

farming is to be done on hundreds of acres with a very limited working force I hold that wheat cannot be profitably grown without summer-fallowing, and the live question for to-day is not whether we shall summer-fallow, but how it can be best and most cheaply done to suit the purpose."

Through the kindness of the Honourable Minister of Agriculture for the Province of Manitoba I have had exceptional opportunities, during the past three summers, of travelling through all the important wheat growing districts of that province. It was very apparent to me during these visits that in many instances summer-fallowing was begun much too late in the season to get the best results as to weed eradication. By the middle of July several kinds of the most noxious annual weeds have developed their seeds sufficiently for these in the dry climate of Manitoba and the North-West Territories to ripen beneath the soil, even when ploughed well under out of sight, which, however, is by no means always done. There is always, of course, a temptation to put off the ploughing of land which is to be summer-fallowed as long as possible so as to reduce the subsequent labour of cultivating and harrowing. From a careful study of the development of weeds on summer-fallows in Manitoba for three summers I believe that to obtain the best results in the eradication of such early-ripening plants and annual weeds as Stink Weed, False-flax, Ball Mustard, Pepper-grass, Shepherd's Purse, Blue Bur, Golden Fumitory, etc., all summer-fallowing should be completed if possible not later than 12th of July, so that no risk may be run of ploughing down mature seeds.

SEEDING DOWN.

The prevention of seed-production is of great importance when clearing land of weeds. Many weeds may be held in check to a large extent, particularly upon land which is required for cropping, by seeding down to grass or clover, but, of course, any ripe seeds of weeds which are in the soil, will germinate as soon as the land is broken up again. But in the same way that weeds crowd out crops and reduce the yield of seed, so may weeds themselves be choked by a more vigorous plant, which will prevent them getting light and air, such as the free-growing grasses, millet, buckwheat, clovers, or even a thickly sown grain crop. This treatment will destroy the seedlings, which appear at the same time as the crop sown, and thus prevent them producing other seeds. When the land is ploughed again, those weed seeds turned up near enough to the surface to germinate, must be killed by the frequent use of the cultivator, harrow or weeder.

An excellent plan of smothering out a restricted patch of any troublesome weed, frequently practised in the West is to build a straw stack over the spot; a manure pile is used in the same way in the East.