

Breaking and backsetting means the ploughing of the prairie sod as shallow as possible before the June or early July rains are over, and in August or September, when the sod will have become thoroughly rotted by the rains and hot sun, ploughing two or three inches deeper in the same direction and then harrowing to make a fine and firm seedbed. From land prepared in this way two good crops of wheat may be expected. The first crop will be heavy and the stubble, if cut high at harvest time, will retain sufficient snow to produce the moisture required, even in the driest spring, to germinate the seed for the next crop. The stubble-land can readily be burned on a day in the spring with a warm, steady wind and the seed may be sown with or without further cultivation. In a case where the grass roots have not been entirely killed by the backsetting, a shallow cultivation before seeding will be found advantageous but as a rule the harrowing of the land with a drag-harrow after seeding will be sufficient.

The principal objection to 'breaking and backsetting' is urged with regard to the backsetting which, no doubt, is heavy work for the teams, but if the discing required to reduce deep-breaking and then the ploughing or other cultivation that must be done in an effort to obtain a second crop, be taken into consideration it must be conceded that in the end 'breaking and backsetting' is the cheaper and better method.

When two crops have been taken from new land it should be summer-fallowed.

#### SUMMER-FALLOWS AND SUMMER-FALLOWING.

Among the many advantages to the credit of the practice of summer-fallowing may be mentioned:—The conservation of moisture, the eradication of weeds, the preparation of the land for grain-crops at a time when no other work is pressing, the availability of summer-fallowed land for seeding at the earliest possible date in the spring and the minor advantages of having suitable land for the growing of pure seed, potatoes, roots and vegetables at the least cost and with the greatest chance for success, and that of being able to secure two crops of grain with little or no further cultivation.

Summer-fallowing undoubtedly has some disadvantages, but so long as the growing of grain, and more particularly wheat, remains the principal industry of the province, it will be necessary to store up moisture against a possible dry season, to restrain the weeds from over-running the land, and on account of the short seasons, to prepare at least a portion of the land to be cropped in the year previous to seeding and a well-made summer-fallow is the best means to this end. Among the disadvantages are:—The liability of the soil to drift, the over-production of straw in a wet season, causing late maturity and consequent danger of damage by frost, and it is claimed, the partial exhaustion of the soil. The two former may, to a great extent, be overcome by different methods of cultivation, and if the soil can be prevented from drifting, I am satisfied that one of the reasons for the latter contention will disappear.

Various methods are practised in the preparation of fallow and where the aim has been to take advantage of the June and July rains and to prevent the growth of weeds, success is almost assured. Where the object has been to spend as little time as possible on the work, failure is equally certain.

In my annual report for the year 1889, the following was submitted for the consideration of the settlers. Since then many experiments have been conducted on the Experimental Farm with different systems and again I submit what, on the whole, have been found to be the most successful methods for the cultivation of the soil in Saskatchewan:—