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# A HOME GARDEN

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## A HOME GARDEN.

The last U. S. Census shows that only 65% of the farms in Texas are producing any vegetables whatever, and only a small portion of these are growing enough to supply the family through the season. The average farm in the richest farming section of the State is producing approximately one-third of the amount of vegetables which are consumed by the average farm family of the United States, according to reports from the Federal Department of Agriculture. This means either that the Texas farmers are not consuming as large a quantity of vegetables as the average farm family of the country is consuming, or that they are raising other crops which are sold in order to purchase these vegetables.

The President of the United States, through the Food Administration, is urging every person to grow all the food and feed possible, and so far as practicable, consume the perishable products and leave staples to be shipped to our soldiers and allies; therefore, in accord with this policy we are making the following suggestions, in order to stimulate the planting and care of gardens not only in the country but in the city as well.

**LOCATION**—The garden should be located on the southern or south-eastern slope, because it warms up earlier in the spring. It is better to have it nearer the top, as then air drainage is better and the vegetables are not so liable to injury from early fall and late spring frosts. A rich sandy loam, with porous clay subsoil is the best type of soil for a garden. It warms up earlier in the spring, can be worked quickly after a rain, is easier to handle, and vegetables, especially the root crops, will grow better. Every farmer can not be so fortunate as to have this type, but there are few soils which will not grow some assortment of vegetables.

**SOIL PREPARATION**—The garden should be broken in the fall, so that the weeds and manure will decompose. It is well to leave the ground rough so as to absorb the winter rains. If the land has not been broken in the fall it should be plowed as early in the spring as possible. A harrow should follow the plow, so that the clods will not dry out and become hard. If it is necessary to spade or fork up the soil the clods should be broken up at the same time. Vegetable seed need a firm well pulverized seed bed in order to obtain a high germination.

**FERTILIZER**—Manure is one of the best fertilizers that can be used in a garden. It not only adds plant food, but also organic matter, which improves the physical condition of the soil. About 20 to 25 tons to the acre should be plowed under. Unleached wood ashes make a good fertilizer, since they contain lime, also potash, and the latter can not be bought as a commercial fertilizer at the present time. Lime, whether added in the form of ashes or burned limestone, neutralizes soil acidity, improves its physical character, promotes decomposition and makes plant food available. Lime and manure should never be applied to the soil together. Plow the manure under, then place the lime on top of the soil and harrow it in. Cottonseed meal and acid phosphate added to the soil are also good fertilizers to use for the general garden. Green cover crops, turned under in the fall, are also good.

**IRRIGATION**—Irrigation is needed to obtain best results with the garden in some sections of Texas. When necessary, enough water should be given to soak the ground thoroughly. It should be applied in the evening or on cloudy days. Most growers use only enough water to dampen the surface soil. Before water is applied dig down to the roots of the plants, take up a handful of soil and press it in the palm of the hand; if the soil adheres in a ball water is not needed. Irrigation water should not flood the garden and cover the young plants. It should be run in the furrows and carried to the plants by capillary attraction. As soon as possible after each irrigation the land should be cultivated. Irrigate only when needed. There is as much danger of giving the plant too much water as not enough.

## DISTANCE AND DEPTH OF PLANTING.

In planting vegetables one should know something of their habits of growth, so that there will be no unnecessary vacant lands between the plants and rows. The rows should be from 24 to 36 inches apart for horse drawn implements.

The depth of planting depends upon the size of the seeds, the condition of the soil, and the season of the year. Generally, seeds should be planted about four times the depth of their thickness; however, the depth should be greater in the summer than in the spring. The planting should be shallower in moist, cool soil, than in dry, warm soil.

The distance to leave the plants and the depth to sow the seeds in a garden where hand cultivation is used, are shown below:

Radishes, leaf lettuce, spinach, mustard and onion seed in drills, 12 to 15 inches apart, 1-4 to 1-2 inch deep.

Onion plants and sets in drills 16 to 18 inches apart, 4 to 6 inches between plants, 1 1-2 to 2 inches deep, carrots and turnips in drills 16 to 18 inches apart. Parsnips, salsify, parsley, chard, kale, in drills 12 to 15 inches apart 1-2 to 3-4 inches deep. Carrots, parsley, parsnips and salsify germinate slowly, and radish seed should be sown to mark the rows in order to allow cultivation before they appear.

Peas in double rows 8 to 12 inches apart, 2 1-2 feet being allowed between each pair of rows. Single rows 18 to 20 inches apart, 2 inches for first crop and afterward depth according to season. The hotter the season the deeper the seed should be planted. When planted 5 or 6 inches deep do not place back the soil all at once but about 2 inches at first and then throw more soil to the plants as they grow larger.

Potatoes in rows 30 to 36 inches apart, 12 to 15 inches between hills in the rows, 4 to 5 inches deep.

Bush beans in rows 18 inches apart and hills 8 inches apart in rows 1 1-2 to 2 inches deep.

Pole beans in rows 4 feet apart and hills 3 to 4 feet apart in rows 1 1-2 to 2 inches deep.

Sweet corn in rows 3 feet apart and hills 18 inches apart, 2 inches deep.

Cantaloupes, cucumbers and summer squash in hills 4 by 5 feet, 1 inch deep and 8 to 12 seed to the hill.

Watermelon, pumpkins, and winter squash, in hills 6 by 8 feet, 1 inch deep and 8 to 10 seed to the hill.

The seed should be covered with moist soil immediately after planting; it is best to firm the soil slightly around the seeds.

**DISTANCES FOR TRANSPLANTING**—Plants in open field that have been transplanted: Cabbage, Cauliflower and Brussels sprouts in rows 3 feet apart and 1 1-2 feet in the rows.

Peppers in rows, 30 inches and 18 inches in the rows.

Egg plants in rows 3 1-2 feet and 30 inches in the rows.

Head lettuce in rows 18 inches, and 12 inches in the rows.

Tomatoes in rows 3 to 4 feet apart and 2 1-2 to 3 feet in the rows.

Sweet potatoes in rows 3 to 3 1-2 feet and 18 inches in the rows.

Celery, according to method of bleaching. Rows 30 inches apart and 6 inches in the rows are good distances to allow.

Petsai or Chinese cabbage in rows 24 to 30 inches and 8 to 12 inches in the rows.

**TRANSPLANTING**—To obtain the best results, such vegetables as cabbage, cauliflower, celery, egg plant, kohlrabi, lettuce, onion, pepper, sweet potato, petsai, or Chinese cabbage, and tomato have to be started in the spring in a protected place and then transplanted to the field, after the danger of frost has passed. Beets are often started this way. This may be done in the hot bed, cold frame, pots or flats. Flats are small boxes, 3 or 4 inches deep, 18 inches long and 12 inches wide.

Cabbage, cauliflower, egg plant, kohlrabi, lettuce, onion, pepper, tomatoes and beets should be sown in drills which will make the cultivation and the

thinning of the plants easier. They should be planted from 1-4 to 1 inch in depth. Celery seed is very small and must be given special attention. They should be sown broadcast and then a thin layer of fine soil scattered over them to imbed the seeds but not to cover. Then water lightly and cover with paper or board. Water occasionally taking up the paper or the board each time. When a majority of the seed have germinated, remove the covering.

Sweet potatoes are grown from slips that are produced by planting the whole sweet potato in the hot bed. There is not so much manure needed in the hot bed as for other vegetables. "Spent hot beds" have given good results. The potatoes used for propagation are placed in the hot beds so that they do not touch, and are covered with two or three inches of fine soil. Before bedding, sweet potatoes should be soaked 10 minutes in bichloride of mercury (corrosive sublimate) at the rate of 1 oz. to 8 gallons of water, as a preventive against rot.

Transplant all plants to the open field on a cloudy day or in the late afternoon. Plants should be planted slightly deeper than they stood in the hot beds or cold frames. It is best to pull the lower leaves from the tomatoes, peppers and egg plants. Cut about 1-3 of the outer leaves from plants with large leaves such as celery, cauliflower, Brussel sprouts, lettuce and beets. About 1-3 or 1-2 of both onion tops and roots should be cut. The reason for cutting off part of the leaves is to cut down the leaf surface. The more leaf surface a plant has, the more water it evaporates, and young plants should not evaporate too much of the water. Stop watering the plant gradually before time to transplant and the last several days do not water at all. The soil should be dampened the day the plants are to be pulled so that they will come up easily and the roots will not break off. It generally takes from 4 to 8 weeks in the hot beds and cold frames for plants to become large enough to transplant to the field. Distance to plant in the open field will be found under the heading of sowing.

A great many vegetables started in the hot beds have to be shifted. This is the process of changing the young plant to other beds, flats or pots, so they will have more room for development. Plants that have been shifted have a better root system and a stronger growth of top than unshifted ones. The shifting should be done when the first true leaves are showing well; all the plants should be set deeper when shifted than they originally stood.

Beets, onion, sweet potatoes and Chinese cabbage should not be shifted. Head lettuce, cabbage, cauliflower, kohlrabi and celery should be shifted into either 2 1-2 inch pots or planted 2 inches apart in flats or cold frames. Tomatoes, peppers, and egg plants should be shifted twice; first in two inch pots and the second time in four inch pots. If pots cannot be obtained, place them in flats or cold frames two inches apart the first time shifted and four inches apart the second time shifted.

Vine crops such as cantaloupes, watermelons, cucumbers, squashes and pumpkins are seldom started in hot beds to obtain an early crop. They can be started successfully in the hot beds, provided they are planted in some receptacle, such as paper bands or small sacks that can be planted with the plants. Do not move the dirt from the roots when transplanting. The vine crops cannot be shifted into cold frames or flats.

**CULTIVATION**—Cultivation should start soon after the crops are planted. Most soils in Texas form a crust when they dry out. This crust should be kept broken especially after the plants come up. The land should be cultivated after every rain or at intervals of a week or ten days during a dry season. Cultivation keeps the weeds down and conserves moisture. A wheel hoe is a good implement to use in the garden. Both time and labor are saved by it. A rake or hoe can be used to good advantage, and do not forget that the soil needs constant stirring if best results are expected.

**COMPANION CROPPING**—Companion cropping is the growing of two or more crops on the same land at one time.

Where there is ample room to have a large garden, companion cropping is not necessary, but when the space is limited companion cropping is advisable. Quick maturing crops like radishes, lettuce, spinach, mustard, and green onions can be grown between late maturing crops like early cabbage, cauliflower, tomatoes, sweet corn, carrots, parsnips and celery. These quick maturing vegetables will mature and be harvested before the late maturing crops become large enough to occupy the soil. By keeping in mind the number of days it takes vegetables to mature and their habit of growth, a companion cropping system which will save time, labor and space, can be readily devised.

**SUCCESSION CROPPING**—Succession cropping is the growing of one after another on the same land during one season; such as peas, followed by beans, turnips followed by fall spinach, Irish potatoes followed by sweet potatoes, etc. The reason why people do not have a garden the year around is because they do not plant vegetables where the one just matured was taken out. As in companion cropping, if the number of days it takes the different vegetables to mature are kept in mind, also the season the crop will produce the best vegetables, a crop can be kept on the soil the whole season. It is best to plant one-third of the seed of one vegetable like turnips, radishes, etc., and in a week or ten days plant another one-third and so on. When planted this way the whole crop does not mature at one time and you have vegetables for table use over a long period.

## TIME OF PLANTING AND VARIETIES

### CROPS OCCUPYING THE GROUND ALL SEASON

Asparagus	Cucumber	Pumpkins
Rhubarb	Egg Plants	Potatoes, Irish, main
Beans, pole snap	Leeks	crop
Beans, pole Lima	Melons	Salsify
Beets, late	Onions (from seed)	Squash
Carrots, late	Parsnips	Rutabagas
Corn, late	Peppers	Tomatoes

### SUCCESSIVE

Beans, dwarf	Peas, English	Spinach
Kohlrabi	Parsley	Turnips
	Lettuce	Radish

### EARLY CROPS WHICH MAY BE FOLLOWED BY OTHERS

Beets, early	Cabbage, early	Onion sets
Carrots, early	Corn, early	Turnips

### LATE CROPS WHICH MAY FOLLOW OTHERS

Beets, late	Cabbage, late	Kale
Brussel Sprouts	Celery	Endive
Cauliflower	Flax Turnips	Peas, late
	Spinach	

There is not room here to give the dates for the different sections of Texas. The approximate dates are for central Texas. For south Texas the planting will be earlier and for north Texas, later. The varieties given are among the best for Texas.

**ASPARAGUS**—Dec. and Feb.—Argentevil, Conover's Colossal, Palmetto.

**BEANS**—April 1st to 14th—(Lima beans April 10 to 20th); Red Valentine, Black Valentine, Burpee's Stringless Green Pod; Improved Golden Wax, Henderson's Bush Lima, King of Garden Lima, Yellow Six Weeks, German Black Wax, Lazy Wife, Kentucky Wonder.

BEETS—In Hot Beds, Feb. 1 to 15th, in open field Mar. 10th to 15th—Crosby's Egyptian, Eclipse, Crimson Globe, Detroit Dark Red.

CABBAGE—In hot beds, Feb. 1st to 15th, in open field, Mar. 1st to 15th—Early Jersey Wakefield, Charleston Wakefield, Volga, Winnigstadt, All seasons. Succession.

CARROT—Mar. 10th to 25th—Early Scarlet Horn, Chantenay, Danver's Half Long.

CAULIFLOWER—In Hot Beds Feb. 10th to 20th; in open field, Mar. 10th to 20th—Dry Weather, Snowball, Dwarf Erfurt.

CELERY—In hot beds, Feb. 20th to Mar. 1st; in open field, Mar. 10th to 20th—Golden Self-bleaching, Giant Pascal.

CHARD SWISS—Same as beets—Large Ribbed White.

CORN, SWEET—Mar. 1st to 10th—Golden Bantam, Country Gentleman, Adams Early.

COLLARD—Same as cabbage—Southern or Creole.

CRESS—Mar. 1st to 15th—Fine Curled.

CUCUMBER—In hot beds, Mar. 1st to 10th; in open field, April 1st to 10th—White Spine, New Klondyke, Ever Green, Early Cluster, Davis Perfect.

ENDIVE—Mar. 10th to 15th—White Green.

EGG PLANT—In hot beds, Mar. 1st to 10th; in open field, April 1st to 10th—Black Beauty, New York Improved Spineless.

KALE—Mar. 10th to 15th—Dwarf Scotch, Tall Green Scotch Jersey Headed,

KOHLRABI—Mar. 1st to 15th—Early White Vienna, Early Purple Vienna.

LETTUCE—In hot beds, Feb. 1st to 15th; in open field, Mar. 1st to 15th—Big Boston, California Cream Butter, Hansch, Grand Rapids, Black Seeded Simpson.

MUSTARD—Mar. 1st to 15th—Giant Southern Curled, Chinese Mustard, Ostrich Plume, Fordhook Fancy.

MUSKMELON or CANTELOUPE—Same as Cucumbers—Rust Resistant, Rocky Ford, Eden Gem, Melted Rock, Honey Dew, Cannon Ball.

WATERMELON—Same as Cucumbers—Tom Watson, Means, Halbert, Honey, Kleckley Sweet, Kleckley Shipper.

OKRA—April 1st to 10th—Long Green, White Velvet, Kleckley's Favorite, Dwarf Prolific.

ONIONS—Seed: In hot beds, Feb. 1st to 15th; in open fields, Feb. 15th to Mar. 15th; Sets—Feb. 15th to Mar. 1st.

For South Texas, Crystal, White Bermuda; for north Texas, Prizetaker, Red Weathersfield, White Globe.

PARSLEY—Mar. 1st to 15th—Extra Dark Moss Curled, Double Curled.

PARSNIPS—Mar. 10th to 15th—Improved Guernsey, Improved Hollow Crown.

PEAS—English; Smooth varieties, Mar. 1st to 15th; wrinkled varieties, Mar. 10th to 20th—Alaska Early, Gradus, Nott's Excelsior, Champion of England, Telephone.

PEPPER—Sweet, hotbeds, Mar. 1st to 10th; in open field April 1st to 10th—Chinese Giant, Bell, Ruby King, Pimento.

PEPPER—Hot—Same as sweet peppers—Small Chili, Long Red Cayenne, Tabasco.

PUMPKIN—Same as cucumbers—Big Tom, Small Sugar, Tennessee, Sweet Potato.

RADISH—Mar. 1st to 15th—French Breakfast, Cincinnati, Market, Long Scarlet, White Icicle, White Vienna.

RHUBARB—Dec. and Feb—Crimson Winter, Victoria.

SALSIFY—Mar. 10th to 25th—Sandwich Island Mammoth.

SPINACH—Mar. 1st to 10th—Bloomdale, Virflay, Long Season, New Zealand, Aragon,

SQUASH—April 1st to 10th—Early White Bush, Yellow Summer, Crook-neck, Port Hook Marrow.

TOMATO—Same as Peppers—Earliana, Matchless, Stone, McGee, Dwarf Champion, Beauty, Acme.

TURNIPS—Mar. 1st to 15th—Purple Top Strap Leaf, Purple Top Globe, Early White, Flat Dutch, Red Top Globe.

POTATOES, IRISH—Feb. 15th to Mar. 1st—Irish Cobbler, Early Ohio, Rural, Bliss Triumph.

POTATOES, SWEET—In hot beds, Mar. 1st to 10th; in open field, April 1st to 10th—Nancy Hall, Dooley Yam, Porto Rico, Triumph and Southern Queen.

#### AMOUNT TO PLANT, PER CENT OF GERMINATION AND DAYS TO MATURE.

The approximate amount it takes to plant a 100 foot row of the different vegetables is given below, also the percent of germination and the time it takes vegetables to reach the edible stage. This latter depends upon the variety, the soil, rainfall and climate.

VEGETABLES	AMT. TO PLANT PER 100 FT.	Per ct. of Germination	Days to Maturity
Asparagus .....	66 roots .....		
Beans, string .....	1 pint .....	90-95 .....	45-65
Beans, Lima .....	1 pint .....	90-95 .....	65-100
Beets .....	2 oz .....	150 .....	65
Cabbage .....	1 pkt. 65 to 90 plts. ....	90-95 .....	105-150
Carrots .....	1 oz. ....	80-85 .....	65-85
Cauliflower .....	1 pkt. ....	80-85 .....	110
Celery .....	1-4 oz. ....	60-65 .....	
Chard, Swiss .....	2 oz. ....		45-60
Sweet Corn .....	1 pint .....	85-90 .....	-75
Cucumber .....	1 oz. ....	85-90 .....	55-70
Egg Plant .....	1-2 oz. ....	75-80 .....	150-160
Kohlrabi .....	1 pkt. ....		65-76
Lettuce .....	1-2 oz. ....	85-90 .....	-65
Mustard .....	1-2 oz. ....	90-95 .....	30-45
Muskmelon .....	1 oz. ....	85-90 .....	120-140
Okra .....	1 oz. ....	80-85 .....	-75
Onion, seed .....	1 oz. ....	80-85 .....	135-150
Onion, sets .....	1 qt. ....	80-85 .....	35-40
Parsley .....	1 pkt. ....	70-75 .....	85-100
Parsnips .....	1 oz. ....	70-75 .....	-150
Peas .....	1 to 2 pts. ....	93-98 .....	-60
Peppers .....	1 pkt. ....	80-85 .....	140-156
Potato .....	6 to 7 lbs. ....		70-90
Radish .....	1 oz. ....	90-95 .....	36-45
Pumpkin .....	1 oz. ....	85-90 .....	-120
Salsify .....	1 oz. ....	75-80 .....	-150
Spinach .....	1 oz. ....	80-85 .....	65-90
Squash .....	1 oz. ....	85-90 .....	60-125
Sweet Potatoes .....	3* to 4 lbs. 75 plants. ....		-154
Tomato .....	2 pkts. ....	85-90 .....	-150
Turnips .....	1-2 oz. ....	90-95 .....	60-70
Watermelon .....	1 oz. ....	85-90 .....	120-140

## A. FEW COMMON GARDEN PESTS.

INSECTS	PLANT ATTACKED	TREATMENT
Eating Type Cabbage Worm	Cabbage Groups	Hand pick or apply arsenate of lead.
Cucumber Beetle	Cucumbers, Melons and Pumpkins.	Cover with frame, apply tobacco dust or spray with Bordeaux mixture and arsenate of lead.
Cut Worms	Cabbage, Onions and Tomatoes	Apply poison bait around the plants in the evening. The bait consists of 5 lbs. bran, 1-4 lb. Paris Green, 1 pt. cheap molasses, 1 orange or lemon, and 3 1-2 qts. of water. Do not let chickens eat this bait.
Tomato Worm	Tomatoes and Corn	Hand pick or spray with arsenate of lead
Potato Beetle	Potatoes, Egg Plants, and Tomatoes	Hand pick or spray with arsenate of lead and Bordeaux Mixture.
Sucking Type Aphis (plant lice)	Cabbage Groups, Cucumbers and other Plants	Spray with Black Leaf "40" or solution of hard soap. Burn the worst affected plants.
Squash bug	Squash, Pumpkins, Melons, Etc.	Hand Pick, spray with Black Leaf "40"
Harlequin Bug	Cabbage Groups	Same as for Squash bug.

For further information write the Extension Service, A. and M. College, College Station, Texas.