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Beat Drouth and Insects With a Frame Garden

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Beat Drought and Insects
With a

FRAME GARDEN

What Is a Frame Garden?
It is a garden enclosed in a wooden frame, 3 feet high on the north, 18 inches on the south. The length is 12 to 30 feet; the width, 8 to 12. It is covered with muslin. It is irrigated by homemade underground tile.

Kind of Small?
Yes, but a 12 x 24 foot frame garden provided the A. S. Mitchell family, Hanson county, all vegetables they could eat during the summer and a bushel of carrots and 15 quarts of vegetables left over for winter canning.
FRAME GARDENS
by
H. M. Jones, State Club Leader*

When Secretary Wickard said "Food will win the war and write the peace," his statement applied not only to battle fronts, but also to the average farm home in the middle west. It is the duty of every American to keep physically fit so that he may make his greatest contribution to the common cause.

Food Is Vital

There is little question about having enough food for the average farm family, but there is a serious question about having the right kinds of foods, those foods which build up resistance to disease, reduce the amount of illness and give the strength that is needed for a full day's work. Plenty of vegetables the year around are available to all who will make their plans early and put in some time every day on a garden. Fresh vegetables are necessary for good health and may be produced on practically every farm.

Everyone's Job

The raising of a garden is a cooperative project for the entire family. Some of the heavy work, especially the preparation of the ground, must be done by men or older boys. Mother and the younger children may do their part in the care which is required each day. With father, mother, brother and sister each doing his or her part, the garden can be made the most productive area on the farm, not only in the matter of dollars and cents, but also in improved diet and greater satisfaction to the family.

The Protected Garden

Protection is needed in order to overcome the three most common hazards to which a South Dakota garden is subject—drought, wind, and insects. Various devices afford protection. The frame garden reduces all three of these hazards. If properly installed and cared for it will give an assured supply of vegetables in a comparatively small space. It involves less work than the extensive garden, provides a longer season, permits of frequent replantings, produces larger vegetables of better quality, and answers the garden question for thousands of farms in South Dakota. Vegetables are grown to maturity in the frame garden. It is not a "hot bed" but rather the garden itself.

Favorable Conditions

It should not be concluded that the frame garden is desirable for any and all conditions. Certain checks should be made to see if the frame garden is needed and will answer the purpose. Principal among these are:

1. Suitable location—near the house, fenced away from livestock, and well drained.

* Much credit is due Mrs. Ethel Rausch, home agent, Mitchell, South Dakota, Mr. A. S. Mitchell of Hanson county and Frank I. Rockwell, Extension Horticulturist, for supplying a great deal of the information contained in this leaflet.
2. Water supply, plentiful, convenient and free from any harmful substances.
3. Good rich soil, which works up well, and not too sandy subsoil.

If all of these are answered in the affirmative, the chances are that the frame garden will fulfill the purpose and work out successfully. Even then, it should supplement the regular garden, not replace it.

**Location**

The frame garden should be on good soil in a well drained location. If it can be located near the windmill or just below the dam, so much the better. Care should be taken to see that the frame garden is not in the shade for even a part of the day. Neither should it be too near any buildings. The location may have to be changed after a few years.

**Materials Needed**

Construction materials may be found on the average farm. About the only thing that need be purchased is light weight muslin large enough to cover the top of the frame. A few lengths of clothesline rope to reinforce the muslin and tie it down at the edges may be desirable. Frame material can usually be made from scrap lumber. Lath, tile, tin cans or old pipe are necessary for underground irrigation. A garden hose long enough to reach from the water supply to the intake pipe will eliminate carrying water.

**Construction**

The first step is to stake out the garden with the length running east and west with the low side on the south. Length may vary from 12 to 30 feet, width from 8 to 12. Water lines should be laid approximately four feet apart and 14 inches deep. The simplest way to level is by running water in the trench. At the end of the garden nearest the water supply, put an elbow to bring each of the water lines a few inches above the surface of the ground. All joints should be covered with paper or scrap tin. If lath is used, holes should be bored or notches cut every foot or so.

The frame is made of boards nailed as closely together as possible, three feet high on the north side and 18 inches on the south. Ends may be of board or muslin. About every three feet place a cross piece to support the muslin and roller. Brace the frame well and provide substantial sills supported by a few
racks. Hooks along the edges of the top are needed for the ropes which hold the muslin down. If the muslin is fire-proofed by spraying with an ammonium sulfate solution (one pound 9½ oz. to gal. of water), it will act as a grasshopper and other insect repeller.

**Preparation**

A good covering of well rotted cow manure before spading will improve the production of the garden. After spading to a depth of about nine inches, the surface should be worked down smoothly, and the garden ready to plant by the first or second week of April, depending upon the season.

**Garden Plans**

A plan carefully made will provide for the maximum of vegetables in a small space. Various vegetables should be so arranged that after harvesting they may be replaced by others. Plantings should provide for the summer needs of the average family and allow some for canning. Ordinarily it is well to supplement the frame garden with an outdoor garden for some of the more drouth and insect resistant varieties. The frame should be reserved for the more tender vegetables, especially radishes, lettuce, parsley, peas, snap beans, early carrots, endive and green onions. Most important of all are the greens from mustard, spinach, yellow turnips and beets.

A fall garden seeded in July may include the same kinds, plus Chinese cabbage, winter radishes and kale. The more drouth and insect resistant vegetables and those requiring ample space should be grown in the regular garden as outlined in the South Dakota Garden Plan, Extension Leaflet 47.

**Planting**

Plant only the adapted and recommended varieties, a list of which is to be found in the Extension Circulars 372 and 390 on planning the food supply published by the State College Extension Service.

Planting may begin as soon as the ground is thawed, usually by the first or second week of April. Vegetables are planted in north and south rows usually six inches apart. Peas and beans require about 12 inches, kale and cabbage 12 inches each way. Varieties maturing at about the same time are best planted next to each other, thus allowing for future plantings with least disturbance. After planting is completed the garden may be watered by the underground system if and when necessary.

**Watering**

Each gardener must determine for himself the amount and frequency of watering. It can be overdone, and should be stopped when the surface looks slightly damp. Ordinarily if the irrigation system is completely filled every other day, that should suffice even in the driest weather. Once or twice a week may be enough. If the garden has been located so that the water may be taken by pipe or hose from windmill, stock tank, or dam, the watering problem will be comparatively simple. A barrel connected with all water lines would be convenient. It is very important that water be tried out in advance to make sure that it has no harmful effect upon plant life. Manure often helps.
Weed and Insect Control

Thorough weeding is necessary for the first few weeks until the crop of weed seeds contained in the soil has been destroyed. After the first good weeding there should be little, if any, trouble from this source.

In tightly built frames there is very little danger of insects entering the garden, but there may be some already in the soil. A careful watch should be kept for these and if they appear, control measures taken immediately. Clean ground and fall plowing reduce the probability of insect infestation.

Operation

For greens the cover is closed except on quiet days with the temperature above 60 degrees. Other plants may be uncovered more. Very little water may be needed the first few weeks, but it must be applied in increasing amounts as the plants get larger and the season drier. Thinning is essential. Plants are removed and replaced when they no longer serve a purpose. If they are not needed for use, marketing or canning they should be removed anyway to make room for other plants. More waste is caused by leaving such plants than destroying them. If there is no other use they make excellent feed for chickens.

Ground should be cleaned of all plants and rubbish before replanting. Replanting provides a continuous supply of fresh vegetables all summer. Almost every day after the middle of May some vegetables will be taken out for family use. In thinning, especially beets and turnips, the tops may be used for greens.

For Future Use

The frame garden not only supplies the family table during the summer but can contribute somewhat to the fall and winter supply. Vegetables stored in the cellar, buried in sand, canned or dried will assure the family of a plentiful supply of these vital foods during the winter months.

Keep Records

At the end of the season you will want to know the approximate amount and value of vegetables taken from the garden. A well kept record will serve a real purpose, not only in determining just how much has been saved or earned, but also in making revised plans for the following year.

Reference Literature

Available at County Extension Office

Monthly Garden Calendar, Extension Service
Recommended Varieties in Extension Circulars 372 and 390
South Dakota Garden Plan, Extension Leaflet 47
The Farm Garden, Farmers' Bulletin No. 1673, Extension Service
Garden Insect Control, Extension Leaflet 49
Fruit Spray Schedule