

plowed. To efficiently control the weed growth in the spring and early summer it may be necessary to double disc or cultivate the land twice. The time and expense that this involves is not lost as the weeds have to be killed but once, and less cultivation is necessary after plowing if most of the weeds are destroyed early. There is a distinct saving too in the energy needed in plowing as the killing of the weeds while small, leaves the moisture in the soil and i plows not only better, but with less power.

If the growth of weeds is not checked the season during which good plowing can be done is very short. The land becomes hard and dry and either turns up in big chunks, or is scratched two or three inches deep. Either type of work is next to useless, and accounts in no small measure for the poor returns from summerfallowed land.

TIME OF PLOWING.

If the growth of weeds has been controlled by discing or cultivating the necessity for very early plowing is removed. Naturally the sooner the expensive operation of plowing can be done the better, as the hot weather of late June and July is not a suitable time for such heavy work, but with moist soil to plow and good work thus assured there is no particular harm done if it is not completed until comparatively late.

In certain types of soil it is impossible to do good plowing with mold-board plows when moisture has been conserved in them by cultivation. In such cases it is much better policy to use disc plows than to wait for the land to dry out enough to use the ordinary plow.

DEPTH OF PLOWING.

Very deep plowing has frequently been urged as a pre-requisite of a good summerfallow, both to provide room for extensive root development and to insure an ample reservoir for water. The root system of our grain crops as already pointed out, depends more on the depth of moisture in the soil, than on anything else, and under favourable conditions extends to a depth of three or four feet. Excessively deep plowing is not necessary, therefore, to insure room for roots. The reservoir for moisture is fortunately much deeper than one plow furrow, as a good summerfallow is moist from three to five feet from the surface. In deciding how deep to plow, the aim should be to plow deep enough to do thoroughly good work and to go a little deeper at each successive plowing until a depth of about seven inches is reached. Deeper plowing seldom pays for the additional cost unless it be where it is necessary to break up a more or less impervious hard pan.

CULTIVATING AFTER PLOWING.

When turned over by the plow the soil is loose and open, and if left without cultivation the air mixed with and circulating through the furrow soil is likely to dry out. The main object of packing is to prevent drying out by the movement of air through the newly turned furrow. The drag harrow is largely used as a packer and is an effective tool, but it has the objection of fining the surface soil more than is desirable. The sub-surface packer will do the work better and have the surface in a safer condition. Those who have not a packer can use a disc well weighted and run practically straight. A tandem disc—an in-throw and an out-throw in the