

at the time of seeding. It is a well known axiom that the more cultivation that is devoted to beets the greater will be the sugar contents of the root.

As soon as the beets are all up, and not later than the stage when the beets have thrown out from 4 to 6 leaves, they should be thinned to single plants 4 to 6 inches apart in a row. In very rich and well cultivated soil six inches may be sufficient, but on the new lands of Southern Alberta it will be found advisable to increase the distance somewhat, at least for a couple of years after the land is broken and until it becomes mellow. While the water contents of sugar beets is very considerable, the ability of such a deep rooting plant to obtain moisture from the lower strata of the soil is naturally very considerable, and for that reason less water is required than would suffice for more shallow rooting plants. There cannot be any reasonable doubt that a vast amount of harm may be done by over-irrigating sugar beets. During the Fall particularly, the beet requires a very dry surface soil to increase its saccharine contents, and will generally thrive upon the moisture it has received from the irrigating waters during the summer season. Stop irrigation early, guard carefully against seepage from surrounding crops, and never apply sufficient water to flood the ground.

Sugar beets make an excellent crop for stock feeding, and where required for that purpose, the same care is not as essential as growing them for the sugar factory; in fact, 5 to 7 irrigations during a moderately warm season, would give good results for feeding purposes only.

Fruit Trees.—Apple trees should be planted on an average about 28 feet apart; Plum trees about 20 feet apart. The common method of irrigating large fruit trees in Western America is by furrows from 500 to 600 feet in length. The surface should be cultivated after rain and after each irrigation, and, if necessary, during intervals. Young trees should be watered by a furrow on each side of the row. The idea to be kept in mind is to train the roots outwards and down so as to enlarge their feeding zone. The perfect way of watering fruit trees would be to keep the surface as dry as possible and apply the water from beneath. The more closely the irrigator approaches this system by the use of deep furrows, each carrying a small and continuous stream running from two to three days at a time, the more successful he will be.

Small Fruits.—These should be irrigated by a small furrow on each side of the row and the soil kept well cultivated after each irrigation. The vines may be cut back after the first year's growth, so as to harden the wood, and during the spring a low, flat ridge should be formed to keep the water from wetting the small vines and fruit.

Administration of Water.

The duty of water is fixed by the Dominion Government, and the Company is compelled to furnish whatever quantity of water per acre the Government directs. The "duty" as at present fixed, is one cubic foot per second, continuous flow during the irrigating season, for each 150 acres. The Dominion Irrigation Act, under which water is supplied in Alberta, provides that a continuous flow of water shall be furnished during the irrigating season. It is, however, found that a small stream cannot be so profitably handled, and it is, therefore, desirable for any three or four con-