

available opportunity—even in many cases after the grain is up in the spring, and by packing, the reserve of moisture in the fallow could be made to extend over a much longer period than two years. Instead of summerfallowing a quarter section five inches deep every third year, would it not be more economical to fallow one-half that amount say ten inches deep, thus assuredly storing up a much larger amount of moisture and extending its benefits over a longer term of years? The more frequent use of the disc and drag harrow before referred to would not only help to control evaporation but also kill innumerable weeds that frequently prove such a continual drain on the soil moisture. To plough ten inches deep could only be advantageously done in Saskatchewan by subsoiling, and this will be referred to under the next heading.

Principles Governing Depth to Plow to.

Too much indiscriminate advice to plough deeply under all circumstances in Saskatchewan would be unwise and misleading, and must meet with disappointing results; but that all clay soils should be stirred deeply at least once after being broken up is becoming more and more apparent. Deep ploughing to increase the soil's capacity to store moisture at intervals of say ten or twelve years, to be followed by shallow ploughing or surface tillage in intervening years to hasten early maturity, is now thought to be the ideal method in many localities. The danger of too frequent deep ploughing is obvious. Should it be followed by a dropping season the growth of straw will be too rank, and maturity retarded, which tends to run the crop into the period of early fall frosts before harvesting is completed. Nevertheless deep tillage is necessary to provide against drought particularly, and will be accompanied by the risk of slow maturity only in the first succeeding crop. This risk could be offset by special attention to packing and growing for the first year crops suited to such a condition of soil. During the subsequent eight or ten years the land should be ploughed to a normal depth of say four to five inches, which will tend to hasten maturity and yet provide a satisfactory seed-bed.

I believe that subsoiling will become in time a recognised necessity, particularly in our heavy clay soils that are under shallow tillage, comparatively impervious to moisture. Under present conditions a great deal of the copious rainfall of June and early July runs off into adjoining sloughs, creeks and coulees and is lost, whereas if subsoiling had been performed even once this excess of rain would freely percolate into the soil as it fell and remain there in reserve to be drawn upon during a period of subsequent possible drought. This is one way whereby all of us may assist in conserving one of the most important natural resources of our semi-arid open plains—the rain and snowfall.

Depth at Which to Sow Seed.

We do not know who is responsible for teaching the agricultural heresy that sowing deeply insures the crop against drought. The argument implies that a shallow rooting plant can be converted into a deep-rooting one simply by planting deeply. But anyone who has given any attention to cereal growth must have noticed that any of the