

left long and burned. Where this is possible there is no doubt but that the land may be put in shape for a succeeding crop not only cheaply but quite satisfactorily. Stubble is not only useless but injurious to the soil until it decays. It is well to remember, however, that the burning of stubble and straw means a complete loss of the organic matter and nitrogen it contains, and that these are the most valuable constituents of the soil.

Where burning is undesirable, any one of three practices may be followed. The field may be left uncultivated, it may be surface cultivated with the disc and harrows, or it may be ploughed. Seeding in untilled stubble land sometimes gives fair returns on clean fields that were thoroughly fallowed the second year previous. It is a practice that often results in crop failure and is one that should be discouraged. It should not be followed except under especially favourable conditions such as new land which is free from grass and weeds, and having a long stubble that it is not desired to burn. Surface cultivation on stubble land is advisable when the stubble is not too long and when grasses are not present in the field. If grass is present, ploughing is necessary. If the stubble is too long, discing does little good and makes it difficult for the drill to put the seed deep enough in the soil. Ploughing is always desirable for a third crop and often even for a second. The relative returns from fall and spring ploughing depend upon the condition of the soil at the time of the operation. If the soil is moist in the fall, fall ploughing generally gives largest returns. On the other hand, if it is out of condition at that time it may give very unsatisfactory returns. Harrowing after ploughing is essential and it is also very important that ploughed land be thoroughly worked down, otherwise the furrow slice will dry out and the crop "fire" when a period of dry weather comes.

The probability of damage from frost may be lessened in several ways. Early maturing classes of crops may be chosen. Within each class early varieties may be used. Early seeding generally results in earlier maturity, and thorough preparation of the seed bed results in earlier germination and consequently earlier ripening. Thick seeding induces early maturity. Packing results in earlier maturity. Late ploughing of breaking or fallow gives an earlier though lighter crop. Pasturing the fallow with rape or one of the cereals results in an earlier but lighter crop the next year. Deep breaking surface cultivated gives an earlier but lighter crop than shallow breaking backset. Shallow ploughing of the fallow gives an earlier but lighter crop than deep ploughing. If these practices do not mature cereals sufficiently early to avoid frost some other crop should be chosen.

In those regions that suffer most from drought and but little from frost, the principles of dry farming must be observed. These, in many cases, are opposed to the principles of northern farming. In most parts of Saskatchewan and particularly on light soils one year's moisture must be stored in the soil by means of the fallow for the use of the succeeding crop or crops. Deep ploughing early in the rainy season is essential for success in the dryer parts of the province. It creates a larger reservoir for the storage of rain water. Once the moisture is in the soil it is important that it be kept there. This is achieved by harrowing immediately after every ploughing so as to maintain a mulch on the land, and by keeping down weeds by surface cultivation. The moisture that is stored in the soil and retained there must be kept available to the crop. Where