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GARDEN VEGETABLES.

INTRODUCTION.

A good garden will supply more food for the farmer's table than five times the same area planted to any of the ordinary farm crops. A half-acre of good land carefully planted to garden and well cultivated will produce an abundant supply of fresh vegetables for a family of five persons, from the time the first early radishes are ready for use till the frost kills the tomato vines in the fall. The question of quality of the vegetables should be considered before their productiveness. There is plenty of room for a garden on any farm and its location should be considered before that of any of the farm crops.

The garden should be located near the house and planted in long rows so that it can be cultivated with a horse. This will cause the rows of vegetables to be placed farther apart than is necessary for the good of the plants but much time and labor will be saved thereby. The common corn cultivators will do good work in the garden and will save a great deal of hard work with the hoe. Most of the varieties of vegetables that do not grow well in this climate fail on account of dry weather. Careful, constant, shallow, level cultivation is the best method that can be followed to retain the water in the soil and is absolutely necessary for the growing of vegetables. For most garden crops the land should be plowed in the fall and prepared for the seeding in the spring by a shallow cultivation and harrowing.

In the following pages a few of the garden vegetables are discussed. These discussions treat of the methods of planting and cultivating and of the different varieties tested and found to be valuable in Oklahoma. Variety tests and experiments in planting and cultivating have been made with all of these vegetables and the results of all this work are summed up in the discussions.

TOMATOES.

The tomato is the most important of the vegetables grown in farm gardens. The season extends over most of the summer and early fall, and the canned and preserved fruits are to be had all the year round. The plants are easily grown and with a fair amount of care bear well on almost any kind of soil.

Although the tomato was introduced into vegetable gardens only a few years ago there are now varieties to fill every need that can be filled by that kind of vegetable. There are a few varieties that are widely grown and seem to be able to adapt themselves to the local conditions of soil and climate; among these may be mentioned Trophy, Perfection, Beauty, Ponderosa, Ignatum, Atlantic Prize, Favorite, Dwarf Aristocrat, and Dwarf Champion. There is a strong tendency to develop local varieties and in localities where large quantities are grown for the market, varieties are developed that are specially adapted to that section and to the uses to which they are applied. These local varieties frequently have no real or distinct name. It is usually best to trust to the seedsman for seed for the home garden and stick to the varieties that are found to do best. Seed may be saved if the crop is much better than the average but the seed should be saved from the best plants rather than from the best fruit selected indiscriminately.

The yellow-fruited varieties have fallen into disfavor and are usually grown only in small gardens. The yellow tomatoes as a class are softer and more juicy than red-fruited varieties and do not stand handling and shipping as well. The quality of the yellow varieties is hardly as good as that of the red tomatoes and with no distinctive merits in their favor, the discrimination against their color is constantly forcing them out of cultivation. The Golden Sunrise is a good yellow tomato with a reddish blush when ripe. The Golden Dwarf Champion is a very light yellow tomato. The fruit is very soft and cracks badly. The Yellow Plum is a very good tomato of its type but is of value only for preserves and similar uses. There is little distinction made between the red and purple varieties. To this class belong nearly all the varieties that are grown in the home gardens and the commercial plantings.

The size of the fruit of the different varieties varies from the little Cherry tomato to that of the large Ponderosa. The Cherry tomato is seldom as much as an inch in diameter and specimens of the Ponderosa frequently weigh a pound. The small fruited tomatoes are of little value except for preserves and butters and similar uses. The larger tomatoes vary in form from round like the Early Minnesota to the flat oval ill-shaped Atlantic Prize and the thick, smooth Trophy. The round form is most common in the small to medium sized early varieties and the better formed and smoother fruits are most common in the mid-season

and late varieties. The medium and large fruits are usually preferred to the extra large fruits. The extra large fruits are more frequently rough and badly formed. The best form is an oval and thick from stem to blossom end. The surface should be smooth and free from folds and wrinkles.

The firmness of the fruit has much to do with its value for shipping and the cannery. The Ponderosa and Honor Bright are good examples of firm fleshed varieties and will stand shipping almost as well as apples and better than peaches. If the matured fruit is taken from the vines when the first light frost comes and laid on shelves in a dark cool room they will keep and ripen as late as Christmas. The greater the amount of solid flesh in proportion to the amount of seeds and pulp the better the tomato is for all purposes. Most of the good varieties range very close together in this characteristic and comparing the varieties of recent introduction to the old varieties it will be seen that there is constant improvement being made in this direction.

The length of the productive season is a point to be considered in the selection of varieties for the home garden. The aim should be to have a supply of good fruit during as much of the summer as possible. This can be done with less expense by planting a variety that produces fruit during a long period than by planting two or three times. The varieties that were planted on the experiment station farm last summer varied in length of productive season from 27 to 76 days. Most of the varieties continued to produce fruit until late in the fall but in most cases it was so small and in such small quantities that it was not worth picking. The length of productive season is here considered to be the time during which profitable pickings of marketable fruit were made.

Tomato seed should be planted about the first of March in hot beds or in small boxes that can be set near the stove in the house. The seed should be planted about one-half or one inch deep in moist rich soil. The seed may be planted quite thickly if the plants are to be taken up and transplanted as soon as large enough. The soil should be kept moist but not wet and at an even temperature. Too much water and heat will cause the plants to damp-off at the top of the ground. The young plants must not be allowed to stand too thickly or they will become drawn, that is, tall slender and weak and will not stand transplanting well. If the plants come up very thickly they should be thinned out or transplanted. If the small plants are transplanted to the field they will come into bearing late and much value of the crop will be lost.

Transplanting destroys many of the roots and unless good care is taken of the plants after transplanting, they will be checked in their growth and tomato plants that are checked or stunted while young will never entirely recover. If the seed is planted in the hot bed where there

is plenty of room the plants should be thinned to three or four inches apart in the row. This will give the plants room to grow and become good, strong, stocky plants. The short, stocky plants will always stand transplanting better than those that are long and slender. The thinning should be done early so the plants will get started right. If the supply of plants is not large enough to admit of thinning, the plants taken out may be set in a cold frame or in boxes where they can be kept out of reach of frost. The plants that are reset may be set in a bed of soil or in pots of soil. The last method is the best as the plants can then be set in the field and not suffer the slightest check. If regular plant pots are not at hand, boxes or pots may be made of card board or paper. Tin cans do very well if the side is split so the soil can be easily removed when the plants are set in the field. Plants that are grown in individual pots or boxes can be transplanted to the field without being checked the slightest in their growth. The plants should be pulled from the bed and set in pots when they are three or four inches high, and may be grown there until they are ten or twelve inches high or until all danger of frost is passed.

To remove the plants from the original seed bed the soil should be thoroughly wet and then several plants taken up in a bunch and set in water. The plants can then be separated with little injury to the roots. Set the plants a little deeper in the field than they stood in the bed. Press the soil well around the roots and be sure that there are no open spaces in the soil near the plant. Water the plants good after they are set and prepare some kind of a shade for each plant for the next three or four days. A piece of shingle or board stood on the south side of the plant will do very well. If nothing better is at hand a piece of paper may be placed over the plant and held in place by soil laid on the edge of the paper. The plants may be protected from late frosts after they are set in the field by bending them down and covering them with soil.

If the cultivation is to be done with a horse cultivator the plants should be set in rows about four feet apart and from two to four feet apart in the row. The dwarf or tree tomatoes may be planted much closer than the vine varieties. If hand cultivation is to be given the plants may be set in rows two or three feet apart and two feet apart in the row. Crowding the plants will not reduce the total weight of fruit per acre as much as it will reduce the size and quality of the fruit, but for the home garden the plants should be given plenty of room so the best of fruit may be gathered.

The tomato does well on almost any kind of good soil but does best on a rich sandy loam. Heavy clay soil will grow good tomatoes if well cultivated but the crop will not be as early as if planted on a sandy soil.

Bottom land is usually best because it is richer and will hold more water than an upland soil.

There is but very little land in Oklahoma that is as rich as it should be for tomato growing. The best form of fertilizer for most of this land in preparing it for a tomato crop or for any other garden crop is well rotted barnyard manure. The manure should be applied in the fall before the land is set to tomatoes. If well-rotted manure is not to be had the fresh will do better than none, but the fresh manure should be applied about one year ahead and another crop grown on the land before it is set to tomatoes. Fall plowing usually gives the best results if the plow is run deep and the soil is well pulverized. The fall dressing of manure should be applied to the land before the plowing is done. A good harrowing in the spring with a straight toothed harrow will put the land in good condition for the plants unless the soil has packed very badly and then a surface cultivation with a light cultivator or disk will be all that is necessary.

A combination of cultivation with horse power and by hand is best and cheapest. A good horse cultivator will work the surface soil better than can be done with a hoe but the hoe should follow the cultivator and clean out all the weeds that have been missed and work the soil close about the plants. Cultivation should begin when the plants are set and continue until the growth of vines prevents the work. Tomato plants require a large amount of moisture and the very best cultivation should be given to retain the water that is in the soil. The large side roots do not run deep in the soil and thus necessitate shallow, level cultivation.

Pruning the vines to one or two stems and the training to a stake or trellis will slightly increase the size and quality of the fruit but will reduce the quantity. The season of ripening may also be made a little earlier but all the benefits derived from pruning and training will not pay for the time and trellis material used. Wet weather will sometimes cause the fruit to rot where the vines lie on the ground but the loss from this source is small and the amount saved by trellising will seldom pay for the material used.

The accompanying table is prepared from the record of the 1902 crop. Most of the varieties have been grown here before and the results are practically the same. The seed for the crop here reported was planted in the hot bed March 8, and the plants set in the field direct from the original seed bed on April 17 and 18. Twenty plants of each variety were set. The plants were set four feet apart in rows four feet apart. They were given clean shallow cultivation as long as a horse and a five shovel plow could go between the rows and then the weeds and grass were kept out with the hoe the remainder of the season. The table shows the date of first ripe fruit, the average weight in ounces of good

fruit borne by each plant, the average weight in ounces of each tomato, the percent of fruits diseased, injured by insects or other causes that made the fruit unfit for market, percent of solid flesh in the fruit, and the length of the productive season.

TABLE I.

NAME	First Ripe	Average Total Weight of Fruit Per Plant	Average Weight of Fruits	Per Cent of Fruits Rotten	Per Cent of Solid Flesh	Length of Productive Season
Acme.....	July 3	48.8	1.6	18.0	70.0	56 Days
Atlantic Prize.....	June 28	88.6	2.6	11.2	82.0	70 "
Beauty.....	July 16	41.1	2.3	23.5	71.4	51 "
Best of All.....	" 19	11.3	1.9	37.3	.....	42 "
Buckeye State.....	" 19	9.0	2.0	32.7	.....	47 "
Climax.....	" 5	31.8	1.7	38.3	69.1	51 "
Combination.....	" 5	29.7	1.9	17.8	75.0	45 "
Crimson Cushion.....	" 14	31.5	2.9	16.9	87.5	56 "
Dwarf Aristocrat.....	June 28	60.0	1.7	13.5	77.9	67 "
Early Minnesota.....	" 24	124.0	1.1	11.6	77.0	76 "
Early Purple Advance.....	July 16	9.5	2.0	31.6	.....	27 "
Early Ruby.....	June 21	115.0	2.5	20.8	83.3	76 "
Enormous.....	July 5	5.9	2.0	32.7	.....	47 "
Essex Early Hybrid.....	" 7	38.1	1.9	27.1	76.9	63 "
Excelsior Purple.....	" 9	6.0	1.5	21.0	.....	34 "
Favorite.....	" 9	22.5	1.5	12.1	70.9	54 "
Fifty Days Earliest.....	June 24	106.8	1.3	12.6	75.0	76 "
Fordhook Fancy.....	" 28	35.7	1.7	12.6	80.0	70 "
Fordhook First.....	July 5	44.0	1.7	16.7	72.7	64 "
Freedom.....	June 28	52.0	1.0	19.8	80.0	72 "
Golden Dwarf Champion.....	July 1	41.5	1.4	14.4	80.9	70 "
Golden Sunrise.....	" 5	16.8	2.6	38.5	75.7	49 "
Honor Bright.....	" 7	21.3	1.9	26.9	.....	63 "
Ignotum.....	" 12	24.6	2.5	30.1	.....	58 "
Imperial.....	" 3	35.9	2.3	30.4	72.7	59 "
Kansas Standard.....	" 7	40.8	2.0	19.6	80.6	61 "
Large Early.....	" 23	12.6	2.8	15.3	.....	29 "
Lorillard.....	" 7	33.5	1.8	18.5	72.7	57 "
Magnus.....	" 9	11.6	1.7	43.5	.....	45 "
Matchless.....	" 28	9.2	1.8	30.2	.....	42 "
Mayflower.....	" 9	27.4	2.0	21.0	80.9	38 "
Peach.....	" 5	77.0	.7	22.2	78.9	65 "
Perfection.....	" 3	37.2	1.8	22.3	75.0	63 "
Ponderosa.....	" 19	13.3	3.7	32.5	.....	44 "
Quarter Century.....	" 3	35.7	2.1	30.5	79.4	66 "
Quick Sure.....	" 17	94.6	2.0	38.0	84.6	70 "
Royal Red.....	" 7	23.8	2.4	25.6	72.2	54 "
Spark's Earliana.....	" 3	71.1	2.2	21.1	81.1	61 "
Success.....	" 16	17.0	2.1	29.0	.....	47 "
Table Queen.....	" 3	35.5	1.7	42.2	81.2	65 "
The Stone.....	" 16	10.4	1.8	46.3	.....	42 "
Trophy.....	" 3	42.0	2.0	20.5	72.9	63 "
Trucker's Favorite.....	" 9	3.5	1.9	47.0	.....	42 "
Yellow Plum.....	" 3	81.4	.4	14.6	84.6	63 "

The following varieties have given the best results in three years tests and are all that merit description here.

Atlantic Prize; fruit large, oval, irregular, cracks badly, light red; vine small many branches, prostrate, leaf medium size.

Beauty; fruit medium to large, oval, thick, firm, dark red or purple; vine large, many branches, prostrate, leaf medium size.

Dwarf Aristocrat; fruit medium size, round or oval, smooth, firm, bright red; vine small, stout, tree form, leaf large.

Early Minnesota; fruit small, round, smooth, borne in clusters, bright red; vine small to medium size, many branches, prostrate, leaf small.

Early Ruby; fruit large, oval, slightly irregular, medium firm, bright red; vine medium size, many branches, semi-erect, leaf medium size.

Favorite; fruit medium size, round or oval, thick, smooth, firm, bright red; vine large, long, slender many branches, prostrate, leaf medium size.

Ignotum; fruit large, round or oval, thick, smooth, bright red; vine large, many branches, prostrate, leaf large.

Kansas Standard; fruit large, round, smooth, thick, firm, bright red; vine small, stout, tree form, leaf very large.

Perfection; fruit medium to large, oval, smooth, dark red; vine large, many branches, prostrate, leaf medium size.

Ponderosa; fruit very large, oval, thick, smooth, firm, dark red or purple; vine medium size, many branches, prostrate, leaf medium size.

The Stone; fruit medium size, round, thick, smooth, firm, bright red; vine large, many branches, prostrate, leaf small.

Trophy; fruit large, round or oval, medium thick, smooth, firm, dark red or purple; vine medium size, long slender, many branches, prostrate, leaf medium size.

EGG PLANT.

The egg plant is seldom found in the farm gardens of Oklahoma and most of the attempts at growing this plant in this country have resulted in partial or entire failure. It can not be relied upon like some of the more hardy crops but with fair care and attention it is a plant that is worthy a place in every garden. The plants are very tender to frost and suffer from the hot weather. They should be started early and handled the same as tomato plants until they are set in the field. Care must be taken to keep the plants in good growing condition from the time they appear above ground till they begin to fruit. If the growth is checked while they are young they will never entirely recover.

The plants should be set about two feet apart in the row in rows three or four feet apart. Shallow, level cultivation gives the best results and this must be frequent enough to keep down the weeds and continue throughout the summer. Deep cultivation will do direct harm unless the ground is full of moisture.

There are but a few varieties of this plant in cultivation and only three varieties have been found that have proven to be worthy of cultivation in Oklahoma. Those three varieties are Fordhook Improved Spineless, New York Large Purple, and White Pearl. The first two varieties produce large purple fruits and the other creamy white or light green. It requires about 100 days for either of these varieties to grow and mature fruit. The White Pearl seems to be the most productive. The quality of all the varieties is about the same. For market the purple fruited varieties are grown and for home use the white is preferred.

ONIONS.

Onions are more easily grown than most any other garden crop. The different varieties vary some in their adaptability and in their keeping qualities. In all the variety tests that have been carried on at the experiment station there has not been a variety found that is not worth

cultivation. Some varieties are much better than others and should be planted in preference to others. The red, yellow and brown onions are better for market than the white but for early onions some of the white varieties are best. The large onions are usually sweeter and more mild in flavor than the small onions; and of the large, the yellow and brown are better flavored than the red. In selecting varieties for home use it is best to choose those that produce large bulbs and are good keepers. These characteristics should be considered first and then the relative yield per acre. The yield per acre can be influenced much more easily than the flavor and keeping quality of the bulbs.

The seed is cheap and for starting the general crop, is better than the sets. The sets will produce marketable onions earlier in the spring but this is about the only purpose for which they are better than the seed. The seed is cheaper, easily planted and in every way as easily cultivated as the sets.

The land for the onion bed should be plowed in the fall or early winter and given a shallow surface cultivation just before planting the seed in the spring. The seed should be drilled in rows about 18 inches apart. The soil should be pressed down well on the seed to insure an even stand of plants. The planting should be done by the middle of March so that the plants can complete their growth in the early part of the summer. Onion seed deteriorates very rapidly with age and only the seed of the previous season can be depended upon. The seed germinates very slowly and if the soil is dry germination may be hastened by soaking the seed for a day or two before planting.

The land should be cultivated as soon as the young plants appear above ground. The first cultivation can be done with the garden rake or some light tool that will stir the surface soil. As soon as the plants are large enough to be pulled by the tops they should be thinned to three or four inches apart in the row. This work is necessary and the earlier it is done the better. The land must be well cultivated throughout the growing season and kept free from weeds and grass. Shallow, level cultivation is the best and any work that tends to ridge the rows should be avoided.

Starting the plants in the hotbed and then transplanting them to the open ground has been tried and has regularly given a poor crop. The soil is usually too dry in the early spring for this method to succeed.

The bulbs should be left in the ground until the tops are dead. They should then be taken up and stored in a dry cool place until marketed or used. The dead tops may be cut off when the bulbs are pulled or they may be left on until the onions are marketed. Moisture will cause the onions to rot and a high temperature will cause them to sprout.

The best way to store them is to pile them on the floor or on shelves and then cover with straw or some similar material that will not prevent them from getting fresh air. They should not be piled more than twelve or eighteen inches deep. Freezing will damage them very little if they are kept frozen until spring and not allowed to freeze and thaw repeatedly through the winter.

The table here given is compiled from the record of the 1902 crop. The yield per acre is calculated from small plats and shows only approximately what might be expected from larger areas. The onions were gathered as soon as the tops were dead. The tops were cut off and the onions placed in small boxes on the floor of the hay mow in the barn. This was not a good place for them for they were just beneath the roof and the temperature was too high. The onions were counted on November 4th and all that were sprouted or rotten were classed as unsound and the percent sound was calculated from these figures. With better conditions of storage the poor keepers would no doubt have made a better showing and the good keepers would have had very little loss.

The best six varieties for general planting are Australian Brown, Giant Red Rocca, Michigan or Ohio Globe, Pink Prizetaker, Prizetaker, and Southport Red Globe. These are all good onions and are the best yielders and keepers of any varieties that have ever been grown on the experiment station farm. Giant Rocca of Naples, Giant Yellow Rocca, and Red Victoria are very productive varieties but are very poor keepers.

TABLE II.

NAME	Date Gathered	Yield Per Acre Bu.	Percent Sound November 4	Color
Australian Brown.....	July 21	242	83	Brown
Australian Yellow Globe.....	" 28	242	35	Yellow
El Paso.....	Aug. 1	181	26	White
Extra Early Barletta.....	July 15	161	27	White
Extra Early Queen.....	" 15	193	32	White
Extra Early Red Flat.....	Aug. 1	242	48	Red
Extra Early White Pearl.....	July 15	181	29	White
Giant Rocca of Naples.....	" 28	484	3	Brown
Giant Red Rocca.....	" 28	363	93	Red
Giant White Italian Tripoli.....	Aug. 1	242	25	White
Giant Yellow Rocca.....	" 1	435	14	Yellow
Large Red Wetherfield.....	" 1	242	56	Red
Mammoth Silver King.....	" 1	212	4	White
Michigan or Ohio Globe.....	July 28	242	81	Brown
Oregon Red Danvers.....	Aug. 1	181	58	Red
Philadelphia Silver Skin.....	" 1	121	82	White
Pink Prizetaker.....	July 28	242	81	Light R
Prizetaker.....	Aug. 1	242	86	Yellow
Red Bermuda.....	" 1	272	16	Red
Red Victoria.....	July 28	363	26	Red
Southport Red Globe.....	Aug. 1	242	79	Red
White Globe.....	" 1	121	76	White
White Portugal.....	July 21	121	86	White
White Silver Skin.....	Aug. 1	181	72	Whit
Yellow Globe Danvers.....	July 28	181	75	Yellow
Yell w Flat Danvers.....	" 21	181	77	Yellow

Description of the best six varieties.

Australian Brown: Bulb medium size, medium thick; skin hard, thick, brown; flesh firm, white.

Giant Red Rocca: Bulb medium size, flat, pointed at both ends; skin thick, red; flesh red.

Michigan or Ohio Globe: Bulb medium size, round; skin thick, brown; flesh firm, white.

Pink Prizetaker: Bulb large, round or oblong, pointed at both ends; skin light red, flesh light red.

Prizetaker: Bulb medium size, thick; skin yellow; flesh firm, white.

Southport Red Globe: Bulb medium size, round; skin red, flesh firm, red.

LETTUCE.

Lettuce is the most popular salad plant grown in the United States and is one of the first vegetables ready for use in the spring. In this climate it can be grown successfully only in the spring. It requires cool weather for its best development. Some of the most tender varieties will sunscald here in the last of April and May and the most hardy varieties are seldom good after the first of June. If there is plenty of rain in the fall season and the frost does not come until late, a crop can be grown then with little trouble. In specially cool and favored locations the plants may be grown in July and August but the leaves are usually too thick and tough for use.

The seed may be planted in the hot bed in February and the plants grown there to maturity. The bed must be well ventilated and watered. The seed should be drilled in rows from six to twelve inches apart and the plants thinned to three inches apart in the row as soon as they are well started. If it is desired to grow large plants they should be thinned to ten or twelve inches apart in the row and the rows should be ten or twelve inches apart. The plants may be started in the hot bed or a small box in the house and then transplanted to the open ground. This crop will not pay for the work of transplanting however in Oklahoma with the present prices of land and labor.

The seed should be sowed in the open ground in March. The land should be plowed and prepared for the crop two or three weeks before the seed is planted. The seed should be drilled in rows twelve to eighteen inches apart and covered with about one inch of soil. If the soil is very dry the seed should be planted deeper and if the soil is very wet the seed should not be placed more than one-half inch deep. The plants should be thinned to two or three inches apart in the rows as soon as they are well started. As soon as the largest plants are large enough to use they can be taken from the bed and the thinning process continued until the entire crop has matured. The cultivating should be done with the hoe or the wheel hoe. The surface soil should be stirred and loosened frequently and kept free from weeds and grass. If the land is well prepared for the crop it will require very little cultivation.

Lettuce is frequently grown as a companion crop with cabbage, beans and early potatoes. It can be planted between the rows or in the row

with the other crop. If planted early and well cared for it will be out of the way before the other crop needs all the land. A small bed will usually supply a family with plenty and there is little need of planting it with another crop.

There are now a great many varieties in cultivation. The experiment station has grown as many as thirty-five varieties in one season. There are many varieties that so closely resemble each other that a person not skilled in identifying varieties could not distinguish them. There are a few varieties that do very well in Oklahoma. The curly leaf lettuce as a class is better adapted to this climate than the head lettuce. The Grand Rapids, Early Curled Silesian, Black Seeded Simpson, and Simpson's Early Curled are about the best varieties of the curly leaf class. Hanson is a very good lettuce with large curly leaves and in some localities forms a distinct head but as grown at the experiment station it is not head lettuce. The Early Prize Head, Silver Ball, Paris White Cos and New York are about the best varieties of the head lettuce.

Description of the best varieties.

Grand Rapids:—plant large; leaf large, light green, curly. One of the best varieties grown.

Early Curled Silesian:—plant large; leaf large, light green, curly.

Black Seeded Simpson:—plant very large; leaf large, light green, curly, sometimes forming a large loose head. A very good variety.

Simpson's Early Curled:—plant medium size; leaf medium size, light green, curly. The plant sends up the seed stalk very early. A good early variety.

Hanson:—plant medium size; leaf medium size, dark green curly, very tender. This sometimes forms a small loose head.

Early Prize Head:—plant small; leaf small, dark green tinted with red; head small. A good early variety.

Silver Ball:—plant large, leaf medium size, dark green breaches to nearly white in the head; head large, compact.

Paris White Cos:—plant large; leaf medium size, dark green; head large, loose.

New York:—plant large; leaf large, dark green, slightly sunscalded; head large, compact.

RADISH.

Radishes require a rich sandy loam for their best development but they can be grown on all most any kind of fertile soil. They are grown only in the summer in this climate. They require a cool temperature and plenty of moisture in the surface soil. The plants are small and the roots short so they are necessarily surface feeders. They are of quick growth and any check in their growth is sure to impair the quality. The early sorts grow to maturity in from four to six weeks from the time of germination. They should be pulled and used before they are mature. The roots that mature become woody and pithy and are not fit for use.

The earliest of the turnip varieties can be planted in a hotbed in the late winter and grown there without difficulty. The seeds should be drilled in rows six to eight inches apart and the plants thinned to one inch apart in the row. The seed should be covered about one-half inch

deep. They require very little attention after the planting is done. The soil should be kept moist and free from weeds and surface stirred to keep it loose.

Radishes may be planted as a companion crop with peas and onions, but in Oklahoma there is little need of such close planting. The radishes germinate very rapidly and soon break the crust of the soil and show the rows so cultivation can be carried on with greater facility. The earlier kinds will be out of the way before the accompanying crop is large enough to use all of the land. The seeds should be drilled in rows from ten to fifteen inches apart and the seeds covered about one inch deep. The young plants should be thinned to two or three inches apart in the row. If the soil is fertile and contains a good supply of moisture the plants will do very well without thinning, but will always grow faster if they are thinned. They should be cultivated frequently enough to keep the surface soil loose and open.

Most of the varieties of radishes do well and there is but little difference in the varieties of the same class. The early turnip varieties are the best for planting in hotbeds and in the open for an extra early crop. The long rooted varieties are better for later planting and should be used for the main crop. The summer radishes can be planted later in the spring and will be ready for use in May and June. The winter varieties may be planted in August and September the same as turnips. They will seldom make a crop however and are not worth planting.

SALSIFY OR OYSTER PLANT.

Salsify is a vegetable that is seldom found in the farmer's garden in Oklahoma. It is not a staple vegetable and perhaps will never become such but it should be planted in every garden in the territory. It is easily grown and can be left in the ground nearly all winter without loss. When properly prepared it makes a very good soup with a taste very much like oyster soup.

The seed is planted in the early spring about the same as onion seed and the plants are thinned and cultivated in about the same way. The plant is of slow growth and requires the whole season for roots to mature. Level, clean cultivation is all that is necessary.

There are few varieties and they can hardly be distinguished from each other except by the size of the plants. The Sandwich Island is perhaps the best variety now in cultivation.

BEANS.

Garden beans are commonly divided into two classes, the bush beans and the pole beans. The bush beans are more commonly grown in Oklahoma than the pole beans because they do not require as long a season.

The season of the garden beans that are planted in the spring is limited by the dry weather in July and August more than by the early frosts in the fall. Beans should not be planted until all danger of frost is passed.

Bush beans should be drilled in rows from two to three feet apart and the plants thinned to four or six inches apart. The seed should be covered with about one or two inches of soil depending on the amount of moisture present. The land should be cultivated from the time the plants are up until the growth has stopped. The cultivation should be shallow and leave the surface soil level and well pulverized. Good shallow cultivation given with a horse cultivator and hoeing to keep the weeds and grass down is the best kind of treatment that can be given.

The bush beans have a strong tendency to ripen their entire crop at the same time. This characteristic is very desirable in growing a crop for dry beans but for green beans this tendency should be overcome as much as possible. The best way to keep the vines in bearing longer than their natural bearing season is to keep the green pods pulled off as soon as they are large enough to use. This practice if closely followed will often lengthen the bearing season two or three weeks.

There are many varieties of bush beans now on the market. There are a few groups of varieties that do well in this locality with little care and attention. The Valentine varieties have done well and are about the best varieties for snap or green beans but they are not of good quality for dry beans. The plants are medium to large; pods round, green, tender; bean medium to large, blotched and speckled with various shades of red and brown. Early Mohawk and Long Yellow Six Weeks are also very good bush beans for green beans. Early Mohawk is a medium to large kidney-shaped bean, brown speckled and blotched with dark red. Long Yellow Six Weeks is very similar to Early Mohawk only it is solid brown. Large White Marrow and White Kidney are the beans most commonly used for dry beans. These varieties are medium sized, white, kidney-shaped beans very much like those just described in plant. Among the best varieties of the wax or yellow pod beans may be mentioned the Golden Wax, Dwarf Black Wax, and Refugee Wax. Golden Wax is a small bean, white, covered with blotches of red. Dwarf Black Wax is a medium sized black bean. Refugee Wax is a small brown bean covered with blotches of black. The Bush Limas make a good crop in good seasons but they require more moisture and a longer growing season than the common kidney beans.

PEAS.

Garden peas are commonly divided into two classes on the form of the seed, the smooth seed and the wrinkle or sugar peas. The smooth seed varieties are the most hardy and should be planted early in March.

Varieties with wrinkled seed may be planted two or three weeks later. The dwarf varieties should be drilled in rows from one to two feet apart with the plants two or three inches apart in the row. The tall varieties should be drilled in rows three feet apart with the plants six to eight inches apart in the row. Peas should be cultivated the same as beans. The young peas should be gathered as soon as they are two thirds or three fourths grown if the vines are to be kept in bearing.

All the varieties that are eighteen inches high or over should be supported by some form of trellis. The cheapest material that can be used on most farms for this purpose is small brush or limbs. The stem can be sharpened and stuck along in the row and serve all the purposes of a wire trellis.

There are many varieties of peas on the market. Tom Thumb is the leading early dwarf variety. The vines are about ten inches high, pea smooth.

Little Gem is the leading wrinkled variety. There are several varieties of this class and all of them are good but later than Little Gem.

Telephone is the leading wrinkled variety of the tall, late peas. The vines are four or five feet high.

White Marrowfat is the leading variety of the tall, late, smooth peas. The vines are four or five feet high.

CABBAGE.

A report of variety tests of cabbage was given in Bulletin No. 52, a few copies of which are still available for distribution.

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