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CULTIVATING THE POTATO CROP

by

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The cultivation of potatoes should begin as soon after the potatoes are planted as possible, but good cultivation is more easily accomplished by thoroughly preparing the land before planting.

There are a number of reasons for cultivation. The main functions of cultivation include the killing of weeds and the conservation of moisture.

A. TYPES OF CULTIVATORS:

The shovel type of cultivator is the kind most commonly used in cultivating potatoes. The type with several (usually six or eight) small shovels is the best for cultivating loose mellow soils if only small weeds are present. If large weeds are present, larger shovels are more efficient in uprooting them.

The disk cultivator is especially well suited for use in soils of poor physical conditions that are in need of pulverizing. The disk cultivator is also more effective in cultivating land infected with morning-glory or bindweed and quack grass.

The weeder is a comparatively recent implement and its development probably resulted from the use of the spike-tooth harrow on the potato plants while small. The weeders most commonly used are mounted on wheels but with the early cultivation of potatoes a spike-tooth harrow is very effective if teeth can be made to slant backward. Such an implement can be used until the potato plants are several inches high.

B. LEVEL OR RIDGE CULTIVATION:

"Two rather distinct cultural practices obtain in the growing of a potato crop, viz, the ridge method and the level-culture method. In the ridge method the soil after each cultivation between the rows is ridged up around the plants by means of a wing or disk potato hoe, which pushes or throws the soil up around the plants. In the level-culture method the aim is to keep the soil level, or nearly so. Generally at the last cultivation the side shovels are set so as to throw some soil toward the plants, to protect the tubers near the surface from sunburn. The ridge method is practiced in Maine and certain other parts of New England, New York, Pennsylvania in part, the South generally, and the irrigated sections of the West. Level culture is largely practiced in Ohio, Indiana, Michigan, Wisconsin, Minnesota, and the Dakotas. With the ridge system of culture, cultivation can be continued somewhat later in the season than with level culture, because few of the roots of the ridged plants extend beyond the ridge; hence tillage in the center of the row and ridging up the loose soil does not injure the roots, as in level culture, where they spread out through the adjacent soil".

Farmers Bulletin #1190.

C. HOW DEEP TO CULTIVATE:

The depth of cultivating varies according to conditions of soils, cultural practices and time of season. The first cultivation should be as deep as possible, care, of course, being taken not to cause the plants injury through root pruning. The next and each following cultivation should be shallower than the preceding one and farther and farther away from the plants. The implement should be adjusted to throw some dirt toward the plants, the object being to keep the surface of the soil stirred or covered with loose soil in order to conserve moisture and prevent weed growth.

D. HOW OFTEN TO CULTIVATE:

The cultivating of potatoes should be carried on often enough to maintain a dust mulch and to keep down the weeds. This time varies largely of course with weather conditions. In certain types of soils deeper and more frequent cultivations are more necessary in order to properly areate the soil. In light soils the aeration of the soil is not a problem.

The roots of the potato plants spread out through the soil between the rows, making cultivation a particular undertaking on account of the almost certain heavy root pruning which will result from careless cultivation. Such root pruning has been responsible for many a poor yield. A single cultivation when the soil is filled with roots may, in the absence of a rain soon after a cultivation, reduce the yield fully one-half. The aim should be to give as thorough tillage as possible in the early development of the crop, so as to afford the most favorable conditions for the completion of the growth of plants and tubers. As a rule cultivation should cease soon after the tubers have set.

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REFERENCES :

"How to Grow an Acre of Potatoes", Farmers Bulletin #1190,
U. S. Department of Agriculture.