

4-H

cy

Horticulture

PROJECTS

TRUCK GARDENING
GARDENING
FRUIT



Circular 316

Extension Division
Shawnee Brown, Director
Oklahoma A. & M. College
Stillwater, Oklahoma

4-H HORTICULTURE PROJECTS

Prepared by

Extension Service

Oklahoma A. and M. College

Introduction

Four lines of project work are included under the general heading of horticulture. These are: (1) home gardening, (2) truck gardening, (3) fruit growing, and (4) pecan growing. There are several different activities involved in connection with each of these projects, and there is also a wide selection of vegetables and fruits that club members may grow. It is the object of this bulletin to outline briefly the requirements of each of these projects and to indicate where club members may secure the information they need to make a success of their project work. These are separate horticulture projects open to both girls and boys who wish to carry on this type of project work. These four horticulture projects should not be confused with the gardening work required of 4-H Club girls in each of the seven girl's manuals.

KEEPING RECORDS: Records are necessary in order to progress and provide a means of determining accomplishments. They also serve as a basis for making awards. Special awards may be made from year to year to encourage these projects. Such awards will be explained by coaches and agents. Start your project work by setting up a uniform set of record sheets. Keep a general 4-H record book, and include a definite section in it for each project.

Prepared record sheets may be secured from the county agent's office. Plain white sheets are also available and will fit into a loose leaf notebook. Sheets can be ruled off and headings provided for records needed in each project on which prepared sheets are not available.

The following page headings are suggested for recording of the various phases of horticulture project work.

Planting and Production Record

Sheet 1.

PROJECT..... YEAR.....

Kind of Vegetable of Fruit Variety	(List Each Variety Separately)	Date Planted	No. of Plants Feet of Row or Area Grown	Amount Produced (lbs. or bu.)
Example: Irish Potatoes	Bliss Triumph	3-5-52	535 ft.	423 lbs.

TOTAL PRODUCTION.....

Utilization and Sales Record

Sheet 2.

PROJECT..... YEAR.....

Crop	Amount	Use				Value
		Table	Preserved	Stored	Sold	
Ex. Potatoes	423 lbs.	46 lbs.		123 lbs	254 lbs	\$11.17
Totals						

Summary:

Value of Products Sold \$..... Value of Products on Hand \$.....
 Value of Products Used at Home \$..... Total \$.....

Production Costs

Sheet 3.

PROJECT..... YEAR.....

NOTE: List all items of cost involved in producing and selling or using the crops involved. Where no outlay money was involved estimate costs and mark "est."

Item	Cost
Example: Plowing and Preparing Soil	\$11.25
Total	
Total Value of Products \$	Profit or Loss \$

Supplemental Report

Sheet 4.

PROJECT..... YEAR.....

NOTE: List remarks relative to production, utilization, and costs records of project.

Plot Outline

Sheet 5.

PROJECT..... YEAR.....

NOTE: Draw a plan of your garden plot, truck patch, or fruit project, locating crops you have planted.

Potatoes

Beans

Narrative

Sheet 6.

PROJECT YEAR

NOTE: Write a 200 to 300-word story of your project activities during the past year.

Fruit Growing Activities

Sheet 7.

YEAR

NOTE: List in narrative form the fruit growing activities carried on during year in meeting requirements of this phase of the fruit growing project.

Exhibit Record

Sheet 8.

PROJECT YEAR

Year	Exhibits Made	Prize Won	Cash Award
Example: 1952	Johnathan Apples	2nd	\$.75

HOME GARDENING

PURPOSE: To give 4-H Club members the opportunity of learning first hand what it takes to grow vegetables in a home garden in Oklahoma.

The following items are of special importance. 1. Learn to identify common garden insects and disease pests and the control of each. 2. Learn and demonstrate good farming practices such as (a) fall manuring and plowing, (b) proper seedbed preparation, (c) the importance of timely plantings, (d) proper methods of cultivation, and (e) how to use lime, phosphate, and commercial fertilizer. 3. Learn to identify common varieties of the vegetable crops in Oklahoma. 4. Learn the value of planning by making a garden plan and following it. 5. Learn the seasons in your particular locality, including (a) average date of last killing frost in the spring and the first killing frost in the fall, (b) the number of frost free growing days in an average season, and (c) the amount and distribution of rainfall during the year. 6. Become familiar with the vegetables and varieties best adapted locally and when each should be planted for best results.

PROJECT REQUIREMENTS: Each home garden club member should grow a garden at least 2,500 square feet in size. This is a plot 50 x 50 feet. The garden should include at least 10 different kinds of vegetables. An accurate record should be kept listing the crops and

varieties planted, date of planting, total products produced, cost involved, and value of products sold or used at home. It is also desirable to keep a record of the approximate time spent in the garden and the cost of seed, fertilizer, and other materials.

Notes should be kept on soil preparation, cultivation, and pest control. Such records are needed in order to answer questions and to write a story of your project work. Suggested Sheets No. 1, 2, 3, 4, 5, 6, and 8 are adapted for recording your project work.

Club members may use the family garden in this project by assisting with its planning, planting, and cultivation, and by keeping the necessary records. In any case, select vegetables for planting based on family needs and preferences.

Home Gardening Bulletins:

Oklahoma Extension Circulars No. 196, "Home Vegetable Garden"; No. 414, "Vegetable Insect Control"; No. 443, "Varieties of Vegetables for Oklahoma"; No. 448, "Improving Garden Soil Fertility"; No. 486, "Fall Gardening"; No. 487, "An Oklahoma Garden Guide," and also mimeograph materials.

EXHIBITS: The standard state and county fair exhibit for club members enrolled in the home garden project is six different garden seeds put up in pint jars. The amount of the various seeds required to make up an exhibit is as follows:

Beans	1 pint	Peas (English)	1 pint
Beets	4 tablespoons	Peas (Edible)	1 pint
Cantaloupes	4 tablespoons	Peppers	4 tablespoons
Carrot	4 tablespoons	Pumpkin	1 pint
Cucumber	4 tablespoons	Radishes	4 tablespoons
Eggplant	4 tablespoons	Spinach	1 pint
Lettuce	4 tablespoons	Squash	1 pint
Mustard	4 tablespoons	Sweet corn	1 pint
New Zealand		Pop corn	1 pint
Spinach	4 tablespoons	Swiss chard	4 tablespoons
Okra	4 tablespoons	Tomatoes	4 tablespoons
Onion sets (winter)	1 pint	Turnips	4 tablespoons
Parsnip	4 tablespoons	Watermelons	1 pint

In selecting seed for an exhibit, consider the following score card which lists the points considered when judging garden seed.

Purity	30
Size	20
Uniformity	15
Freedom from insects, diseases and mechanical injury ...	20
Full measure	15
Total	100

Tomatoes are always a good crop in the 4-H club. garden



PURITY—Free from foreign seed, trash, or dirt.

SIZE—The seed shall be up to standard of its kind.

UNIFORMITY—Under uniformity should be considered size and color.

FREEDOM FROM INSECTS, DISEASE, AND MECHANICAL INJURY—The specimens should be free from insect attack, rots, molds, scab, and cuts.

FULL MEASURE—See above lists for amount of seed required of each kind.

For suggestions on how best to harvest and store seed, secure OP Leaflet 37, "Save Seed."

In addition to the garden seed exhibit, club members should make exhibits of their fresh vegetables at local flower and vegetable shows and fairs. When making such exhibits be sure to prepare the right amounts for each exhibit. As a general rule medium sized products of uniform size, shape, and color, free of insect diseases and mechanical injury, will place well in any show.

TRUCK GARDENING

This project is especially recommended for 4-H Club boys and girls interested in growing vegetables for market. Older club members living on farms where truck crops are grown for sale to canneries on the fresh market should be especially interested in this project.

The list of vegetables being grown on a commercial scale here in Oklahoma at the present time include: Irish potatoes, sweet potatoes, watermelons, spinach, snap beans, sweet corn, popcorn, tomatoes, onions, cantaloupes, and cucumbers. Club members living near a city market may want to grow an assortment of vegetables to be sold on this market. The production of vegetable plants, tomatoes, peppers, sweet potatoes, etc., would also come under the heading of this project.

Purpose: To give club members the opportunity of testing and demonstrating good truck growing practices in their communities. To provide first hand experience in the production of truck crops, costs involved, best methods of soil preparation, cultivation, fertilization, pest control, harvesting, marketing, etc. To give club members a chance to become familiar with marketing and sales procedures,

especially as to grading, packing, inspecting, shipping, and selling.

The following items are of special importance. 1. Become familiar with the popular variety of varieties of the crop or crops being grown. 2. Learn common insect and disease pests that may attack your crop or crops and what to do about them. 3. Become familiar with the best cultural practices for your crop or crops, including (1) best method of seedbed preparation and cultivation, (2) best method of planting, amount of seed or plants to use, and proper spacings, (3) use of lime, phosphate and commercial fertilizer and (4) most desirable planting date. 4. Know at what stage to harvest your crop or crops and how best to prepare them for market. 5. Learn what things make for quality and how to select a quality product.

Project Requirements: Each truck garden project member will be required to grow at least (1) one-eighth of one or more of the truck crops, or (2) grow at least 3,000 vegetable plants for sale. An accurate record must be kept of the crops grown, varieties, method of soil preparation, date of planting, total production, sales record, production costs, selling costs, and profit or loss. Keep a record of time spent on the project and write a story of your experiences. The suggested record sheets No. 1, 2, 3, 4, 5, 6, and 8 are adapted for recording truck garden project work.

Truck Garden Bulletins: (See list of bulletins for Home Gardening, Page 7. USDA Bulletins on each truck crop are available at the county agent's office in your county. These bulletins deal with production and marketing practices.

NOTE: Ask your county agent for information on your special crop or crops. In case you are growing sweet potatoes or watermelons, check up on the possibilities of producing certified seed of these crops.

Exhibits: County and state fairs have classes for most truck crops. Truck gardening project members make exhibits of their products at these fairs. Regular 4-H exhibits are not provided for all of the truck crops at the state fairs. If no 4-H class is set up for your crop, make an exhibit in the open class.

The following score cards and suggestions for the preparation of Irish and sweet potato exhibits will serve to indicate some of the important things to consider when making an exhibit of any product. Two important items are often overlooked. 1. Be sure your exhibit has the right amount for an exhibit. 2. Be sure it is entered correctly as to kind and variety.

In selecting Irish potato and sweet potato exhibits the following score cards point out items of special importance.

Irish potato score card:

Uniformity	20
Market Size	15
Smoothness	15
Market Condition	20
Trueness to type	20
Freedom from blemish	10
Total	100

Uniformity—The specimens should be uniform in size, shape, and color.

Market size—No specimen should be less than $1\frac{7}{8}$ inches in diameter the shortest way.

Smoothness—The potatoes should be smooth, free of second growth, and clean.

Market Condition—Under market condition, insect and disease attacks should be considered.

Trueness to Type—The different specimens should be true to type and contain no mixture of varieties.

Freedom from Blemish—Under this heading should be considered mechanical injuries, such as cuts, bruises, etc.

Sweet potato score card:

Uniformity	20
Market size	15
Smoothness	15
Market Condition	20
Trueness to type	20
Freedom from blemish	10
Total	100

Uniformity—The specimens should be uniform in size, shape, and color.

Market Size—The standard U. S. No. 1 size shall not be less than $1\frac{3}{4}$ inches nor greater than $3\frac{1}{2}$ inches in diameter. The length may be less than 4 inches if the diameter is $2\frac{1}{4}$ inches or more.

Smoothness—The potatoes should be smooth, free from second growth, and clean.

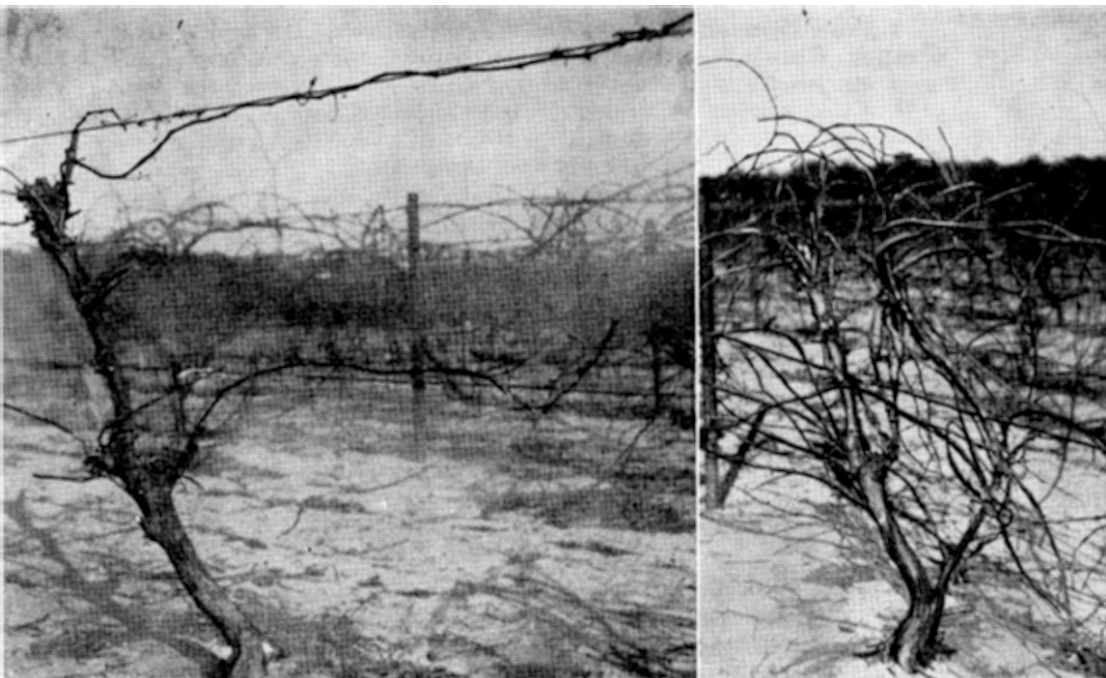
Market Condition—Under market condition, insect and disease attacks should be considered.

Trueness to Type—The different specimens should be true to type and contain no mixture of varieties.

FRUIT GROWING

This project is especially recommended for 4-H Club members living on farms where fruit is being produced or where the family is interested in establishing a fruit planting or in giving an existing planting better care. Fruit growing is a long-time proposition; therefore, the project includes a fruit growing activity phase as well as the production phases. These activities, if practiced, will result in the production of more and better fruit.

Purpose: To give 4-H Club members a better understanding of the various jobs necessary to properly care for fruit trees and plants that they may have a better understanding of what it takes to grow fruit in Oklahoma. As a part of their project work club members should become familiar with the following items. 1. Know how the various kinds of fruit trees and plants bear, what age they come into bearing, what age wood bears fruit, etc. 2. Know at what distance fruit trees and plants should be planted in Oklahoma. 3. Become familiar with the kinds and varieties of fruit best adapted locally. 4. Become familiar with common fruit insect and disease pests and how they can be controlled. 5. Know how fruit trees and plants should be transplanted and when to transplant them. 6. Become familiar with the proper way to cultivate fruit trees and plants. 7. Know how to properly prune fruit trees and plants.



Severe pruning of grapes is necessary for best production.

Project Requirements: Each fruit growing club member should (1) carry out at least two of the five fruit growing activities listed below, or (2) keep a record of the home orchard, or (3) plant and tend a small fruit planting of one of the following:

Strawberries—at least 300 plants

Blackberries—at least 100 plants

Dewberries—at least 100 plants

Boysen or Young Dewberries—at least 50 plants

Fruit Growing Project Activities:

1. Pruning. Learn proper method of pruning by actually pruning four different kinds of fruit trees or plants—apples, pears, peaches, plums, cherries, blackberries, dewberries, or grapes.

2. Pest Control. (Complete two of the four listed.) (1) treat peach trees with PDB (Paradichlorobenzene) to control the “Peach Tree Borer.” (2) Collect and be able to identify (mount if possible) at least five common fruit diseases—Apple Scab, Apple Blotch, Fire Blight, Cedar Apple Rust, Cherry Leaf Spot, Peach Leaf Curl, Brown Rot of Peaches, Peach Scab, Black Rot of grapes, Anthracnose of Bramble fruits, Strawberry Leaf Spot, etc. (3) Collect and be able to identify (mount if possible) at least four common fruit insect pests—Codling moth, Plum Curculio, Peach Tree Borer, Apple Tree Borer, Canker Worm, Tent Caterpillar, Red Necker Cane Borer, etc. (4) Protect your fruit trees against rabbits.

3. Spraying. Spray or dust the family fruit trees or grape vines to control pests, following a recommended schedule. (See spray bulletin.)

4. Fruit Cultivation. Take over the cultivation of the family fruit planting. Keep a record of number of cultivations given, implement used, etc. Seed a winter cover crop of hairy vetch between the rows of fruit trees during September or early October. Check growth of this winter cover crop and note when it is turned under in the spring. See leaflet on growing vetch for planting suggestions.

5. Planting Fruits. Help plan a family fruit planting and set out the trees or plants. Make and follow a planting plan outlined on paper, recording the location of each variety of fruit planted. Set fruit trees and plants at proper distances and in the proper manner.

Suggested record sheets No. 6, 7, and 8 are adapted for reporting the fruit growing activity phase of this project. (See (1) under project requirements.) Sheets No. 1, 2, 3, 4, 5, 6, and 8 are adapted for the reporting of the production phases of the project. (See (2) and (3) under project requirements.)

Fruit Growing Bulletins. Extension Circulars No. 432, “Small Fruits for the Home Garden”; No. 444, “Fruit Varieties Recommended for Oklahoma”; No. 452, “Tree Fruit for Oklahoma”; No. 457, “Grapes for Oklahoma”; No. 458, Bramble Fruits and “Pest Control Schedules.”

U.S.D.A. bulletins are available on many phases of fruit growing.

Exhibits: All state and county fairs have open class exhibits for fruit. Exhibit in these classes if special 4-H classes are not listed. Special 4-H exhibit classes are set up for fruit at state fairs and at many county fairs.

Common Fruit Exhibit Schedule:

Fruit	Exhibit
Apples, Peaches or Pears	5 specimens
Plums	12 specimens
Cherries	24 specimens
Grapes	3 pounds
Strawberries, Blackberries or Dewberries	1 qt. fresh

(NOTE: Boysen and youngberries are dewberries.)

The following score card used in the judging of fruit will serve to indicate the important points to consider when selecting a fruit exhibit. As is the case with all exhibits, it is important to get the right amount or number for your exhibit and to also get exhibits entered correctly. In the case of plates of fruit, be sure entries are made under the right variety.

Score card for fruit:

Condition	30
Color	20
Size	15
Form	15
Uniformity	20
Total	100

Condition—Heavy cuts shall be made for San Jose Scale, scab, blotch, bitter rot, brown rot, black spot, wormy fruit, bruises, breaks in the skin, evidence of wilting, storage scale, or any other unsoundness which may tend to cause premature decay of fruit, and absence of stems in case of apples or pears.

Color—The most acceptable commercial color shall be ranked highest.

Size—The most acceptable commercial size for the variety shall be considered as the ideal.

Form—Typical form for the variety will be considered ideal.

PECAN GROWING

Purpose: The pecan is the most important tree nut produced in Oklahoma. On the average, Oklahoma ranks about 2nd or 3rd in pecan production in the United States. About 90% of the state's production is from the native or seedling trees, while about 10% of the production is from improved varieties.

This project is especially recommended for boys and girls whose parents own their homes. Since the development of the pecans will take several years, those enrolling in the project should plan to carry on an active program for at least three years. The purpose of this project is to acquaint 4-H Club members, in pecan producing areas, with practices that make the growing of pecans more profitable.

Project Requirements:

PECAN ACTIVITIES FOR 4-H CLUB MEMBERS ARE DIVIDED INTO FOUR PROJECTS. MEMBERS MAY ENROLL IN ONE OR MORE OF THE PROJECTS:

- I. Starting a Pecan Orchard by Planting the Pecan Nuts.
- II. Native Grove Management.
- III. Pecan Propagation. (Changing the Variety)
- IV. Starting a Pecan Orchard from Nursery Trees.

A. Starting a Pecan Orchard by Planting the Pecan Nuts.

1. Locating the planting.
2. Selecting and planting the nuts.
3. Plant five or more hills of nuts.
4. Protect and care for the trees.

B. Native Grove Management.

1. Improving the Native Grove. Select at least $\frac{1}{2}$ area.
2. Remove other kinds of trees, brush, etc.
3. Thin pecans to 35 feet spacing.
4. Study the difference in pecan nuts produced on different trees.

C. Pecan Propagation. (Changing the Variety)

1. Learn to Bark Graft.
2. Learn to Patch Bud.
3. Learn to identify five best varieties of pecans.

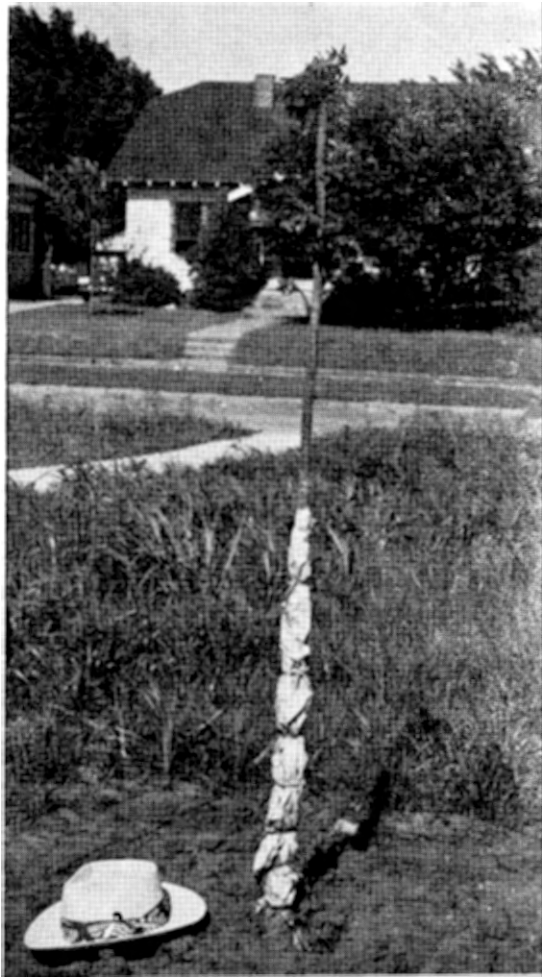
D. Starting a Pecan Orchard from Nursery Trees.

1. Plan the orchard. Choose sight, locate each tree. Plant at least 2 trees.
2. Choose the best varieties.
3. Give Planting Demonstrations.

Reference:

Extension Circular No. 543,
4-H pecan projects.

Wrap heavy paper around the base of young trees to protect them from sunscald and rabbit injury.



Suggested Plan for Small Home Garden

(50 x 50 Feet)

2½ Ft. Lettuce 25 Ft.—1/16 Oz. Seed	Radishes 25 Ft.—¼ Oz. Seed.
2 Ft. Mustard 25 Ft.—1/16 Oz. Seed	Spinach 25 Ft.—¼ Oz. Seed
2 Ft. Peas 50 Ft.—½ Lb. Seed	
2 Ft. Onion 50 Ft.—300 Plants	
3 Ft. Carrots 50 Ft.—¼ Oz. Seed	
3 Ft. Beets 50 Ft.—1 Oz. Seed	
3 Ft. Cabbage 50 Ft.—35 Plants	
3 Ft. Irish Potatoes	} 200 Ft.—10 Lbs. Seed
3 Ft. Irish Potatoes	
3 Ft. Irish Potatoes	
3 Ft. Irish Potatoes	
3 Ft. Sweet Corn	} 100 Ft.—¼ Lb. Seed
3 Ft. Sweet Corn	
3 Ft. Beans (Bush Snap)	} 100 Ft.—1 Lb. Seed
3 Ft. Beans (Bush Snap)	
4 Ft. Tomatoes	} 100 Ft.—50 Plants
4 Ft. Tomatoes	

REMARKS: The time of planting will depend upon the section of the state and the season. For specific information on planting dates ask your folks, leader, or Extension Agents. After harvesting the early maturing crops this ground may be planted to cow peas, okra, or sweet potatoes. Late pole beans may be planted in the sweet corn. If additional space is available the garden plot should be enlarged proportionately. Naturally, the kinds and amounts of vegetables planted will depend upon family preferences.

