

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF OKLAHOMA

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EMERGENCY GARDENS

for

THE UNEMPLOYED



A well-arranged Oklahoma garden. Note the effective utilization of space by planting later vegetables between the rows of earlier vegetables. This is particularly applicable in the planting of tomatoes, cabbage and peppers.

**A GOOD GARDEN IS THE FIRST STEP IN "BEATING BACK"
TO BETTER TIMES**

EMERGENCY GARDENS FOR THE UNEMPLOYED

The First Step in "Beating Back" to Better Times. Some people, when they encounter difficulties, become despondent and sit down and worry and wait to see what will happen. Others under the same circumstances roll up their sleeves and take hold of whatever is at hand as a means of making the best of the situation. Instead of worrying and waiting to see what will happen, they go to work at whatever they can find to do and they make things happen favorably.

One of the things which every unemployed family in Oklahoma can do and should do as a means of meeting the situation is to grow the biggest and best garden that they ever grew. Any man who calls upon the government or upon relief agencies for emergency relief and fails to make an earnest and serious effort to grow a good garden when the seed are available without cost and the land can be secured is simply not fair to himself and to his children and is not fair to those who provide the relief which he receives.

The whole family can have a part in the growing of a garden. It offers opportunity for interesting outdoor work and will contribute a surprisingly large amount of the best sort of food for the family. There is nothing like eating a good meal of things which you have produced in your own garden with your own efforts. There is nothing better to restore courage and morale and to preserve self-respect than for the whole family to get out in the sun and fresh air and produce a lot of good garden products out of the soil. To be unemployed and broke is bad, but it is not half so bad as to be broke and also broken in spirit. The best way out of difficulties is to work out. Growing a good garden is something every unemployed family can do and it is the first step in "beating back" to better times.

Land for Gardens. Many unemployed families have land available or can utilize nearby vacant lots for growing gardens. Others can secure land adjacent to cities or towns. In many cases large tracts of suitable land can be secured and utilized for community gardens. In most cases the best plan of handling community gardens will be to assign to each family a suitable tract for an individual family garden somewhat on the plan outlined in this circular. In some cases, particularly in the larger cities, it may be best to utilize unemployed labor un-

der supervision in the growing of large tracts of vegetables for distribution to those who need them. The plans outlined in this circular are intended primarily for individual family gardens and may be followed whether the garden is grown on a vacant lot or each family is allotted a separate garden tract adjacent to the city or town. The detailed plan in this circular is based upon the needs of a family of five. Larger families will of course, need larger gardens and smaller families may adequately provide for their needs with smaller gardens. The plan given is merely suggestive and may be changed to suit the needs, ideas and tastes of the particular family.

Making the Garden Plan Before Starting. The first step toward making a good garden after the land has been secured and the dimensions of the plot determined is to outline on paper the plan to be followed. For this purpose, a piece of brown wrapping paper or other paper of suitable size, a ruler or yardstick or just a straight edged board, and a pencil will be needed.

The short-lived vegetables should all be planted in the same part of the garden so that when they are harvested the strip of land can be cultivated for other plantings. This garden circular and other circulars which can be secured from the county agents or from the Extension Division will be found helpful in determining kinds of vegetables to be grown, varieties best adapted to Oklahoma, quantities of seed to be used, proper dates for plantings, etc. By all means plan the garden on paper before starting to plant, indicating length of rows, distance between rows, location of different vegetables, dates of plantings, etc., and then keep this plan handy through the season and follow it in every detail. The making of the garden plan is a thing in which every member of the family should take part. Each member of the family has good ideas worthy of consideration, and interest in the garden will be aroused through the making of the plan.

Equipment Needed. If at all possible a team and turning plow and a harrow or disk should be used in first preparing the land for the garden. After that, all of the work can be done very satisfactorily by hand. If a team and plow cannot be used the land should be spaded six or eight inches deep and clods pulverized. This can best be done with an ordinary spade or with a potato fork. Incidentally, this spading is equal to bowling or golf as an exercise and is particularly recommended for fat people who want to reduce. A common hoe is the most essential tool, but a good rake, a narrow hoe with which to make furrows, and a five-pronged scratcher or potato digger

will be found very helpful. If available, a garden plow is of course a very useful garden implement.

Before starting to lay out the garden, a strong cord the length of the garden should be secured and a good sharp stake attached to each end. This cord will be found very helpful, the cord being stretched tightly and the stakes driven in the ground as a guide in marking off each row. A piece of binder twine is suitable for this purpose. A stick or board a yard long and marked or notched to indicate feet will be found very helpful in securing proper distance between rows.

Preparation of Seedbed. If at all possible two full loads of well-rotted barnyard manure should be applied to the garden plot indicated in this circular before plowing. The land should be plowed or spaded carefully and then harrowed or raked until it is smooth and well pulverized. If there are corners which have not been plowed these should be turned with a spade and the entire plot rounded up and put in smooth and regular condition before starting to lay off rows. No one can feel pride in a garden which is ragged and irregular at the edges or which has water-furrows in the middle.

Planting the Garden. In preparing the rows for planting, the soil should be thoroughly pulverized and smoothed down with a rake and the furrow should be prepared in accordance with the planting depth indicated on the seed package for the particular vegetable. If commercial fertilizer is used it should be placed an inch or more below where the seed will be and fresh dirt filled in above the fertilizer before planting. On account of the variation in size of the different vegetable seeds, it is difficult to regulate the rate of seeding, but the distance desired between plants should be determined and the seed planted at such rate as to insure a good stand. After the seed has been covered, the soil above the seed should be firmed. This can be done with a hoe, or a heavy stick with a board one foot by six or eight inches nailed to the end will be found useful for this purpose. After firming the soil over the seed it is a good practice to go over the row lightly with a rake to create a shallow mulch and avoid baking or packing which might prevent the plants from coming through.

Cultivation and Later Plantings. After the garden is up it should be cultivated frequently and regularly and no weeds should be permitted to grow in the rows or around the edges of the garden. Too many people make one planting of garden vegetables early in the spring and when these are gone make

no further effort. Many vegetables can be planted repeatedly through the growing season. Many good gardeners follow the practice of planting a row of beans and a row each of certain other vegetables at intervals of a week or 10 days during the spring and early summer so as to have them producing the longest possible season. After early vegetables have been harvested, the land should be cultivated and other vegetables planted or the land kept cultivated for the planting of suitable vegetables in the fall. You would be surprised at the results which can be secured by giving your garden the same careful attention throughout the season that you give at planting time and you will be surprised at the amount of vegetables which you can grow late in the season by continuing to plant at regular intervals and by following early maturing vegetables with others. These possibilities are of course somewhat limited in western Oklahoma where moisture is usually not available during the summer. A garden is like a bank. You can take out of it about what you put into it, in thought, study, planning, continued interest and care.

Things Which Might be Grown Outside the Garden. The garden plan in this circular makes provision for a few rows of corn, watermelons, cantaloupes, field peas and potatoes which might be grown in larger patches outside the garden. If land and seed are available these should be grown in larger quantities and a liberal supply of them should be canned or stored for winter use. Corn can be planted at different dates and in that way roasting ears will be available a longer season and a liberal supply of canned or dried corn should be provided for winter needs.

Canning the Surplus from Your Garden. Most of the things grown in the garden can be canned successfully and are being canned successfully by thousands of farm women in Oklahoma. Some can be dried successfully. The home demonstration agent will be glad to give demonstrations and instructions in the best methods of canning if called upon for such assistance when canning time arrives. Tomatoes, beans, corn, carrots, beets, mustard, spinach and other vegetables should be canned in liberal quantities. Cabbage, potatoes, onions and others can be stored.

IMPORTANT GARDEN INSECTS AND THEIR CONTROL

The home vegetable garden serves as an excellent feeding place for a number of troublesome garden insects. It requires the strictest diligence to keep these insects from damaging or destroying the different plants.

There are two classes of garden insects, first those that have biting mouth parts and chew portions of the plant as their food such as cabbage worms, potato bugs, etc.; the second group has sucking mouth parts such as plant lice, squash bugs, harlequin or cabbage bugs, etc.

Biting insects are usually killed by using a spray or dust containing an arsenical poison, while sucking insects are killed by spraying them and the plants upon which they feed with a soap or tobacco mixture or by dusting them with nicotine dust.

There are certain insects that can neither be destroyed by dusting nor spraying and must therefore be destroyed by hand picking, trapping or by using a poisoned bait. Following are some of the most common garden insects of Oklahoma and suggested methods of control.

Cutworms—Since cutworms work mostly at night, they can be destroyed by hand picking early in the morning before they have reentered the soil. A treatment for transplanted vegetables is a cardboard or tin can protection (partly submerged in the soil) surrounding the stems of the plant. A direct remedy for killing cutworms is to spread poisoned bran mash made by mixing two level tablespoons full of white arsenic or Paris green with five pounds of dry bran. This is moistened with a mixture of from four to six quarts of water and one-half pint of cheap molasses. Scatter among plants and just inside of garden limits in the evening.

Children, poultry and livestock must be kept away from gardens where this bait is being used.

Blister Beetles—Blister beetles attack mainly tomatoes, potatoes, etc. The long striped blister beetle sometimes known as the Spanish fly is a member of this group. Other species are gray, brown or black in color.

TREATMENT. Blister beetles usually travel in droves and can sometimes be driven with a brush or broom into piles of straw or grass where they can be burned. Where only scattered specimens occur in the garden hand picking is effective but gloves should be used to prevent blistering. Calcium arsenate dust applied with homemade bags will destroy many blister beetles. Some species can be readily killed by the use of the poisoned bran mash.

Cabbage Worms—When medium-sized white butterflies are seen around a garden early in the spring it is advisable to look out for the small velvety green caterpillars on your cabbage and related plants.

TREATMENT. In the case of a few plants hand picking can be resorted to, but due to the similar color of the worm to the leaf many are overlooked. The best remedy is to dust the infested plants with calcium arsenate or arsenate of lead when the leaves are wet with dew or to spray with a mixture containing a half inch cube of laundry soap to a pint of water and

one level teaspoon of powdered lead arsenate or two teaspoons of lead arsenate paste.

Common Squash Bugs—Squash vines and other plants of this group are often damaged by the common brown long and flattened stink bug called squash bug. These insects suck the juices of plants with a beak and can therefore not be controlled with an arsenical poison.

TREATMENT. Hand pick the first bugs of the season and keep down the infestation. Squash bug eggs are brown and shiny and are arranged in patches under the leaves where they can be easily found and crushed. Young squash bugs can be killed with a mixture containing a teaspoonful of nicotine sulphate, a one inch cube of laundry soap and a gallon of water as a spray. Adult squash bugs can be trapped under small boards placed flat on the ground under the plants and the bugs can be removed early each morning by shaking them into a can containing a little water and coal oil or by shaking them off and crushing them.

Cucumber Beetles—Both the striped and spotted cucumber beetles are destructive to young squash, cucumber, and melon plants and sometimes attack beans.

TREATMENT. Several applications of a dust containing one ounce of nicotine sulphate to one pound of hydrated lime applied when there is no wind is very effective. Also a dust containing one pound of calcium arsenate mixed with five pounds of gypsum or land plaster is effective. In using nicotine dust for these plants to control cucumber beetles many plant lice are also killed. Where plants are not numerous, they can be protected from cucumber beetles by placing a small piece of canvas supported by bended sticks over the plants.

Potato Bugs (Beetles)—The striped Colorado potato beetle known by most people as the potato bug feeds mainly on Irish potato tops.

TREATMENT. Frequent hand picking and applications of calcium arsenate dust with a stick and homemade sack cloth bag will destroy them. Applications of dust should be repeated in one week or immediately after a rain.

Plant Lice—Among the most destructive sucking insects are aphides or plant lice such as cabbage lice, melon lice, pea aphids, etc. These soft bodied insects increase rapidly and do their destructive work by sucking the juices of the plants.

TREATMENT. Use only contact dust or sprays for control measures. Do not use arsenical poisons. Nicotine dust prepared by mixing one ounce of nicotine sulphate and one pound of hydrated lime, and dusted on with a bag when plants are dry will destroy lice. In case of melons care should be taken to turn the vines before dusting so as to expose the insects underneath the leaves.

Tomato Worms—The large old-fashioned tobacco worms or horned tomato worms are very destructive to tomato plants and should be carefully picked off. The worms become large enough in a few days after hatching to be seen easily and hand picking is the best method of control.

SUGGESTED EMERGENCY GARDEN PLAN

100x150 feet. Rows the short way

Number of rows	Kind of Vegetable	Distance Apart (in rows)	Distance Apart (From preceding rows)
} ½ row	New Zealand Spinach	1½ to 2 feet	3 feet
	Swiss Chard	10 inches	3 feet
1 row	Carrots	3 to 4 inches	3 feet
2 rows	Beets	3 to 4 inches	2 feet
	Beets	3 to 4 inches	2 feet
1 row	Okra	1½ to 2 feet	3 feet
1 row	Beans—Pole	6 to 8 inches	4 feet
1 row	Beans—Pole Lima	6 to 8 inches	4 feet
} ½ row	Cucumber	3 feet	6 feet
	Squash	3 feet	6 feet
} ½ row	Watermelon	4 feet	6 feet
	Cantaloupe	4 feet	6 feet
4 rows	Bush Beans	2 to 4 inches	6 feet
	Bush Beans	2 to 4 inches	3 feet
	Bush Beans	2 to 4 inches	3 feet
	Bush Beans	2 to 4 inches	3 feet
} ½ row	Hot Pepper	1 to 1½ feet	3 feet
	Sweet Pepper	1 to 1½ feet	3 feet
3 rows	Tomato (Plants)	2 feet	4 feet
	Tomato (Plants)	2 feet	4 feet
	Tomato (Plants)	2 feet	4 feet
4 rows	Sweet Potatoes	20 inches	3 feet
	Sweet Potatoes	20 inches	3 feet
	Sweet Potatoes	20 inches	3 feet
	Sweet Potatoes	20 inches	3 feet
4 rows	Sweet Corn	1 foot	3 feet
	Sweet Corn	1 foot	3 feet
	Sweet Corn	1 foot	3 feet
	Sweet Corn	1 foot	3 feet
4 rows	Cowpeas	1 to 1½ feet	3 feet
	Cowpeas	1 to 1½ feet	3 feet
	Cowpeas	1 to 1½ feet	3 feet
	Cowpeas	1 to 1½ feet	3 feet
4 rows	Onions (Sets)	2 inches thinned to 8 inches as used	3 feet
	Onions (Sets)		3 feet
	Onions (Sets)		3 feet
	Onions (Sets)		3 feet
2 rows	Cabbage	2 feet	3 feet
	Cabbage	2 feet	3 feet
6 rows	Irish Potatoes	1 to 1½ feet	3 feet
	Irish Potatoes	1 to 1½ feet	3 feet
	Irish Potatoes	1 to 1½ feet	3 feet
	Irish Potatoes	1 to 1½ feet	3 feet
	Irish Potatoes	1 to 1½ feet	3 feet
	Irish Potatoes	1 to 1½ feet	3 feet
1 row	Turnips	2 to 3 inches	2 feet
4 rows	English Peas	2 to 3 inches	2 feet
	English Peas	2 to 3 inches	2 feet
	English Peas	2 to 3 inches	2 feet
	English Peas	2 to 3 inches	2 feet
1 row	Mustard	1 to 2 inches	2 feet
} ½ row	Lettuce	2 to 4 inches	2 feet
	Radishes	1 to 2 inches	2 feet

100 feet

Plans for Permanent Gardens. Since the above plan is prepared for emergency gardens, only annuals or those which do not live through the winter have been included. For those who want to plan a permanent garden including perennials such as rhubarb, asparagus, winter onions, berries, etc., should secure a copy of "The Home Vegetable Garden," Circular No. 196 from the county agent or from the Extension Division.

**INFORMATION ON ADAPTED VARIETIES, TIME TO PLANT, AMOUNT OF SEED,
ETC., FOR GARDEN PLAN ON OPPOSITE PAGE**

Variety	Time to Plant	Amount of Seed or Plants	Time Required to Mature
New Zealand	Feb. 22 to Mar. 10	½ ounce	40 to 60 days
Lucullus	Feb. 22 to Mar. 10	2 ounces	40 to 60 days
Chantenay or Denver's Half Long	Feb. 22 to Mar. 10	1 ounce	75 to 110 days
Early Blood Turnip or Crosby			
Egyptian for canning	Feb. 22 to Mar. 10	6 ounces (1 pint)	60 to 80 days
Dwarf Prolific	April 1 to 20	2 ounces	90 to 140 days
Kentucky Wonder	April 10 to May 1	8 ounces (½ pint)	60 to 80 days
Speckled Lima	April 10 to May 1	8 ounces (½ pint)	60 to 80 days
White Spine	April 10 to May 1	½ ounce	60 to 80 days
Patty Pan	April 10 to May 1	½ ounce	60 to 80 days
Irish Grey or Tom Watson	April 10 to May 1	½ ounce	100 to 150 days
Rocky Ford	April 10 to May 1	¼ ounce	100 to 150 days
Green Pod Stringless or Black			
Wax or Extra Early Red			
Valentine or Refugee, etc.	Mar. 25 to Apr. 25	4 pounds or 4 pints	45 to 60 days
Long Red Cayenne	Plants Apr. and May	½ ounce	100 to 140 days
Chinese Giant	Plants Apr. and May	½ ounce	100 to 140 days
Marglobe (Wilt resistant) or			
June Pink or Bonny Best	Plants Apr. and May	¾ ounce or 150 plants	100 to 140 days
Nancy Hall or Porto Rica	May to June	12 lbs. or 300 slips	100 to 150 days
Country Gentlemen or			
Golden Bantam or Sto-			
well's Evergreen	March and April	1 lb. or 1 pint	60 to 100 days
Cream or Whippoorwill or			
Wonderful or Crowder,			
etc.	June	6 lbs. or 6 pints	60 days
Bermuda or Denia (Valencia			
or Sweet Spanish)	Feb. 22 to Mar. 10	4 quarts	40 to 120 days
Jersey Wakefield or Charles-	(Plants)		
ton-Wakefield, etc.	Feb. 22 to Mar. 10	½ oz. or 100 plants	90 to 130 days
Early Ohio or Triumph or			
Irish Cobbler	Feb. 22 to Mar. 10	30 pounds	90 to 100 days
Early White Milan	Feb. 22 to Mar. 10	½ ounce	60 to 80 days
Alaska or First and Best or			
Notts Excelsior and other			
later varieties	Feb. 22 to Mar. 10	6 lbs. or 6 pints	40 to 80 days
Giant Southern Curled	Feb. 22 to Mar. 10	¼ ounce	60 to 90 days
Grand Rapids or Big Boston	Feb. 22 to Mar. 10	¼ ounce	20 to 40 days
Early Scarlet Globe or White			
Icele	Feb. 22 to Mar. 10	½ ounce	20 to 40 days

Cream peas, black-eyed peas or other varieties of cowpeas may follow onions, cabbage, Irish potatoes, turnips, English peas, mustard, lettuce and radishes. Watermelons, sweet potatoes and corn are usually planted in the main field. Horse cultivated gardens require a little wider rows than hand cultivated.

SUGGESTIONS FOR SPECIFIC VEGETABLES

In the following pages you will find discussions of the varieties under each type of vegetable with detailed instructions as to the distance in the row, the width of the rows and the approximate time of planting. Successive plantings should be made and where it is not possible to do so, the unplanted areas should be cultivated during the summer months with the rest of the garden to prevent the growing of weeds and to conserve moisture.

Bush Snap Beans—Beans will not stand frost and will not grow well until the soil is fairly warm. In many parts of Oklahoma the bean does poorly on account of the hot dry winds that are liable to come during the blossoming period, therefore, as early a planting that can be made and escape the danger of frost is advisable. Plant in rows three feet apart and the seed may be planted three or four to a hill, hills about 12 inches apart or the seed may be drilled along in the row about 3 or 4 inches apart and about 1½ inches deep. The seed should be planted from April 10 to May 1.

Varieties: Green Pod Stringless is a good variety.

Pole Snap Beans—All varieties of pole beans are more tender than bush beans and for this reason should be planted about two weeks later. It is preferable to distribute the seed of pole beans along in the drill rather than planting in hills in three-foot rows. Quite frequently in the eastern portion of the State pole beans are planted among the corn or along the fences. Post and wire trellises are sometimes used as a substitute for a fence or the planting in the corn patch.

Varieties: Kentucky Wonder is undoubtedly the most popular variety of pole snap beans.

Beets—The beet is one of the best vegetables for both early and late gardens in Oklahoma. They will stand a fairly heavy frost with but little injury as well as being rather drouth resistant. The seed should be planted the last of February or the first of March. Begin to thin when the plants are about three or four inches tall and the first thinnings may be used for greens. The seed germinates rather slowly and frequently seed are soaked in water over night in order to hasten germination. Plant in three-foot rows drilling the seed along in the row about one inch deep.

Varieties: Early Blood Turnip and Detroit Dark Red are good varieties.

Cabbage—Cabbage is a cool-natured plant and requires a certain amount of moisture for its best development. It is preferable to set out cabbage plants along the last of February or the first part of March, but where plants are not available seed should be planted in early February then transplant to their permanent places the last of the month. Set the plants deeply in order to avoid frost injury. Only early varieties should be grown. Use three-foot rows and set plants about 18 to 24 inches apart in the row.

Varieties: Jersey Wakefield and Charleston Wakefield are popular varieties.

Carrots—Carrots are getting to be a much more popular vegetable than it was in former years. This is undoubtedly due to the fact that it furnishes a fresh vegetable throughout the entire growing season, then again, it is used in so many different dishes for the table. The seed should be planted the last of February or early March about one-half inch deep, drilled rather thickly in the row and thinned as the carrots grow. Carrots will remain over in the ground during the winter but it is preferable to harvest them and store them in soil banks similar to that of turnips.

Varieties: The Improved Red Cored Chantenay or Chantenay are good varieties.

Cucumbers—Cucumbers will not stand frost but naturally should be grown early to be a success. It is not advisable to attempt to transplant cucumber plants under average conditions. The seed may be drilled thinly along in the row, the rows six feet apart preferably, then finally the plants may be thinned to two feet apart in the row. Plant the seed about three-fourths inch deep from the middle of April to the first part of May.

Varieties: White Spine and Long Green are good varieties.

Cantaloupes—Where there is a choice between soils, it is preferable to plant cantaloupes on a light sandy soil. Seed may be planted similar to that of cucumbers, namely—drill along in a row thinly about three-fourths inch deep, rows six feet apart then finally the melons thinned to two or three feet apart in the drill. Seed should not be planted until danger of frost is past which is as a rule from about April 10 to May 4.

Varieties: Rocky Ford and Pollock 10-25 are popular varieties.

Sweet Corn—A limited planting of sweet corn is very desirable, however, quite frequently ordinary field corn is used as roasting ears as a substitute for sweet corn. The early plantings of sweet corn as a rule are the most successful ones. Seed may be drilled along in the row about one and one-half or two inches deep from the middle to the latter part of March. Two or three plantings may be made at intervals of 10 days or an early planting made and later varieties planted thus affording roasting ears over a longer period of time.

Varieties: Golden Bantum, Stowell's Evergreen and Country Gentleman are good varieties.

Cowpeas—Cowpeas ordinarily are considered field crops, but the average Oklahoma farm family appreciates them as a vegetable in that the tender green pods may be used as a substitute for snap beans then the partially ripe peas as well as the dry peas for winter use. Cowpeas may be planted following Irish potatoes or some early growing crop. A maximum yield of peas will be obtained where planted in rows rather than broadcast. Do not plant until the soil is thoroughly warm, say in May or June.

Varieties: The Black-Eyed Crowder or Whippoorwill are good varieties.

Lettuce—Lettuce is a vegetable that is found growing in practically every farm garden and justly deserves a place in same. This is one of the quick maturing vegetables and will give early spring results. The seed should be planted thickly in rows and may be thinned from time to time. Plant about one-fourth to three-eighths inches deep along the last of February or early March. Successive plantings may be made in order to continue the season.

Varieties: Big Boston is a popular variety. Grand Rapids is one of the most popular leaf varieties of lettuce.

Mustard—For use in early summer plant thickly in rows three feet apart and cover about three-fourths inches deep. The seed should be planted the last of February or early March gradually thinning the plants until they are 8 or 10 inches apart in the row.

Varieties: Southern Giant Curled is the most popular variety of mustard.

Okra or Gumbo—Because of the ability of Okra to make a steady growth during the hot and dry summer this vegetable deserves a place in every Oklahoma garden. Plant seed about six inches apart in three-foot rows about one inch deep from the middle of the latter part of April. After the plants begin to reach an average height pinch out the top which will cause branching and the production of a large number of tender pods which are

desirable for eating purposes. If the pods are kept gathered as they are produced the plants will fruit heavily until frost.

Varieties: Dwarf Prolific and White Velvet are two of the most popular varieties.

Onions—Onions are raised in three ways in Oklahoma at the present time, namely—from onion sets, onion seedlings and onion seed. Onion sets and seedlings give the early onion, however, are more expensive than where seeds are planted, that is so far as the initial expense is concerned. Regardless of whether seed, sets or seedlings are used they should be planted in the early spring from the last of February to about March 10. Where seed is used drill them rather thickly in the row about one-half inch deep. When the seedlings become well established they may be thinned and the thinnings transplanted. Where onion sets are used they are usually set about two inches apart in the drill and so the top is well below the surface of the soil. In case of onion seedlings it is well to open up the drill so they may be set down in the ground and the soil firmed well against the seedlings. The top should project above the surface of the soil and the roots should be as a rule two or three inches down in the soil. Where they are set deeply injury from the cold is not so apt to occur.

Varieties: The white and yellow Bermuda are very popular, however, the Valencia or Sweet Spanish is growing in popularity in the state and keeps better than the Bermuda onions.

Peas—English peas is a cool-natured plant and it should be planted early and varieties used that will mature before hot dry weather sets in. From the central to the western part of the state only the early dwarf varieties are grown, however, in the eastern part of the state the climbing varieties are frequently grown to advantage from home garden standpoint. The seed should be drilled in three-foot rows and about two inches deep in the drill. The seed should be planted about the last of February or the first part of March.

Varieties: Alaska, First and Best and Bliss Everbearing are good dwarf varieties.

Irish Potatoes—One of the most important farm vegetables that should be raised on every Oklahoma farm is the Irish potato. Select a good sandy loam soil rich in organic matter and rich in fertilization. Prepare a good seed bed and plant at the rate of two bushels of seed to one-sixth of an acre and where good cultural practices are followed a supply of Irish potatoes for the average Oklahoma farm family should be raised. Use good seed cut in large sized seed pieces with at least two good eyes. Large size seed pieces are advantageous where drouth or wet weather follow and again where the early plants are cut back by frost because the plants draw upon the reserve food supply in the seed pieces to start again where killed back by a freeze. Open up the furrow four inches deep, distribute the seed 10 or 12 inches apart in the furrow, then cover by applying a furrow to each side. As the plants begin to come up harrow the ridges off level, thus a soil mulch will be established and new growth of grass and weeds will be destroyed.

Early cultivation should be comparatively deep and as the plants grow cultivation should be shallow in order to avoid disturbing the root system of the plants. As the plants grow, gradually work the soil to them in order to afford a good medium in which the potatoes can expand. Sometimes the Irish potato patch is mulched with a heavy layer of straw but it is preferable to get the plants up and cultivate them once or twice before applying a three- or four-inch straw mulch.

As the plants begin to mature as indicated by turning yellow here and there in the patch, harvest the entire patch without exposing the potatoes to the sun, then store in a cool dry place where the sun will not strike them and there should be no difficulty in keeping the spring crop of potatoes. Irish potatoes should be planted along the last of February and not later than the middle of March, depending upon the section of the state.

Varieties: The Triumph is the earliest variety and is red in color. The Ohio and Irish Cobbler are good varieties, however, are not as early but are better keepers.

Sweet Potatoes—Sweet potatoes can be grown in practically all sections of the state. The soil preferred is that of a light sandy one. In soils inclined to be heavy ridges may be formed before setting the plants, but they should be harrowed down practically level, thus affording a clean moist soil in which to set the plants or sets when danger of frost is past which is as a rule the last of April on up to early June.

Sweet potatoes should be bedded from the middle to the latter part of March for production of early slips. A hotbed will give the earliest plants but where a hotbed is not used a piece of ground may be plowed in a land in order to afford a good drainage then the potatoes bedded and covered about three inches deep with sandy or sandy loam soil. Where potatoes are bedded along the last of February or early March slips should be available in four or five weeks for setting in the open ground. It is desirable not to let the potatoes touch one another where bedded; then again if there are any diseased potatoes they should be discarded and not put in. Sweet potato slips should be set about 12 to 18 inches apart in the row and the rows about three feet apart. Cultivation should be kept up during the early growing season and as the season advances the soil should be plowed forming a ridge especially in case of soil inclined to be a little heavy.

Sweet potatoes are usually harvested just before killing frost in the fall.

Varieties: Porto Rican and Nancy Hall are the most popular varieties grown in the state.

Pumpkin—Pumpkins grow quite well in Oklahoma. Their culture is about the same as melons and cucumbers. Seed may be drilled along in rows, rows six feet apart. Plants may be thinned to two or three feet apart in the rows. Quite frequently pumpkins are raised in the corn field. They should not be planted until danger of frost is past, which is the latter part of April and through May.

Varieties: Large Cheese and Small Sugar are two popular varieties.

Swiss Chard—Swiss Chard is a vegetable which should be planted in every Oklahoma garden as it is one of the most drouth resistant vegetables we have. It is used in its young stage as greens and the large stems of the leaves may be separated out and used as a substitute for asparagus. The surplus leaves may be pulled off from time to time which will insure a supply of green feed for the chickens during the hot dry summer months. It will be available in the garden from early spring until freezing weather in the late fall or winter. It has been known to live over the winter during the mild winter season. Plant the seed in three-foot rows in drills the last of February, or early March finally thinning the plants to 8 or 10 inches in the rows.

Varieties: Lucullus is a good variety.

Tomatoes—Tomatoes is one of the most popular vegetables grown in Oklahoma, however, in many sections of the state, especially during the hot

dry summer the plants frequently shed a large portion of their blossoms and do not set fruit. Other than this difficulty tomatoes are comparatively easily grown.

The principal factors favoring the production of tomatoes are: (1) The raising or securing of large stocky cold frame plants to set out in the open ground when the danger of frost is past; (2) Setting the plants in a semi-protected place from the southwest winds; (3) Setting the plants deeply and properly spaced in a fertile soil; (4) Proper staking or trellising and pruning; (5) Cultivation.

For production of good plants it will be well to plant tomato seed in a box or seed flat along the last of February. Plant the seed about one-fourth inch deep in rows three to four inches apart, cover seed and water carefully in order to avoid washing seed out of the ground. This box should be placed in a rather warm place in the house and the soil kept moist. Be sure the box is protected from the mice. Glass or wire screen over the box may be used advantageously. As a rule the plants will be ready to transplant to another box or cold frame in about three or four weeks. It will be preferable to transplant the plants at least two inches apart each way and after all danger of frost is past stocky cold frame plants will be available to set in the open ground instead of planting seed in the open ground as is quite frequently the case in Oklahoma.

It is very important especially from the western two-thirds of the state to set tomato plants in at least a semi-protected place. Where plants can be set to the north or northeast of a building, hill or forest the hot summer winds will be broken and the plants will come nearer setting fruit than where set in the open. In setting plants in such protected place avoid excessive shade by not placing too close to the buildings or hills or trees. A thick planting of corn to the south or southwest will serve as a late wind-break.

Contrary to general supposition tomato plants will set more fruit in a rich soil than on a poor one. Tomato plants should not be set in the open ground until all danger of frost is past which is as a rule from about the middle of April to the first part of May.

Varieties: Where wilt is present only wilt resistant tomatoes should be used such as the Marglobe. Two early varieties of tomatoes are June Pink and Bonnie Best.

Watermelons—Watermelons prefer a sandy soil containing an abundant supply of organic matter which enables them to stand dry weather better. New soil is preferable for the growing of watermelons in the commercial section of the state. Rotted manure well worked into the hills or drill is very desirable. Watermelons are very sensitive to cold and should not be planted until all danger of frost is past.

Watermelons should be planted four or five feet apart in the drill and the drills as much as 12 feet apart. Where melon vines are thinned to one to the hill then all defective and surplus melons removed down to two or three to the vine melons will be larger and more uniform in size and shape.

Varieties: Tom Watson and Irish Gray are two of the most popular varieties. The Keckler Sweet and Halbert Honey are two melons of high quality.

SUGGESTIONS FOR VEGETABLE PREPARATION

Vegetables have an important place in a well chosen diet. They contribute minerals, vitamins and roughage to the diet and for good health the family should use daily two vegetables in addition to potatoes and dried beans and peas. One of these vegetables should be a leafy vegetable such as cabbage or lettuce. Vegetables should be well prepared and not overcooked. The best methods for preparing vegetables in the order of their importance are baking (in the skin), steaming, boiling in the skin and boiling with the skins removed. Remember that vegetables—

1. Furnish minerals for body regulation and body building.
2. Are alkaline in reaction and help to keep body tissues and blood neutral.
3. Are important sources of vitamins.
4. Help to prevent constipation.
5. Furnish some energy and protein.
6. Give variety to the diet.
7. Are appetizing when attractively prepared and served.
8. Should be properly cooked when cooked.
9. Should be used liberally by all members of the family each of the 365 days of the year.
10. Should be produced and canned and stored in quantities that will make it possible to have the required amount each day.

Ask your home demonstration or county agent or write the Extension Division for a copy of Extension Circular Number 277, "Vegetables and their Preparation."

SUGGESTIONS FOR VEGETABLE CANNING

Every family should be well supplied with vegetables the year around, which means that vegetables should be canned in liberal amounts during the growing season in order to have them for the winter months. Canning is the most desirable method for preserving many vegetables. It is unnecessary to can vegetables that may be stored, such as winter squash and pumpkin, turnips, sweet potatoes or those that may be dried such as lima beans and field peas.

All vegetables should be canned as soon after gathering as possible. An hour from the garden to the can is a good slogan to follow. They should be mature, tender, free from spots of all kinds and should be thoroughly washed before preparing for the can. Directions for canning in the hot water canner and in the pressure cooker are given in Extension Circulars 281 and 260, and should be carefully followed. The sterilization of jars and rubbers, the careful preparation of vegetables and holding to processing periods are essential to successful home canning. Call on your home demonstration agent for canning assistance and canning circulars.

A Vegetable Canning Guide for Good Health

Vegetable	Amount for One Person
Greens	5 quarts to last 4 months
Tomatoes or Tomato Juice	15 quarts to last 9 months
Other vegetables	22 quarts to last 8 months



Gardening and canning go hand-in-hand. These farm women are canning garden vegetables. The garden should provide a liberal supply of fresh vegetables for use during the summer and a liberal supply to be canned for winter use. Liberal quantities of tomatoes, beans, carrots, beets, corn, relish, soup-mixture, peas, mustard, spinach and others can easily be canned for winter use. Corn and beans can be dried very satisfactorily. Onions and potatoes can be stored. Cabbage and turnips can be kept in trenches or mounds. Instructions for all of these processes can be secured from the county agents or from the Extension Division.

Other Extension Circulars Which Are Available.

- Number 277, *Vegetables and Their Preparation*
- Number 281, *First Steps in Home Canning*
- Number 260, *Home Preservation of Fruits and Vegetables*
- Number 293, *Home Drying of Fruits and Vegetables*
- Number 288, *Thrift in Using What We Have*
- Number 180, *Vegetable Spray Calendar for Controlling Insects*
- Number 196, *Home Vegetable Garden*
- Farmers' Bulletin No. 879, *Home Storage of Vegetables.*