

As previously stated, each application of water should be followed as soon as possible with a thorough cultivation until the vines are too large or the tubers too near the ground to permit of it. As a rule, it is best not to have rows over 40 rods in length. If the ground is very steep, of course, the water will run through quickly, but it will have to run longer than in a row with less fall, to give it time to soak in.

After once irrigating a crop of potatoes, it is very important that the ground should never be allowed to become too dry, thus stopping the growth of the potato. If this is permitted, and by irrigation the potato again starts to grow, it will either increase irregularly in size or set a second crop, thus giving a large number of small or ill-shaped potatoes. Irrigation should generally be discontinued about the latter part of August, although if the autumn is extremely dry, a light irrigation later on may be made.

The most experienced potato growers in America reside in the Greeley colony, in Colorado. The practice there is, never to irrigate potatoes until after the young tubers are set. The reason for this is obvious. When irrigated immediately before setting, a greater number of potatoes will be formed than the plant can support, and consequently only a few of them grow large enough to be marketable. When tubers are allowed to form first and are irrigated afterwards, fewer potatoes will form on each hill, but a large crop of marketable tubers is the result.

It should be borne in mind that water should be most carefully handled on potatoes and should never reach the crown or stem of the plants. It is the roots and not the tubers that are to be watered, and the roots will extend some considerable distance towards the middle of the row while the tubers are yet small. It has been found that where manure is applied to potatoes, a greater quantity of water can with safety be used; in fact, is necessary, otherwise the manure will have a tendency to burn the tubers and produce fungus growth. In irrigating potatoes, a great deal depends upon the lay of the land and the facilities with which it can be drained. With a porous sub-soil and a good slope, a much larger quantity of water can be used than would otherwise be the case, but until the beginner has gained some experience in handling water, it is a safer proposition to use it sparingly, even with a crop like potatoes that can stand more moisture than other root crops.

**Sugar Beets.**—The irrigation of sugar beets is performed in a manner similar to potato irrigation. The greatest of care must be exercised in irrigating this crop, and in order to avoid mistakes, all colonists on the Irrigation Block that decide to grow sugar beets, should keep in close touch with the Company's Demonstration Farms and obtain the advice of the staff maintained there, whose duty it is to give information on the subject.

The seed bed should be thoroughly pulverized before planting. As soon as the ground is warm, the seed should be planted two inches deep and drilled 16 to 24 inches apart. On comparatively new land in the Irrigation Block, it will probably be advisable to provide ample space between rows.

If it should be found necessary in a very dry spring to irrigate in order to germinate the seed, flooding should not under any circumstances be resorted to. Rills should be made between rows and the water allowed to run slowly through them in order to percolate to the seed bed. Up-to-date beet drills have irrigating attachments, and these rills may be made