresh water always. Let faucet water stand in conditioning pails for at least 10 minutes before flowers are placed in them.

Condition in a darkened room. Use deep water. Handle flowers quickly by their stems and as little as possible. When working with them place on table with blooms extended over edge.

Spray residues should be washed off, a few damaged or scorched petals may be removed from back of bloom, if done carefully. If foliage grows on stem, it should be in good condition, clean, insect damage free, and healthy. Stem and foliage should be in proportion to the bloom.

Flowers will benefit if the stem is held under water and re-cut and then left in the water. It reduces chance of having an air bubble in stem.

For small flowers place a paper over the conditioning pail and slip stems through to keep blooms from getting into water.

Condition for at least 8 hours, preferably over night. Avoid close atmospheres.

Free circulation is essential but avoid drafts. Keep away from heating units. A high humidity is helpful. Spray a fine mist over and around, but never directly on flowers.

If conditioning for specimen bloom, keep on foliage; if for an arrangement remove foliage below water line.

Cut flowers have three pet peeves – draft, dry heat and direct sunlight.

### **WOODY BRANCHES**

Crab apples, flowering quince, lilacs, chrysanthemums, etc. Cut when partially in bud. Split stems and remove foliage below water line. Choose a branch with blooms evenly spaced along the stem with some open and some ½ open blooms, and some in bud. Foliage must be clean and free of damage.

### **STEMS WITH MILKY OR COLORLESS FLUID**

Campanulas, poppies, hosta, maiden hair fern, etc.

Push stems through thick paper (2-3 sheets of newspaper).

Fold paper gently around flowers and place exposed stem ends into 1 to 2 inches of boiling water for 1 to 3 minutes.

Or, split stems for an inch and char in a flame (a chandle will do). If stems are re-cut they must be seared again. The reason for burning is that the stems exude a form of latex, and unless this is destroyed, water cannot be drawn up satisfactorily and flowers will soon wilt. Place treated stems in conditioning containers at once.

### **HOLLOW OR HAIRY STEMS**

Hollyhocks, calendulas, peonies, stocks, dahlies, for-get-me-nots, heliotrope, etc.

Place in hot water (not boiling) until water cools, then add more cold water and let stand.

### **SWEET DIET**

Some experiments have shown that a little sugar (generally about 4 tsp. To 1 qt of water) will prolong life in aquilegias, asters, delphiniums, nigella, petunias, sweet peas.

### **ROSES**

Hybrid teas should be shown disbudded, with no evidence of recent disbudding. A rose should be ½ to 2/3 open when it is judged. The stem and foliage count a great deal in the scale of points.

### **TRANSPORTING ARRANGEMENTS AND SPECIMENS**

Re-cut stems under water, carry in as deep water as practical for transporting. Avoid drafts, extremes of heat or cold or over crowding. Hold container firmly in place; you may use dampened newspaper. Cover box with plastic. If arrangement is made the night before, keep it in a cool, dark room. Always carry a few extra flowers in case of damage.

Some fragile flowers like iris, lilies, gladiolus, may be packed in florist boxes, line with wax paper. Do not lay blooms on top of each other, cushion them. Carry others in jars firmly packed and covered, never crowded.

# VEGETABLE GARDENING

- Exhibitors do not have to exhibit a notebook but may if they wish.
- Exhibits shall include a display of garden vegetables from member's own garden.
- Beginner must have three or more varieties of vegetables.
- Advanced gardener must exhibit five or more varieties from their garden.
- Master gardener must exhibit seven or more varieties from their garden (one being a bush or stalk variety, one a vine vegetable and one a root vegetable). Master gardener must enter a vegetable plant exhibit and Master gardener exhibit (education exhibit on experiment affecting yield of one vegetable or education exhibit demonstrating a good gardening practice).

## Classes:

- Garden Notebook: keep a record of your garden.
- Plate exhibit
- Master Gardener Exhibit
- Container Gardening – Three containers of 3 or more varieties, container volume 5 gallon maximum or three containers of 3 or more herb varieties plus poster showing use of herbs, container volume 5 gallon maximum.
- Commercial Gardening
- Basic Plant Science
- Miscellaneous: Exhibit largest variety (exhibits vary year to year, those selected for 2001 are the longest cucumber and 3 heaviest tomatoes, acceptable if green). Provide fact sheet, which will include the following: variety, germination date, fertilization information, pest control and harvest date.
- There are bulletins for Novice, Advanced and Master gardening levels available at the 4-H office. They cover many topics to help you get started and have a successful project.
  
- Here are a few of the topics with examples.
  - Getting Started: You probably already know what kind of vegetables you would like to grow this year. The first thing you will have to do is get together with your project leader or your mom or dad and make sure that your favorite vegetable will grow well. Vegetable seeds are available from seed catalog companies or locally. Garden shops will also have seedlings available in the spring. Reading directions.
  - Planning, Planning and More Planning: As a novice gardener planning your garden will be really easy. If your parents have a garden ask them if it is ok to grow a few plants next to their plants. If you are keeping a notebook draw a map of their garden and mark where your plants will be. You can use crayons or colored pencils to show the different plants and the rows.
  - The Two Rules: If this is the first time you have ever had a garden at your house or apartment and you want to have a super garden follow these two rules: start small and have lots of sunshine. It is better to have a small garden that is easy to water and weed than to have a big garden. If you want a garden that is easy to weed try making one that is 4 feet wide and 9 feet long. If you want a garden that has rows in it to walk between try making one that is 10 feet wide and 12 feet long. Don't make it any bigger than this.

Vegetables need plenty of sunshine. Locate your garden away from large trees and buildings where there is too much shade. It is a good idea to plant the vegetables that will grow the tallest (corn, tomatoes and pole beans on the north side of your garden. This way your tall vegetables won't shade your shorter vegetables.

- Gardening Tools and Safety: It is important to know the correct way to use them. Steel rake, hoe, spade, hand trowel, string and yardstick are a few of the tools you may use.
- When To Start Planting: A real good way to figure out when to start planting is to ask somebody else. Some vegetables take a long time to grow, others like cool weather and of course you want your vegetables ready to show at the fair. Get a calendar that is just for your vegetable garden project and figure out when to plant your seeds and seedlings. If your keeping a notebook make sure your calendar is in it.
- Vegetables Are Boring: If your garden is all planted and it doesn't look like anything is happening try some boredom busters included in the bulletins.
- Insects and Pests: good or bad and what to do about them.
- Fertilizer/ Insecticides: proper use and handling skills.
- Organic Gardening: using methods or products that come directly from nature.
- Getting Ready For the Kalamazoo County Fair: If you are taking a notebook or vegetables to the fair one thing is important. PRESENTATION. Our 4-H bulletins will help you prepare for the fair.