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Cooperative Extension Work in Agriculture and Home Economics.

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OFFICE OF EXTENSION WORK, SOUTH.
FARMERS' COOPERATIVE DEMONSTRATION WORK.
Washington, D. C.

SELECTION AND PREPARATION OF SOIL FOR TOMATOES; MAKING HOT BED.

TO CANNING CLUB MEMBERS:

This letter contains rules for beginning work, instructions for the selecting of the one-tenth acre garden plot and the making of a hot bed. There will follow letter No. 591, giving further instructions on the preparation of the soil, setting the plants and cultivating the garden; letter No. 629, on Tomato Diseases and Insect Pests, and B-511-i, Daily Record Book for Canning Clubs.

Please keep this letter and the ones which follow, read the instructions carefully and refer to them often. You will thus be sure that you are following directions. Your county agent will give you a Daily Record Book and teach you how to keep it. Begin writing in this book as soon as you do your first work. Continue making notes each day you do any work throughout the entire season. Write to your county agent if you need further information.

RULES FOR BEGINNING WORK.

1. Secure a tenth acre of ground; this may be 132 ft. long and 33 ft. wide, or any other convenient width and length, provided it contains one-tenth acre, or 4,356 square ft.
2. When you have finished your work next summer, we shall ask you to write a history of it, so begin at once to record (a) the date, (b) number of hours, (c) kind of work and (d) cost.
3. Keep a record of your expenses, charging 10 cents an hour for your own work. For all hired work and supplies, charge the actual cost. Estimate the value of stable manure at \$2.00 per ton, allowing a good two-horse load for a ton. Charge yourself \$1.00 for the rent of your tenth acre.

SELECTION OF SOIL.

Select a piece of well drained sandy loam soil, preferably one nearly level. Avoid soil that has been in tomatoes the previous year, especially if there has been any disease on the plants, as some of the diseases live over winter in the soil. Soil where cotton has been injured by the nematode or root knot should also be avoided.

Plow the soil six to eight inches deep in the fall or early winter and apply two to three wagon loads of well rotted manure to your tenth acre plot. Leave the soil rough during the winter to prevent washing. If no well rotted manure is available use coarse manure, apply it before plowing and turn it under so that it will decay before spring.

VARIETY OF TOMATOES TO PLANT.

Where there is any prospect of an early local market for tomatoes it is advisable to plant about one-fourth of the plot to an early variety like Earliana. Plant the remainder of the plot to a good strain of Stone tomato. Where no market is available a few early tomatoes should be planted for home use and the remainder of the plot planted to the Stone for canning purposes.

STARTING THE PLANTS

To get an early crop it is necessary to start the plants during the winter. The best method is to sow the seed in a hot bed in rows two to three inches apart, and when the plants have developed their first true leaves transplant them to stand about two inches apart each way. This transplanting should be done in shallow boxes filled with good rich soil or direct to another part of the bed. For the general crop, grown for canning purposes, this transplanting is all that is necessary until ready to plant to the field. For extra early tomatoes it is advisable to again transplant the plants when they reach a height of four or five inches. This time plant in three or four inch flower pots, strawberry boxes, or tin cans which have had the tops and bottoms melted off. When grown in this way the plants can be left in the bed or cold frame until the blossoms begin to open.

MAKING A HOT BED.

Select a well drained location, where the bed will be sheltered, preferably on the south side of a building or fence. Make an excavation eighteen inches deep the size your bed is to be. Throw in fresh horse manure and pack by tramping. The manure heap should be about even with the surface of the ground or eighteen inches deep. The manure furnishes the heat to start the plants. Put on top of the manure four or five inches of a good garden loam, which has not grown any diseased plants, and cover the bed with glass hot bed sash. If sash can not be secured, canvas may be substituted. The temperature will run high for a few days, but no seeds should be planted until the temperature falls to about 80 degrees F., which will require three or four days.

A bed made about five feet nine inches wide and about six feet long will be plenty large enough to grow plants for a tenth acre garden. This size bed will take two hot bed sashes which measure three feet by six feet. The frame to support the sash should be about fifteen to eighteen inches high at the back and six inches lower in front in order to drain off the water. The slope should be toward the south.

During the bright days the bed will heat very quickly and it will be necessary to ventilate by raising the sash on the opposite side from the wind. Toward evening close the sash in order to get the bed warm before night. Water the bed in the morning on bright days as watering in the evening or on cloudy days will have a tendency to injure the plants and increase the danger of freezing and damping off. Ventilate the bed after watering in order to dry off the plants.

Before the plants are set out, they should be hardened off and this can be done by transferring to a cold frame or by removing the hot bed sash during the day time in mild weather. As the plants become hardened the sash can be kept off on nights when there is no danger of frost. This hardening off process must be done gradually to prevent any serious check to growth.

If it is impossible to make a hot bed, the plants can be started in shallow boxes in the house. Get shallow boxes from a store and fill with good, rich soil and sow the seed as described for the hot bed. Bore two or three holes in the bottom of the box for drainage. Keep the box as near a window as possible and at living room temperature, about 70 degrees. Close attention should be given to watering, as the air of a living room is usually dry and will soon dry out the soil. The plants must be developed in the light or they will be weak and spindling. They should be transplanted to other boxes or to a cold frame, which is made in the same way as the hot bed except that the manure is left out and canvas may be substituted for the glass sash. In the far South it will not be necessary to have a hot bed; the cold frame will be sufficient.

In the preparation of this letter, valuable assistance was given by Mr. H. C. Thompson of the Bureau of Plant Industry.

Sincerely yours,

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ASSISTANT IN HOME DEM. WORK.

O. B. MARTIN,

ASSISTANT IN CHARGE DEM. CLUB WORK.

