

PLOW EARLY AND DEEP.

"For the fallow we should plow deep and early on our lighter lands and on our older fields, but not quite so deep nor so early on our heavy and newer lands and on those fields in the Eastern and Northern part where the rainfall is greater, lest the crops grow heavy and lodge, or too late and get frosted.

MAINTAIN A SOIL MULCH TO LESSON EVAPORATION.

"We shall then work the surface of that land so that the moisture will not be lost by evaporating into the air, nor by the growth of weeds, or other plants, because it is only in these two ways (except on very light soils where leaching occurs) that the moisture can get out of the land. We shall keep down the loss from evaporation by putting on the land a 'mulch'—a loose granular layer of soil that will effectively lessen the amount of water that evaporates. This we shall accomplish principally by using the drag harrows immediately after plowing and as soon as the soil is in condition after rains. The drag harrows we shall use as much as possible because they cover so much ground and at such low cost. But we shall use the disc or the spring tooth or 'duckfoot' cultivator if harrowing causes the soil to drift or if weeds get so well established that the harrows do not kill them.

"In the fall when the stubble interferes with the harrows we shall either plow shallow or use the disc in order (1) to lessen the evaporation and thus save the moisture in the soil for the next crop (2) to give weed seeds the conditions necessary for germination and (3) to make the plowing of the next fallow easier. (Discing in early spring before the fallow increased the yield of wheat $1\frac{1}{2}$ bushels per acre—discing early after harvest in the fall would probably have done better still).

CONTROL WEED GROWTH AND SAVE MOISTURE.

"We shall keep down all plant growth on the land because weeds or domestic plants use from 300 to 1,000 pounds of water for every pound of dry matter they produce, and once used, the water is not available for the next year's crop. (A thin pasture crop of oats and clover on the 1913 fallow decreased the yield in 1914 from 30 bushels 15 pounds of wheat to 18 bushels 55 pounds, a loss of 11 bushels 20 pounds; and a short crop of rape on the fallow the same year decreased the yield of wheat from 30 bushels 15 pounds to 22 bushels 15 pounds, a loss of 8 bushels. Corn planted in wide rows and intertilled reduces the yield less than any other crop. Pasturing the fallow is a good practice on heavy soils in the more humid parts of the province, and on soils inclined to drift, but not on 'the very dry lands' in the southwest).

"In any case, with our short growing season, we haven't sufficient time in the fall after crops are removed, and in the spring before seeding time, to prepare all our land for a crop. And even if we had, we should carry a greater risk of complete failure in occasional