

Backsetting.

Backsetting is regarded as very heavy work for horses but it provides a means of so preparing land that a more abundant yield may be expected than where the deep breaking system only is followed. In districts of limited rainfall a second crop may be obtained from land broken and backset by burning the stubble the second spring and preparing a seed bed by shallow cultivation with a disc harrow, cultivator and disc drill. In such districts summerfallowing to conserve moisture is usually considered necessary after "deep breaking."

Summerfallowing.

Summerfallowing means the cultivation of the land during one entire season instead of using it for the growing of a crop. As its name implies the operation consists in leaving a field "fallow"—that is empty or idle—during the summer. This can only be accomplished, of course, by means of thorough and frequent cultivation.

Only two good reasons can be advanced on behalf of the practice of summerfallowing: one is its value in the drier districts as a means of storing up moisture for the use of the next season's crop, and the other is its value as a means of destroying weeds—particularly the perennial ones. Contrary to an opinion too commonly held, summerfallowing does not increase the fertility of the soil. The effect of the frequent surface cultivation is to increase largely the stores available of plant food for the succulent crop, which, consequently, is usually heavy, but it does not add materially to the sum total of desirable elements in the soil. On the contrary, the effect of this frequent surface cultivation, which is essential to a good fallow, is to hasten the destruction of humus of vegetable fibre and in this process—known as nitrification—quantities of nitrogen, which is the most valuable element in the soil from the grain growers' standpoint, are set free and pass off into the air. Another result of the summerfallow is to cause blowing or "drifting." This is due also to the frequent surface tillage which is essential if weeds are to be destroyed or held in check and moisture conserved.

It is possible that the second work of the summerfallow—the eradication of weeds—could be done more profitably by a rotation of crops planned with that object in view. There are not lacking men today who have proved this on their own farms and assert it positively. But should this come to be recognised and practised generally it still remains a fact that throughout a large and important part of the Canadian Middle West the summerfallow is essential to successful grain growing and is likely to remain so. These are the semi-arid portions of the country in which summerfallowing is practised with the object of storing up moisture. In these districts, indeed, it is the fundamental operation upon which success is based. The measure of a man's success in such sections as a grain grower is the treatment he accords his summerfallow. Until the fact was discovered that by deep ploughing in June and frequent surface cultivation throughout the growing season a large portion of that season's rainfall could be stored in the upper few feet of soil and held for the use of the crop sown upon that