

(b).—Cultivate frequently, particularly early in the season, so as to destroy seedlings while of weak growth ;

(c).—For shallow-rooted perennials, either trench the land deeply or plough so lightly that the roots are exposed to the sun and dry up; for deep-rooted perennials, the only means of destroying them is to prevent them from forming leaves and thus storing up nourishment in their root-stocks, to sustain future growth. This can be done by constant cultivation. The importance of leaves to plants can be seen by the serious injuries frequently inflicted even upon large forest trees by the destruction of their leaves by insects. The American larches, over thousands of acres in Canada, have been destroyed during the last ten or twelve years by having most of their leaves eaten by the imported larch saw-fly. Fruit trees stripped of their leaves by caterpillars during one season seldom mature a good crop of fruit the next year.

All weeds can be destroyed by the use of the ordinary implements of the farm, the plough, the cultivator, the spud and the hoe; but some experience is necessary to know what is the best time to work certain soils or to deal with special weeds. No general rules can be given, as the necessary treatment will vary in different districts on different soils and under different climatic conditions. What may be the proper treatment in one place may fail in another. Perennial plants, if allowed to develop flower stems and then ploughed down (or first mowed and then ploughed under), will by the production of the flower stems, have so far reduced the nourishment stored up in the rootstocks that they are much weakened and can afterwards be easily dealt with. On the other hand, it is found in the West, that all the weeds and other plants decay readily if prairie land or meadows be broken in May or early June. Land so treated can therefore be cleaned far more easily than if the operation of breaking is delayed until July. This is due to the climate and the succulent nature of all parts of the plant at that season.

SUMMER-FALLOWING.

As an agricultural practice, although not adopted to any large extent in the older provinces, summer fallowing is essentially necessary in Manitoba and the North-west Territories, where the conservation of moisture in the soil is of the utmost importance, the farms are large, labour is scarce and the time for preparing the land in autumn and spring is very short. The question is so often asked whether this practice is a wise one that I submit herewith extracts from four replies from men of much experience and who, in my judgment, were the best qualified to give useful and authoritative advice upon this subject.

Mr. Angus Mackay, Superintendent of the Experimental Farm for the North-west Territories, at Indian Head, says :—

"Summer-fallowing is absolutely necessary in the West to ensure a crop and get the work done, owing to the shortness of the time available in the fall and spring. All land intended to be cropped should be summer-fallowed the year before. This will get the land into good condition, keep down weeds and produce the best results in every way. Summer-fallowing is generally started too late in the summer. It should be begun as soon as possible after seeding in the spring, so as to get the full advantage of the spring rains. As a rule, one ploughing only is advisable, because in wet years two deep ploughings would produce too much growth and retard the ripening of the grain. If the land should be weedy, the proper way to keep it clean is to harrow two or three times after ploughing. If farmers are willing to risk getting a smaller crop by sowing on stubble so as to get the grain to ripen earlier and in windy sections to avoid the danger of blowing, the proportion so treated should never exceed one third of their land.