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CARE OF THE GARDEN IN HOT WEATHER

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Many people have this year planted gardens for the first time. Fortunately the weather has been favorable for the development of early vegetables, and enthusiasm has been running high. However, the real test of a gardener's persistence and skill is about to arrive. When the balmy days of spring give place to the burning heat of summer, enthusiasm for gardening is likely to be replaced by ennui, unless the gardener resolutely determines to stick to his task.

Hot weather, if accompanied by frequent rains, is exceedingly favorable for the development of weeds; and if unaccompanied by rains, results in drouth. Either condition demands that frequent and thorough tillage be practiced in the garden. The competition between the vegetables and the weeds for plant food, moisture, and sunlight should be entirely eliminated by the suppression of the weeds almost before they appear above the surface of the ground. The severe consequences of a drouth of reasonable duration can be largely forestalled by consistent tillage. Breaking up the surface layer of soil with a cultivator, hoe, or rake, destroys the capillarity in that layer and leaves it as a dust mulch which prevents the rapid escape of water from the moist soil below. To be effective in retaining moisture, the cultivating must be done before the moisture has escaped.
During the summer season, each rain should be regarded as if it might be the last one for a considerable period, and the soil treated accordingly. As soon after the rain as the soil becomes dry enough to work, it should be thoroughly cultivated, and a fine surface mulch established. Cultivation should be repeated at least once in ten days, even if no rain occurs in the meantime. It is surprising how much drouth some crops can endure if the moisture from each rain is intelligently conserved.

However, in spite of thoro tillage, if the drouth persists, many crops will suffer severely. Under such circumstances, a gardener is exceedingly fortunate if his garden is within reach of a water supply. In this respect, back yard gardens in cities and large towns are likely to have a decided advantage over those in the country or in small towns, for in many cases they can be reached with a hose attached to the city water supply. In localities where summer drouths are of frequent occurrence, it is a wise precaution to locate the garden within reach of the water supply, so that artificial watering may be resorted to whenever necessary.

Whenever the garden is watered it should be given a thoro application, sufficient to soak the soil to considerable depth. Light, surface sprinklings are of little value, since they do not reach the roots. Enough water should be put on at one time to last the plants at least a week. Each application of water should be followed by thoro tillage as soon as the surface is sufficiently dry for working. This will conserve the moisture in the layer below. The conservation of moisture is more important than its application.

In addition to tillage and watering, certain crops will need special attention during hot weather to protect them from injury by the sun. If head lettuce has not yet completed its growth when hot weather arrives, it should be given artificial shade in the form of burlap or muslin tacked to suitable frames that may be placed over the rows of plants. A-shaped frames, 2 or 3 feet high and 8 to 12 feet long, will serve the purpose nicely. These can readily be removed from the rows whenever tillage is necessary or when a shower is expected. The same frames may be used to provide shade for late cabbage or celery plants until they become well established after transplanting.

To protect cauliflower heads from the sunlight and make them remain white in color and mild in flavor, the outside leaves of the plant should be drawn together and tied at the top. This should be done as soon as the heads appear.

In very hot summers, the fruits of tomatoes may become sunscalded before they ripen unless some precaution is taken to insure their protection. Fruits lying directly on the ground, unless protected by foliage, are especially likely to be sunscalded. If the tomato
plants have become infected by leaf spot, the lower leaves are likely to die and leave the clusters of fruit exposed to the direct rays of the sun. The death of foliage near the base of the plant exposes the fruit much more on plants that have been allowed to spread naturally over the ground, than on those which have been trained to stakes, since in the latter case the upper foliage shades the fruit. In hot weather, therefore, tomatoes that have been staked and tied have a decided advantage over those that are not thus supported. An additional advantage of staking tomatoes is that they can be cultivated through the season and thus prevented from suffering so severely from drought. For staking tomatoes, a stout stake about 5 feet long should be driven beside each plant, and as the plant grows it should be tied to the stake by means of soft twine, at intervals of about 1 foot.

While certain vegetables may advantageously be protected from excessive heat or intense sunlight by special treatment, it is highly desirable when planting a garden to be sure to include several crops that are capable of withstanding a large amount of heat and considerable drought. It will then be possible to gather fresh vegetables from the garden during the summer season in spite of adverse weather conditions. Some of the crops adapted to withstanding hot, dry weather after they have once become fully established in the soil are beets, carrots, parsley, parsnips, Swiss chard, kale, New Zealand spinach, lima beans of the Sieva type, Fordhook squash, eggplants, okra, gherkins, and sweet potatoes. Several of these should be included in every garden that is located where the weather is likely to be hot and the rainfall deficient.

In order to have a continuous supply of certain vegetables thru the summer and early fall, it is necessary that successive plantings be made. This is especially true of sweet corn and string beans. On good soil in the corn belt, it is possible to have a continuous supply of green corn from about July 15 until frost, if plantings are made at intervals of about two weeks from early in May until July 10 or 15. A plot of ground should be reserved especially for the late plantings, and should be worked over with a harrow or cultivator after every rain for a few weeks before the planting, in order that sufficient moisture may be preserved to insure germination, even if planting must take place in a dry time. In planting sweet corn in dry weather, care must be taken to place the seed in the moist soil below the surface mulch.

Successive plantings of string beans may also be made if similar precautions are taken to preserve moisture in the seed bed. Plantings made during the latter half of July are especially likely to yield satisfactory crops, since the plants get the benefit of the autumn rains when their pods are developing.

If the summer rainfall is abundant, it is possible to grow good crops of late vegetables on land from which an early crop has been
harvested. Whenever possible, this should be done, since the land is surer of being kept free from weeds if it is producing a crop of vegetables. But whether a late crop of vegetables is grown or not, no weeds should be allowed to go to seed in the garden, for weed seeds produced one year result in a lot of unnecessary labor in the garden the following year. Conversely, the benefits of "clean-gardening" are cumulative from year to year.

During the summer season, insects are likely to be abundant in the garden, and means should be employed for their control. The kinds of insects which eat the foliage of plants, such as potato beetles and blister beetles, may be killed by spraying with arsenate of lead. Flea beetles, which riddle the foliage of eggplants and sometimes of potatoes and tomatoes, may be controlled by spraying with Bordeaux mixture and arsenate of lead. Plant lice, which suck the juice from the leaves of melons and various other plants and cause them to curl, may be killed by spraying with a contact insecticide, such as nicotine sulfate. Large green tomato worms may be picked off by hand and destroyed. Fungal diseases attacking the foliage of vegetables may be controlled by spraying with Bordeaux mixture.

Summary.—In hot weather, cultivate the garden thoroughly; water it, if necessary and feasible, but do not try to substitute watering for tillage. Protect susceptible plants from the intense heat of the sun; but also be sure to have in the garden several kinds of vegetables that will withstand heat and drought. Make successive plantings of sweet corn and string beans; July plantings give good results. Do not allow any weeds to go to seed in the garden. Fight insects and fungal diseases.