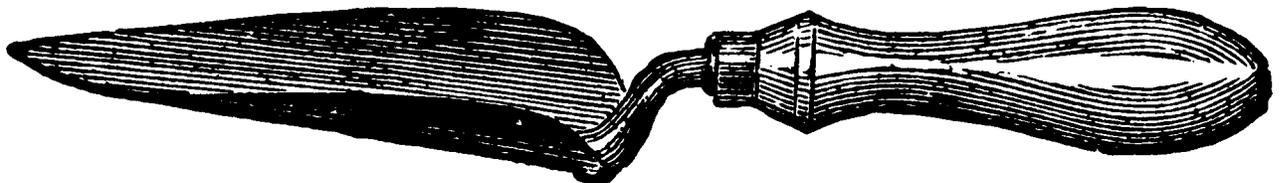




4-H vegetable
gardening
project



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in Horticulture

4-H vegetable gardening project

A vegetable garden can be both enjoyable and productive. Your goal may be to raise some or all of the vegetables for your family, or you may want to produce enough fresh vegetables to sell.

Types of Gardens

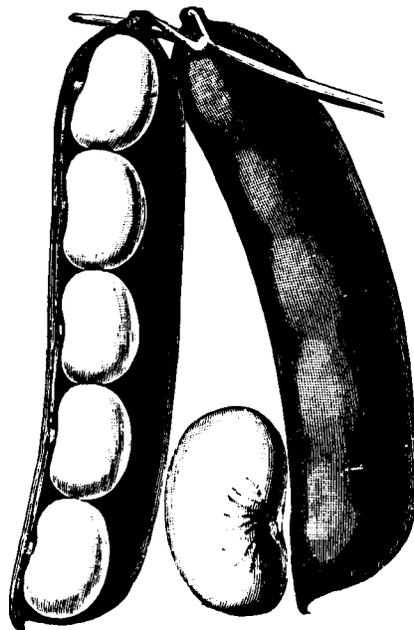
You do not have to live on a farm to have a vegetable garden. It is possible to have an attractive, productive garden at your suburban or even urban home. The basic principles of gardening are the same whether you have 1 acre or one container.

Traditional garden: The traditional garden covers an area of at least 100 square feet.

Mini garden: The mini garden is grown in an area of less than 100 square feet.

Market garden: The market garden is generally a quarter of an acre or larger. This kind of garden can be a good way for you as a 4-H'er to make extra money from a project.

Bucket garden: The bucket garden is produced entirely in



containers. This type of gardening allows you to grow vegetables in small spaces or places where it would otherwise be impossible to grow them. Ask your leader about a 4-H bucket garden project.

Choosing a Site

The location that you choose for your garden should have a deep, fertile, friable (crumbly), well-drained soil that is not shaded by buildings or trees. The most convenient area is by your home, but you should locate your garden where it will be most productive. Consider the possibility of working some

of your vegetables in front of shrubbery. Many vegetables have an attractive appearance that will complement the landscape. Certain varieties of lettuce, kale, and cabbage are grown for ornamental purposes.

The type of soil (clay vs. sandy) is not as important as that it be well drained, deep, and reasonably free of stones. It is very difficult to develop a high-grade garden on a hardpan, rock ledge, or layer of gravel or sand. On the other hand, it is fairly easy to develop an infertile soil that is friable into an excellent garden site by adding lime, commercial fertilizer, and organic matter.

A garden must be well drained and free of low places that hold water after a heavy rain. You may be able to remove water from low areas by digging a small ditch. Excessive water should not drain onto the garden from other locations. Likewise, do not plant in bottomland if there is any danger of flooding. A garden that is flooded for only a few hours can still be lost. If the runoff from the garden is muddy, you have too much erosion. Not only are you losing the valuable topsoil, but a lot of the fertilizer may also be washed away. It may take as much as 1,000 years to form the soil lost off a slope in a single rain.

Planning the Garden

The planning of the garden is the step most often neglected. This involves more than just ordering some seed or going to the store and buying a few packages of seeds. If this is your first garden, make it simple and make it fun. A 5-foot by 10-foot garden can produce more than you may think. The biggest garden is not always the best. More often than not, the biggest garden is the biggest mess.

The first thing to remember is that there are two types of vegetables—cool-season and warm season. The cool-season crops may be planted as soon as the danger of frost has passed. They also make good fall crops. Examples of cool-season vegetables are beets, cabbage, carrots, chives, kohlrabi, lettuce, onions, peas, parsley, turnips, and rutabagas.

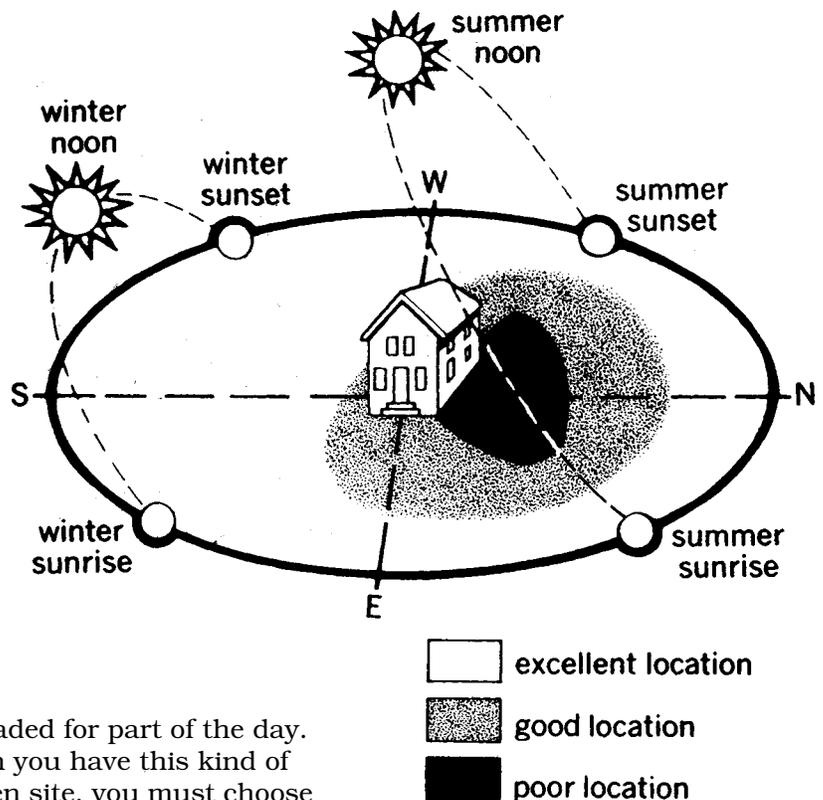
On the other hand, vegetables such as beans, cucumbers, eggplants, melons, peppers, squash, and tomatoes like warmer weather. This group is called *warm-season vegetables*. Some of these, such as peppers, eggplants, and tomatoes, are started indoors six to eight weeks before they are ready to be set out. You may start your own plants or buy plants.

Some of the rows in your garden will be able to serve double duty. Beets, carrots, kohlrabi, lettuce, radishes, and turnips all mature early enough so that the rows they were planted in can be replanted with a late summer or fall crop. You can also double-crop by planting low-growing plants, such as chives, onions, and radishes, between larger plants, such as tomatoes.

Sometimes, the only place available for planting a garden

is shaded for part of the day. When you have this kind of garden site, you must choose vegetables that can grow without full sunlight. The most success is usually obtained with leaf crops such as chard, endive, lettuce, mustard, or spinach. The edible part of these vegetables is the leaf. Low light is not as critical for the maturing of leaves as it is for fruits and roots.

When you plan how your garden will be laid out, it is important to prevent shading of short vegetables by tall ones. You should run the rows east-west. This method allows you to put tall vegetables, such as corn, and those that climb on a fence or trellis on the north side. This fence or trellis can also be part of the protective structure around the garden. Sometimes, the only place for a garden is in a hilly area. The south side of a hill is better because it gets more sun. The soil on the south side also warms up earlier in spring. You should make the rows of a hilly garden run with the contour, which cuts down on erosion and



increases the amount of water absorbed into the ground.

Preparing the Soil

Even the best soils must be prepared if the garden is to grow and produce at its best. Plowing or tillage do not automatically create a good garden soil. The purpose of tillage is to control weeds, to mix crop residues or organic matter into the soil, and to break up heavy soils.

The first-time garden should be tilled in the fall so that the grass will have time to decay before the spring planting. Tillage may be done with a plow, a tiller, or a shovel, depending on the size of the plot. It will probably be necessary to till again in the spring before you plant. It is at this time that you should ridge up soil into rows or beds. Beds

make better use of the area that you have, since less space is wasted between rows. However, beds must be watered and weeded by hand; rows can be weeded with a tiller. Your garden soil should be free of weeds, which will compete with your crops for water, nutrients, and sunlight. If the soil is hard, the vegetables will be slow in getting started. The more friable the soil, the deeper the roots will go. The stronger the root system, the better the plant can compete for water and nutrients. However, too much tillage can harm the soil structure and cause a crust to form on its surface. If the soil is too wet when you cultivate it, large clods will form, and the soil will become compacted. The correct time to cultivate is when the soil is moist enough so that a handful of it will form a ball when squeezed but it is dry enough to crumble easily.

The time of year and method of preparing the soil varies. If there is a heavy layer of sod, it will be necessary for you to prepare the soil well in advance. Fall is the best time, since this will allow the grass several months to break down. It is also best to work lime into the soil in the fall. Nitrogen fertilizers should not be added until the spring. Your county Extension agent will be glad to have a soil sample tested. This test will tell you how much fertilizer and lime to add.

Choosing Seed

The first rule to remember about seeds is that they are not dead. They are very much alive—just like the plant they came from. If a plant is shut up in a hot car, it will die. The same is true of seeds. Keep them cool and dry. If you collect your own seed for use the following year or are saving extra seed, put the seed in envelopes, one for each type of seed, and write the name and date collected on each envelope. Put the envelopes in a jar that has a tight-fitting lid, and store the jar in the refrigerator (38° to 42°F) until time for planting. A tablespoon of powdered milk in the bottom of the jar will absorb moisture and keep the seed dry.

When buying seed, look at the package. There are several things that you should notice. First, there should be a date on the package. It may read “plant by spring 2002,” or it may just read “spring 2002.” If this date has passed, some or all of the seed will be dead and will not come up. Do not buy old seed. If the seeds were not stored properly, they could still be dead even if the date has not passed. (If you have old seed and have the space, experiment with them. Count the number you plant and see what percentage comes up.)

The second thing you should notice on the seed package is the name of the vegetable. Usually, many different varieties of each type of vegetable are available. Each variety has certain characteristics that make it different from other varieties. These characteristics may include the size or flavor of the vegetable, disease or insect resistance, and how early it is ready to be eaten. Try growing several different varieties of the same vegetable and make notes of all the differences you see.

Planting Seed

Seed can be planted either directly in the garden or started in containers and transplanted to the garden.

Most seeds have planting instructions on the package, usually on the back. The suggested spacing is generally for gardens that are not irrigated. Vegetables planted in irrigated gardens can be a little closer (Table 1). However, if you have too many plants, they may compete against each other for light, water, and nutrients. You should thin the plants after all the seeds are up. Pinch off the weak and excess plants with your thumb and index finger or remove them with a hoe or cultivator.

Sowing Seed in the Garden

The ground has been tilled, and you are ready to plant. Many types of vegetables can be sown directly into the garden. A neat garden is more attractive and easier to care for. Straight, neat rows can be made with the aid of a piece of string. Tie the string to sticks at each end of the garden so that the string is where you want your first row. Take a sharp stick and run it along the string to make a nice, neat row to plant in. Measure off the next row, then the next, etc.

How you sow seed depends on the size of the seed. Corn, squash, and beans are easy to sow because they are large. You can just pick them up and drop them along the row. It is a different story with fine seed, such as that for spinach, turnips, and lettuce. Take a pinch of seed between your thumb and index finger. Carefully, with your palm facing down, rub your two fingers together so that the seeds fall slowly. Be sure your hands are dry so the seed won't stick to them. Practice this several times over a sheet of white paper. The practice will help you avoid wasting seed. Now you are ready to plant your rows in the

soil. Start by moving your hand slowly down the row about 3 inches above the soil.

How deeply you cover the seed is important. Seeds that are too deep will be smothered. Those that are too shallow will begin to germinate, but if they dry out, they will die. A simple rule is that seed should be planted four times as deep as they are big. A $\frac{1}{4}$ -inch seed should be planted about an inch deep. Planting depths for some of the common vegetables are listed in Table 2.

Sometimes the soil is dry and must be watered after planting. If your garden is plowed into rows, plant seed on the "hills." Put a shovelful of soil at the end of each "valley." This soil will act as a dam. Lay a water hose in each valley until it has run 1 minute for every 1 to 2 feet of row. The water should flow down to the other end. If your garden is on a slope, you will need to use an overhead sprinkler that puts out a fairly fine spray. This care is necessary until the seeds are established and have a good footing in the soil.

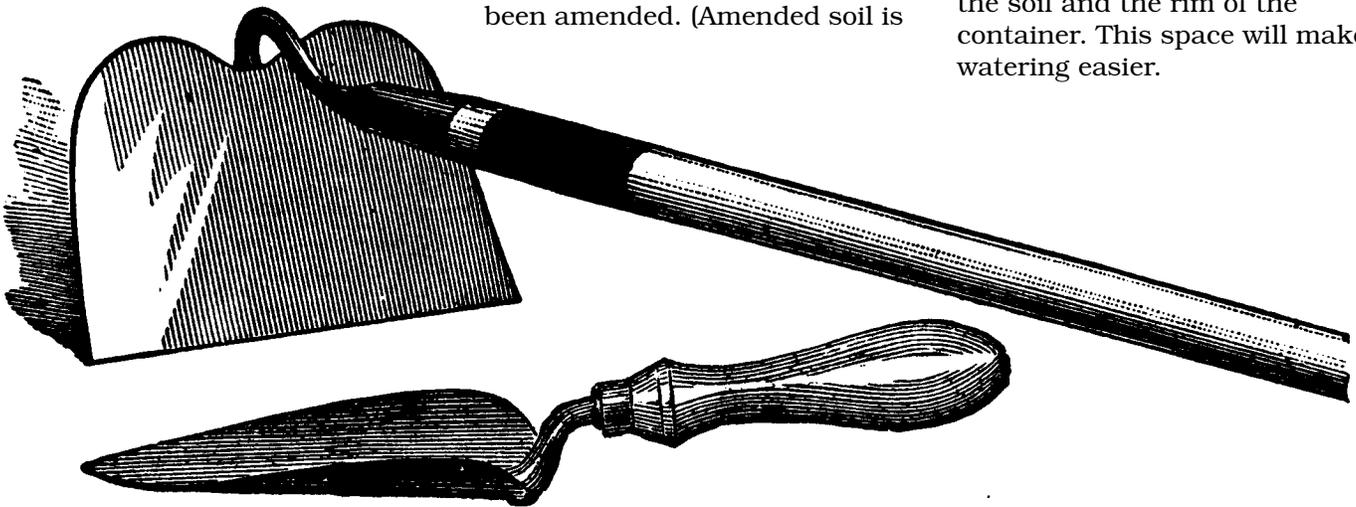
Starting Seed in a Container

Seeds started in containers need a pasteurized (sterile) soil (also called *medium*) that has been amended. (Amended soil is

soil specially prepared for growing plants.) The soil that grows nice vegetables out in the garden is not suitable for use in containers. It will stay too wet, and the seed or plants are likely to rot. You can use one of the prepared garden or potting soils such as *Jiffy-Mix*, *Metro-Mix*, or *Pro-Mix*. These materials come ready to use and are free of insects, diseases, and weed seed.

If you wish, you can make your own soil mix. This may be done by combining equal parts of soil, sand, and peat moss. The peat moss is sterile, but the soil and sand are not. The easiest method to kill insects, diseases, and weed seeds is with heat. Combine the three materials and place a 2-inch layer of the moist (not wet) soil in a pan and cover with metal foil. Bake it in the oven for 45 minutes to 1 hour at 180° to 200°F. (Do not use microwave ovens.) Follow this time and temperature guide carefully. If the soil is heated too high or too long, chemicals that are poisonous to plants may be released. It is always best to allow the soil to sit for two weeks before it is used.

Next, fill the container with the prepared soil mix and plant the seed. Leave at least 1 inch headspace between the top of the soil and the rim of the container. This space will make watering easier.



To water, place the containers in a pan of water. When the surface of the soil is moist, take the container out of the pan. The roots may rot if they stay too wet.

Transplant the seedlings to small containers, such as egg cartons, after the first set of true leaves has come out. Gently remove the seedling from its container. Do not hold the plant by the stem, as this will result in damage to the soft stem. Instead, hold the plant by a leaf. Use a pencil to make a hole and place the seedling in the hole. Gently pat the soil around the seedling.

Do not allow the seed or seedlings to dry out. It would be helpful to enclose the containers in a clear plastic bag. Place them in bright light but not in direct sunlight.

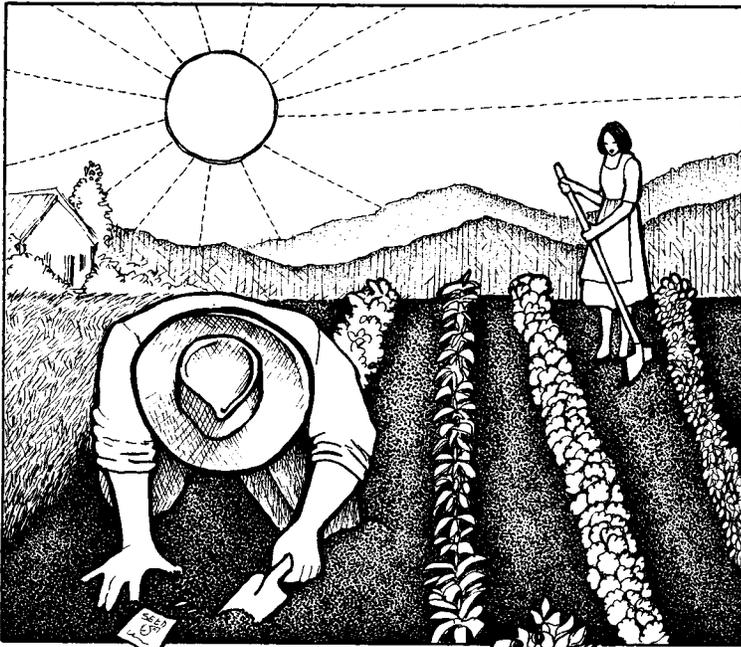
Transplanting to the Garden

Seeds that have been grown to several inches before being planted in the garden are called *transplants*. By using transplants, you have the advantage of getting a plant to the harvest stage three or four weeks earlier than if you had planted seed in the garden. Some vegetables generally grown as transplants are tomatoes, eggplants, peppers, broccoli, cauliflower, cabbage, brussels sprouts, and kohlrabi.

Transplants may be grown in drink cups, milk cartons, peat pellets, or peat pots. Plants that are grown in containers made of paper, plastic, or plastic foam must be removed from the container. Peat pots and peat

pellets may be planted in the soil along with the plant. It is important to plant the top of the peat pot or pellet below the surface of the soil. Not doing this can lead to drying out of the tender root system. You may break or peel back the lip of the peat pot so that it will not be above the surface of the soil. Plant tomatoes several inches deeper than they were originally grown, since they will form additional roots along the stem. Plant other types of vegetables at about the same depth that they were originally grown.

Dig a small hole in the loose garden soil, put in the transplant, and cover the root system with soil. It is important that the transplant be protected if the sun is hot and bright. You can protect the plant with a sheet of newspaper rolled up to form a cone or with a piece of cardboard folded in half to form an upside-down "V." A gallon milk carton that has had the bottom cut out will also make a good protector for the plant. Once the transplants have been planted, it is important that the soil be kept moist until the garden is well established. Mulching will cut down on the amount of watering required and will keep the soil cooler.



Protecting the Garden

You may have to protect your garden from dogs, cats, rabbits, or other animals. The money spent repairing the damage done by stray animals could pay for a fence in only a season or two. A fence can also serve as a trellis for beans, peas, cucumbers, and other crops that need support. The fence should be closely woven and high enough to keep the problem animal out. Moles may be another kind of problem in the garden. They burrow under plants, causing the soil to dry out. Since moles are carnivorous (meat-eating) animals, the best way to control them is to control the underground insects they feed on. Plants such as onions and marigolds are said to be of some help in discouraging moles from coming into the garden.

Mulching

Mulching is one of those little tricks that can save you a lot of time and work. A good mulch will do three things: keep the soil cooler, conserve moisture, and more importantly, help control weeds. Weeds will rob your vegetables of water, sunlight, and fertilizer. In addition, weeds can be a hiding place for insects and diseases.

There are many types of mulch. Some are better than others. A lot depends on what is available to you.

Black plastic: Black plastic is good for keeping weeds out and moisture in; however, it can get hot if it is not mulched or shaded by taller-growing vegetables. This problem can be solved by mulching with a thin layer of another mulch. Black

plastic is easy to transplant through (just cut a small X or O) but is harder to plant seed through it. You must cut a slit to plant seed.

Peat moss: Peat moss is not a good mulch. It blows away in the wind and is expensive.

Bark: Bark is a good mulch but can be expensive if bags are purchased for a large garden. It may tend to float away on a slope.

Straw/hay/grass clippings: These clippings can be good if dry when put on the garden. Green grass clippings will mat down and make a good hiding place for some insects and diseases. To avoid this problem, spread the clippings 1 inch deep and allow them to dry before using them. Straw, hay, and grass clippings must be free of weed seeds. Any of these three materials can make an excellent mulch in combination with black plastic.

Dead leaves: Dead leaves make an excellent mulch for the garden. They are even better when composted. Ask your leader about how to compost leaves.

Crop residue: Crop residue can make a good mulch, depending on what type of residue it is. Old corn stalks, tomato and bean vines are all good if they don't carry over diseases. Overripe vegetables with seeds (tomatoes, peppers, corn, etc.) should not be used, as the seed may germinate and become a weed problem.

Mulch your vegetables as soon as they are at least

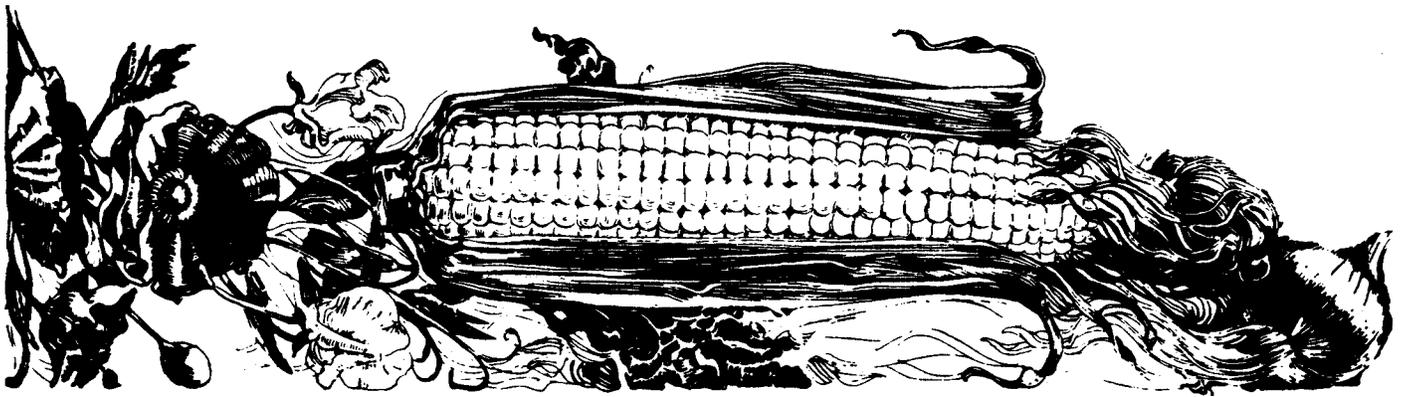
a couple of inches tall. Remember, a mulch that smothers weeds can smother small vegetable plants, too. Even though you have a good mulch, you may need to weed your garden a few times. You may hoe the weeds or pull them by hand. Be sure to pull weeds up before they go to seed.

Controlling Insects & Diseases

A good gardener checks the garden often. Keep a careful watch for harmful insects or diseases. The best control against pests is a neat and clean garden. Dead and decaying plants are an excellent place for diseases and insects to grow and hide.

Pick insects off your plants and remove dead or diseased parts of plants. If a problem continues, find out how to control it from your county Extension agent. If the use of chemicals is necessary, ask an adult who knows how to use pesticides to put them on for you. Remember, insecticides and fungicides are poisons to people, too! It is important to follow all directions on the labels.





Fertilizing the Garden

It is important that your vegetable garden have a continuous supply of nutrients. A low level of nutrients will keep you from producing high yields of quality vegetables. Though this problem may be solved by adding fertilizer to the soil, too much fertilizer can damage or even kill the plants.

You should take a soil sample in the fall (October or November) at least every three years. Take samples from several different spots by making a small hole in the ground about 6 inches deep. Then use a spade to take a 1-

inch slice from the back of the hole. Remove from the spade all but a 1- to 2-inch-wide core of soil. Put this core in a bag with enough other samples to make about 1 pint of soil. Take this pint of soil to your county Extension office for testing. The fertilizer should be put on the garden in the spring. Spread the fertilizer evenly over the garden before spading or tilling.

All bags of fertilizer have three numbers on the front that show how much of the three major nutrients are in the bag. A 5-10-10 fertilizer will have 5 percent nitrogen, 10 percent phosphorus, and 10 percent potassium. A good, general fertilizer recommendation is to

add 2¹/₂ pounds of a 5-10-10 or 6-12-12 fertilizer per 100 square feet.

Harvesting and Care of the Produce

Many vegetables, such as tomatoes and cucumbers, have a stem that will break off from the plant. Harvest these vegetables by breaking the stem. Any produce that does not come off easily should be cut off to reduce damage to the plant. On vegetables such as bell peppers, tomatoes, corn, pumpkins, beans, and cucumbers leave a short piece of stem attached to the vegetable. This will help your produce keep longer. Pick your vegetables at the fully ripe stage. Wash, dry, and store them in the refrigerator as soon as possible. Washing helps keep the vegetables from molding or rotting and extends their storage life. Vegetables are best when they are garden fresh. Don't hold on to them too long and let them go bad. Try freezing or canning some vegetables so you can enjoy them during the winter.



Gardening Terms & Definitions

Banding—placing a small layer of fertilizer or other chemical inside the row—generally just out from and below the seed or roots.

Bottomland—lowland along a river, often in a floodplain.

Bucket garden—one or more vegetables raised in a container.

Clod—large chunk of clay soil that does not break up easily.

Companion planting—growing two crops in the same location at the same time (for example: growing onions around tomato plants).

Contour planting—laying out the rows of a garden on the side of a hill so that the rows do not have a change in elevation. Running the rows up and down the hill will lead to heavy erosion.

Cool-season crop—any vegetable that is planted or grows best when the temperature is below 60°F (see *warm-season crop*). Examples are beets, cabbage, lettuce, carrots, and cauliflower.

Double crop—growing two crops in the same location in

the garden. This may be at separate times (for example: a spring crop and a fall crop of cauliflower).

Friable—a soil that crumbles easily.

Furrow—a narrow, shallow trench made in the soil. Plants are usually grown on its hill.

Hardpan—a layer of hard subsoil or clay that acts as a barrier to water and roots.

Headspace—the space between the top of a container and the soil surface that holds water until it can soak in.

Market garden—a larger garden where enough vegetables are planted to be sold.

Mini garden—a garden smaller than 100 square feet (10 feet by 10 feet).

Mulch—any material spread on the soil surface to control weeds, conserve soil moisture, reduce runoff, keep the soil cooler, or improve the garden's appearance.

Pasteurize—the heating of soil to 180°F for 30 to 45 minutes so that weed seeds and most

diseases are killed. Sterilizing will kill all diseases but results in the release of toxic chemicals to the plant.

Sidedress—placing a layer of fertilizer or other chemical on the side of the row.

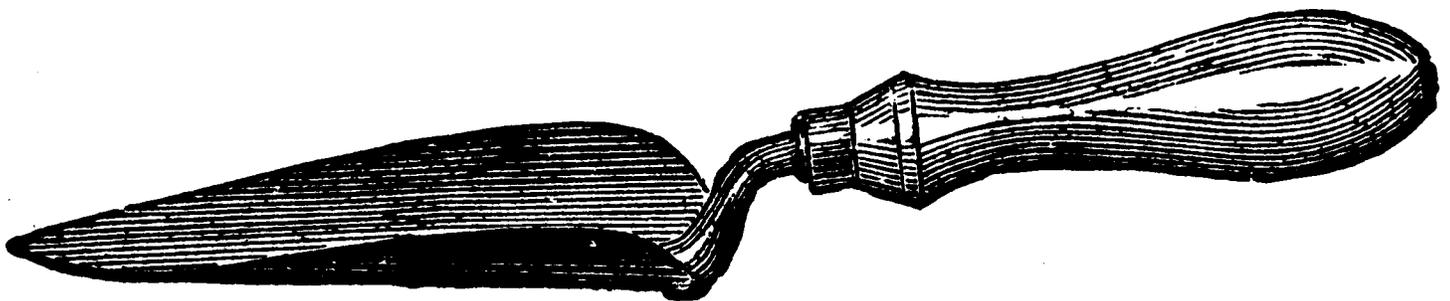
Soil—any material (natural or artificial) in which plants are grown.

Tillage—any turning of the soil for the purpose of controlling weeds, turning under crop residue or sod, or making the soil loose.

Transplants—plants grown indoors to be set out in the garden. Transplants are used to get a head start as soon as it is warm enough for the plant to grow or because some seeds do not germinate well in the garden.

Trellis—a fence or other structure on which vegetables can be grown.

Warm-season crop—any vegetable that is planted or grows best when the temperature is above 60°F. (See *cool-season crop*.) Examples are eggplants, corn, tomatoes, and peppers.





Some Seed Companies that Handle Mail-Order Vegetable Seeds

Ball Seed Company
Box 335
West Chicago, IL 60185
(630) 231-3500

Park Seed Company
1 Parkton Ave.
Greenwood, SC 29647-0001
(800) 845-3369

Harris Seed Company
60 Saginaw Dr. #1
P.O. Box 22960
Rochester, NY 14692-2960
(800) 514-4441 or
(716) 442-0410

Stokes Seeds, Inc.
Box 548
Buffalo, NY 14240-0548
(800) 263-7233

Johnny's Selected Seeds
1 Foss Hill Rd.
Albion, ME 04910-9731
(207) 437-4301



Some Kentucky Companies that Handle Vegetable Seeds



Bunton Seed Company
939 E. Jefferson Street
Louisville, KY 40206-1682
(502) 584-0136

Southern States Co-ops
(located throughout Kentucky)

Fayette Seed
731 Red Mile Road
Lexington, KY 40504-1153
(859) 255-3334

Sphar Seed Company
127 N. Main Street
Winchester, KY 40391
(859) 744-1671

Premium Horticultural Supply
915 E. Jefferson St.
Louisville, KY 40206-1619
(502) 582-3897



Table 1.

Suggested Vegetable Maturities, Planting Dates, Days to Maturity in Kentucky.

| Vegetable & Variety | Planting Date ^a | Transplant Date | Days to Maturity | Comments |
|-----------------------------------|----------------------------|-----------------|------------------|-----------------------------------|
| Asparagus | | | | |
| Mary Washington | | March 15 | 2 years | |
| Viking | | | | |
| Beans, snap (bush) | | | | |
| Blue Lake | April 25 | | 53 to 60 | |
| Astro | | | 52 | |
| Tenderette | | | 54 | |
| Tendercop | | | 54 | Good disease and virus resistance |
| Beans, snap (pole) | | | | |
| White Kentucky Wonder 191 | April 25 | | 65 | |
| Kentucky Wonder | | | 67 | |
| Beans, lima (bush) | | | | |
| Fordhook 242 | May 1 | | 78 | Large seed |
| Henderson Bush | | | 65 | Small seed |
| Beet | | | | |
| Green Top Bunching | March 15 | | 58 | Good greens and roots |
| Detroit Dark Red | | | 66 | Good for containers |
| Broccoli | | | | |
| Green Comet | Feb. 5 (indoors) | March 20 | 55 | Plant for spring crop |
| Waltham 29 | | | 75 | Plant for fall crop |
| Premium Crop | | | 80 | Large heads |
| Brussels Sprouts | | | | |
| Jade Cross | Feb. 5 (indoors) | March 10 | 80 | |
| Cabbage | | | | |
| Sunup | Jan. 20 (indoors) | March 15 | 64 | |
| Head Start | | | 67 | |
| Modern Dwarf | | | 55 | Very early, from Park |
| Cantaloupe (see muskmelon) | | | | |
| Carrots | | | | |
| Lady Finger | March 20 | | 65 | 4 inches long, good in containers |
| Short 'N' Sweet | | | 68 | Short and thick, from Burpee |
| Tiny Sweet | | | 65 | From Burgess |

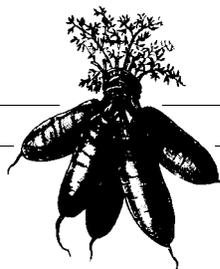
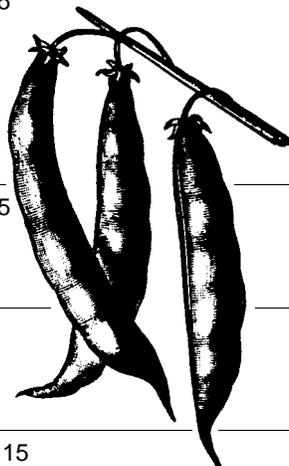
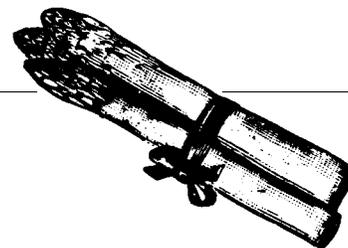


Table 1 (continued)

| Vegetable & Variety | Planting Date ^a | Transplant Date | Days to Maturity | Comments |
|-------------------------|----------------------------|-----------------|------------------|---|
| Cauliflower | Jan. 25 (indoors) | March 10 | | |
| Snow Crown | | | 50 | Early |
| Snow King | | | 55 | Heat tolerant |
| Chives | March 20 | March 10 | 80 | |
| Corn | April 20 | | | |
| Silver Queen | | | 95 | 7 ft tall |
| Gold Cup | | | 80 | 6½ ft tall |
| Gold Midget | | | 60 | 2½ ft tall, 4-inch ears, good in containers, from Burgess |
| Park's Miniature Hybrid | | | 66 | 3 ft tall, 5-inch ears, good in containers |
| Cucumber | March 25 (indoors) | May 1 | | |
| Park's Bush Whopper | | | 55 | Bush |
| Patio Pik | | | 53 | Bush |
| Bush Crop | | | 65 | Bush |
| Space Master | | | 60 | Bush, from Burpee |
| Eggplant | March 10 (indoors) | May 10 | | |
| Black Beauty | | | 73 | |
| Classic Hybrid | | | 76 | |
| Morden Midget | | | 65 | Very early, from Park |
| Kale | March 20 | | 57 | |
| Kohlrabi | March 20 | | | |
| Purple Vienna | | | 60 | Very high quality, from Burpee |
| Grand Duke Hybrid | | | 50 | |
| Lettuce | March 25 | | | |
| Kentucky Bibb | | | 54 | |
| Grand Rapids | | | 43 | |
| Stokes Evergreen | | | 90 | |
| Black Seeded Simpson | | | 45 | |
| Buttercrunch | | | 75 | |
| Tom Thumb | | | 65 | |
| Muskmelon | May 10 | | | |
| Burpee Hybrid | | | 82 | |
| Gold Star Hybrid | | | 87 | |
| Ambrosia Hybrid | | | 86 | |
| Musketeer | April (indoors) | May 10 | 90 | Bush form, from Park |
| Mustard | March 10 | | | |
| Tendergreen | | | 35 | |
| Southern Giant Curled | | | 45 | |

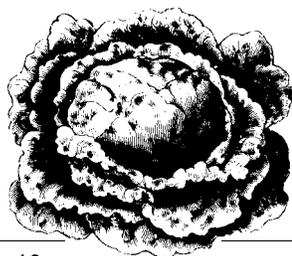
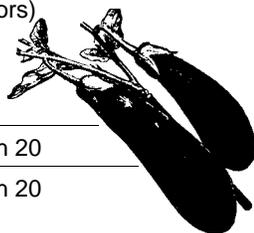
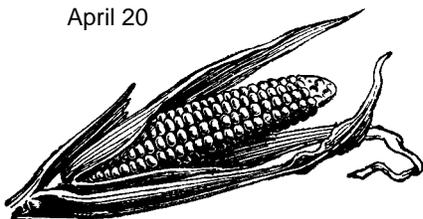


Table 1 (continued)

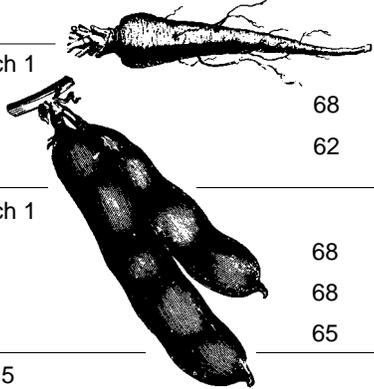
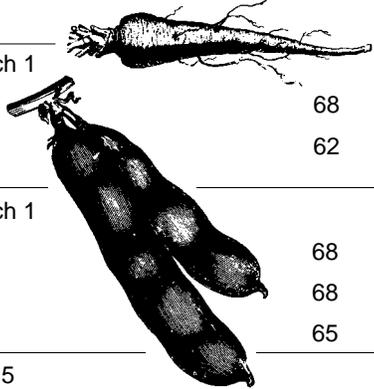
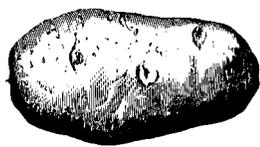
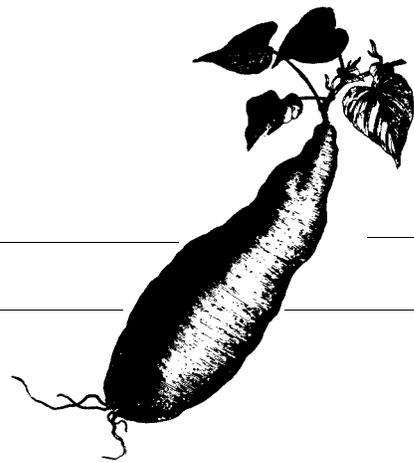
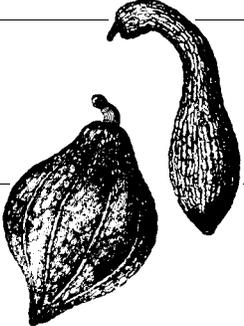
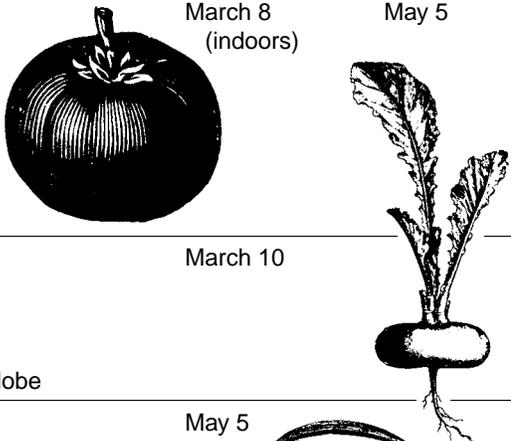
| Vegetable & Variety | Planting Date ^a | Transplant Date | Days to Maturity | Comments |
|----------------------------|---|-----------------|------------------|---|
| Okra | May 10 | | | |
| Emerald |  | | 55 | Soak seeds in hot water for 24 hours before planting |
| Clemson Spineless | | | 56 | |
| Onion | Seeds March 10 | Sets March 10 | | |
| Ebenezer |  | | 105 | Grown from seed |
| Storage King | | | 95 | Stores well |
| Stuttgarten | | | 95 | Grown from seeds |
| Varities grown from sets | | | 30 | Grown from sets |
| Parsnip | March 20 | | 100 | Roots improve by being left in ground until following spring |
| Peas | March 1 | | | |
| Sparkle |  | | 68 | 15-inch vine, small pod |
| Laxton's Progress | | | 62 | 16- to 18-inch vine, large pod |
| Peas, edible pod | March 1 | | | Use raw or cooked |
| Sugar Snap |  | | 68 | Vines 2 to 2½ ft, needs no staking |
| Mammoth Melting Sugar | | | 68 | |
| Dwarf Gray Sugar | | | 65 | |
| Peas, southern | May 5 | | | |
| Purple Hill | | | 78 | |
| Peppers, green bell | March 10 (indoors) | May 10 | | |
| Bell Boy |  | | 70 | Prolific |
| Lady Bell | | | 75 | |
| Hybelle | | | 75 | |
| Peppers, hot | March 10 (indoors) | May 10 | | |
| Jalapeno | | | 72 | |
| Potato, Irish | March 15 | | | |
| Norchip |  | | Early |  |
| Superior | | | Early | |
| Kennebec | | | Late | |
| LaRouge | | | Medium | |
| Red Pontiac | | | Early | |
| Potato, sweet | May 10 | | | |
| Centennial | | | 100 | |

Table 1 (continued)

| Vegetable & Variety | Planting Date ^a | Transplant Date | Days to Maturity | Comments | |
|------------------------|----------------------------|---|------------------|-----------------------------|----------|
| Pumpkin | May 5 | | | | |
| Spirit Hybrid | |  | 100 | | |
| Big Max | | | 100 | Potential for 100+ lb | |
| Radish | May 10 | | | | |
| Cherry Belle | |  | 21 | Red | |
| Spinach | March 1 | | | | |
| Early Hybrid No. 7 | | | | 40 | Fall use |
| Bloomsdale Savoy | | | 40 | | |
| Squash, summer | May 10 | | | | |
| Baby Crookneck | |  | 30 to 50 | From Park | |
| Baby Straightneck | | | 30 to 50 | From Stokes | |
| (Many other varieties) | | | | | |
| Squash, winter | May 10 | | | | |
| Golden Nugget | |  | 90 | | |
| Burpee's Butter Bush | | | 75 | Bush form | |
| (Many other varieties) | | | 75 to 100 | | |
| Swiss Chard | March 20 | | | | |
| Fordhook Giant | | | 55 | | |
| Tomato | March 8 (indoors) | May 5 | | | |
| Patio | |  | 70 | Small fruit, from Park | |
| Pixie | | | 70 | Small fruit, from Burpee | |
| Tiny Tim | | | 50 | Small fruit | |
| Jet Star | | | 75 | Average fruit size | |
| Floramerica | | | 80 | Average fruit size | |
| Turnip | March 10 | | | | |
| Presto | |  | | From Herbst Bros. | |
| Seven Top | | | 42 | Good for greens | |
| Purple Top Globe | | | 55 | Good for roots | |
| Watermelon | May 5 | | | | |
| Crimson Sweet | |  | 80 | Light, high quality melon | |
| Sugar Baby | | | | Small, early, quality melon | |
| Kengarden | | | | Bush variety | |

^aPlanting date is the earliest planting date for Central Kentucky. Seeds may be planted seven to 10 days earlier in Western Kentucky and should be planted a week later in Eastern Kentucky.

Table 2.

Planting Depth for Seed Final Spacing, Minimum Soil Temperature for Planting, Estimated Yearly Amounts Used per Person.

| Vegetable | Planting Depth (inches) | Final Spacing (inches) | Minimum Soil Temperature (°F) | Amount per Person per Year |
|----------------------------------|-------------------------|------------------------|-------------------------------|----------------------------|
| Asparagus— <i>crown</i> | 6 | 15 | — | 10 plants |
| Beans, snap— <i>bush</i> | 1 | 3 | 60 | 1/4 lb seed |
| Beans, snap— <i>pole</i> | 1 | 6 | 50 | 1/4 lb seed |
| Beans, lima— <i>bush</i> | 1 1/2 | 6 | 65 | 1/4 lb seed |
| Beet | 1/2 | 2 | 50 | 1/4 oz seed |
| Broccoli | 1/2 | 18 | 45 | 15 plants |
| Brussels sprouts | 1/2 | 20 | 45 | 5 plants |
| Cabbage | 1/2 | 12 | 45 | 10 plants |
| Cantaloupe or muskmelon | 1 | 24 | 75 | 5 hills |
| Carrots | 1/4 | 2 | 45 | 1/4 packet |
| Cauliflower | 1/2 | 18 | 45 | 25 plants |
| Chives | 1/2 | 2 | 50 | 1/4 packet |
| Collards | 1/2 | 18 | 45 | 25 plants |
| Corn, sweet | 1 1/2 | 12 | 60 | 1/4 lb |
| Cucumber | 1 | 10 | 65 | 5 to 10 hills |
| Eggplant | 1/2 | 24 | 75 | 2 plants |
| Kale | 1/2 | 2 | 45 | 5 plants |
| Kohlrabi | 1/2 | 4 | 55 | 5 plants |
| Lettuce, leaf | 1/4 | 4 | 45 | 1/8 oz seed |
| Lettuce, head | 1/4 | 10 | 45 | 5 plants |
| Muskmelon, <i>see cantaloupe</i> | | | | |
| Mustard | 1/2 | 2 | 40 | 1/8 oz seed |
| Okra | 1 | 12 | 70 | 1/4 packet |
| Onion | 1/2 | 4 | 50 | 1/4 oz seed, 1/2 lb sets |
| Parsnip | 1 | 6 | 50 | 1/4 packet |
| Peas, garden | 1 | 2 | 40 | 1/2 lb seed |
| Peas, edible pod | 1 | 2 | 40 | 1/2 lb seed |
| Peas, southern | 1 | 4 | 70 | 1/2 lb seed |
| Pepper, bell | 1/2 | 12 | 70 | 4 plants |
| Pepper, hot | 1/2 | 12 | 70 | 1 plant |
| Potato, Irish | 5 | 10 | 40 | 10 lb “seed” potato |
| Potato, sweet | -- | 10 | 70 | 25 plants |
| Pumpkin | 1 | 36 | 70 | 2 hills |
| Radish | 1/2 | 1 | 45 | 1/4 packet |
| Spinach | 1/2 | 6 | 45 | 1/4 packet |
| Squash, summer | 1 | 24 | 70 | 5 hills |
| Squash, winter | 1 | 24 | 70 | 6 to 10 hills |
| Swiss Chard | 1/2 | 6 | 50 | 1/4 packet |
| Tomato | 1/2 | 18 | 60 | 5 plants |
| Turnip | 1/2 | 2 | 60 | 1/16 to 1/32 oz seed |
| Watermelon | 1 | 36 | 70 | 2 to 3 hills |



Demonstrations

A 4-H project provides opportunities for you to develop many skills. One of these skills is how to give a demonstration. Choose one of the following topics or another topic of interest to you. Plan a demonstration and give it to your club or other group. Work with your leader on how to give a demonstration such as:

- How to make a compost pile.
- How to preserve vegetables.
- Growing transplants.
- Mulching the garden to control weeds and conserve water.
- How to fertilize the garden.
- Controlling insects/diseases in the vegetable garden.
- Exhibiting vegetables in the county fair.
- Growing vegetables in hanging baskets.

Citizenship

Learning to be a good citizen is another important part of a 4-H project. Working as part of a group or on your own, do one or more of the following citizenship activities:

- Collect leaves that would have gone to the dump and compost them for use around the courthouse, a retirement home, your school, etc.
- Give away transplants to others.
- Grow some transplants for a public demonstration garden.
- Start a public demonstration garden to show the difference in yield for different cultural methods.
- Give vegetables to neighbors or to community kitchen organizations.



4-H Vegetable Garden Record Sheet

Name _____ Age _____ Years in this project _____

Address _____ Year _____

School _____ Parents _____

A. List new things you learned in this project or activity.

B. **Production Costs:** Record the costs of growing your garden project. If you spent no money for an item, estimate the value.

1. Seed: _____ lb @ \$ _____ per lb \$ _____
2. Plants: No. plants: _____ @ \$ _____ per plant \$ _____
3. Fertilizer: _____ lb of _____ (analysis) \$ _____
Sidedressing: _____ lb of _____ (analysis) \$ _____
(Did you have a soil test? ____yes ____ no)
4. Insecticide (list amount and value of each material): \$ _____
5. Fungicide (list amount and value of each material): \$ _____
6. Land rent: acres or square feet: _____ \$ _____
7. Rent or expenses for tools: _____ \$ _____
8. Labor:
 - (a) Your own: _____ hours @ _____ per hour \$ _____
 - (b) Hired: _____ hours @ _____ per hour \$ _____
 - (c) Given by others: _____ hours @ _____ per hour \$ _____
9. Plowing and cultivation:
 - (a) Gasoline: _____ gallons \$ _____
 - (b) Tiller rent: _____ \$ _____
10. Other costs:
 - (a) _____ \$ _____
 - (b) _____ \$ _____
12. TOTAL EXPENSES \$ _____

C. **Production Results:** Record the results of crop production in the spaces below.

| Crop & Variety | Date Planted | Date of First Harvest | Amount Harvested (bu/lb) | Value of Produce | | |
|----------------|--------------|-----------------------|--------------------------|------------------|------|-------|
| | | | | Used at Home | Sold | Total |
| | | | | | | |
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| Total | | | | \$ | \$ | \$ |

D. List demonstrations, talks, exhibits, radio and television appearances, newspaper articles written, tours, workshops, camps, judging events, and field trips that you participated in throughout this project or activity.

| | | |
|--|--|--|
| | | |
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E. List awards, trips, medals, plaques, trophies, ribbons, scholarships, and other recognition received in this project or activity.

| | | |
|--|--|--|
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| | | |

F. List your leadership participation in this project or activity. Include things you have done by yourself and in cooperation with others in planning 4-H programs; leading discussions; helping younger members with demonstrations, talks, and exhibits; and assisting with camps, achievement shows, and workshops. Indicate the number of 4-H members you have assisted and give your specific responsibilities.

G. List your citizenship and community service experiences in this project or activity; include those things that contributed to the welfare of your club or group, other individuals, or your community; give your specific responsibilities.

H. Attach a short story in which you tell about things learned, satisfactions experienced, and difficulties encountered this year in this project.

Mention or display of a trademark, proprietary product, or firm in text or figures does not constitute an endorsement and does not imply approval to the exclusion of other suitable products or firms.