

On low-lying more or less flat country which has not previously been brought under irrigation, ploughing and preliminary levelling should be carried out with a view to laying out the land in a series of checks for border irrigation. This method, which was described in the December, 1921, *Journal*, requires well-levelled land, and much can be done in respect to such levelling at the time of autumn ploughing.

Feeding of Forage Crops.

At this period green maize is often fed to dairy cows, being cut as required and carted out. Sorghum which has come into head can also be fed like maize. Though opinions differ as to whether or not immature sorghum is poisonous, it is not worth the risk of feeding it before it flowers. Millet can be fed off green. It is advisable, if the area of millet is large, to feed off in breaks. Fifteen acres could be divided into three areas. Any excess from these crops should not be allowed to go to waste, but be conserved as silage. It is good practice to have such crops as maize and millet cleared up before sharp frosts set in.

The time is approaching when stock will be put on to hard turnips and swedes where such enter into the farm practice. Provision should have been made for the stock to have a run-off of pasture on which they can get the necessary roughage, which is essential to the health of ruminants feeding on root crops.

Reclamation of Tidal Swamp Lands.

The first operation in the reclamation of tidal swamp lands or mud-flats is the construction of a stop-bank. The general dimensions of stop-banks under New Zealand tidal conditions are 15 ft. to 20 ft. width at the base, 5 ft. to 7 ft. width at the top, and 6 ft. to 7 ft. in height. The bank-drain is first dug. For small areas a ditch 12 ft. wide by 5 ft. 6 in. deep, sloping to a bottom 4 ft. wide, is sufficient, while for larger areas, involving, say, several hundred acres, the bank-ditch should be about 18 ft. to 20 ft. wide, sloping to a 7 ft. bottom. The material from the ditch is best shifted back 5 ft. to 10 ft. and built into the stop-bank. When the banks are formed they should be immediately grassed with buffalo and tall oat grass. The bottom of the outside of the wall often requires to be revetted with manuka fascines or stones.

The outlet through the stop-bank should be concreted, and the flood-gate hinged and fitted close to the concrete. Usually a fluming is required at the outlet for about 7 yards to carry the water into the river channel, otherwise a large hole forms in the river-bank and tends to undermine the wall. Wing walls for about 5 ft. on each side of the outlet are often required to prevent erosion by the river.

In most cases it takes about two years for an area to settle, in which time the surface may sink 2 ft. or more. Fleabane (*Erigeron canadensis*) is frequently the first plant to appear. This weed is well liked by stock, and encourages the animals on to the area. In from two to five years, depending on the saltiness of the land, the area is fit to sow in grass. Surface sowing usually gives the best results. The rushes are burnt off, the grass surface-sown, and the seed tramped in with sheep to encourage germination. A suitable mixture of grasses is as follows: Italian rye-grass, 6 lb.; perennial rye-grass, 10 lb.; cocksfoot, 5 lb.; timothy, 3 lb.; meadow-fescue, 2 lb.; crested dogtail, $\frac{1}{2}$ lb.; *Poa trivialis*, $\frac{1}{2}$ lb.; cow-grass, 2 lb.; strawberry clover, $\frac{1}{2}$ lb.; alsike, 1 lb.; white clover, 1 lb.; total, 31 $\frac{1}{2}$ lb. per acre. As an alternative in the North, 5 lb. to 9 lb. of paspalum-seed could be sown with a rye-grass and clover mixture.

Open ditches are dug round the area at the foot of the hills, and several longitudinal drains are usually required. After the area has settled, the land is greatly improved by liming and underdraining.

—Agricultural Instruction Service.

THE ORCHARD.

THE LATER APPLES.

OF the work immediately ahead, perhaps the harvesting of the later varieties of apples stands first. This class of apple usually keeps well, and is placed aside in store for late winter and spring use. The keeping-qualities of these varieties were so highly rated that some liberties were taken as to the period and the manner of picking and storing them. Heavy losses have made the growers alive to the