

stroke each time, this leaves a slight ridge but by running the centre of the disc on the ridge the next time the land is left quite level. Ours is a sixteen disc and we find it a very useful implement. It is a light load for four horses unless run very deep. We run it shallow and drive fast.

All the manure we have left we put on the summerfallow, using a manure spreader, putting it on as soon as the land is plowed. When it has been disced two or three times the manure is just where it is most needed—at the roots of the plants. I do not believe in plowing manure down deep, especially in light land. It seems to me that a lot of it is wasted if put down deep. If we could grow grass successfully I do not think we would summerfallow any. We are trying alfalfa this year.

Man.

"MIXED FARMING."

Alfalfa in Central Alberta

EDITOR FARMER'S ADVOCATE:

Last year at Crossfield, about thirty miles north of Calgary, I sowed an acre of breaking and an acre of old land to alfalfa. In each case I mixed the seed with earth from an alfalfa field sent me by the government experimental farm. In both cases the catch was good. I did not learn until too late that I should have run a mower over it after it was well started so as to give the weeds a set back and give the alfalfa a handicap over them, as once rooted it grows faster than the weeds. For this reason the weeds choked the alfalfa in places on the old ground, but not on the new. I sowed it late to avoid cut-worms, which I think now was a mistake. When I sow alfalfa again I shall sow it in the regular seeding season. Shortly before freezing began I cut most of it. It was then in blossom, and the stand was very good. I left about a fourth of it uncut to see if it stood the winter better than that which was cut.

Before anything else began to show green this spring, the alfalfa produced its first leaves and began to grow quite rapidly. I have been reading a good deal about alfalfa culture and several writers said that it should be harvested in the spring to prevent the ground from hardening and to form a dust mulch for retaining the moisture. Accordingly I harrowed it. Nine of the writers had mentioned the fact that the harrow should not be put on till after a rain. I harrowed it as soon as I saw that it was growing well. There had been no rain, and the ground was quite dry on the surface. The harrowing damaged the alfalfa considerably on the old land, and somewhat, though not much, on the breaking, as the soil in the old land was much more easily broken up than in the breaking.

It all wintered well, especially that which was not cut in the fall. The land was level, and did not hold the snow well where the alfalfa had been cut. In the uncut part the snow lay deep all winter, and moistened the ground well in the spring. It has grown well this season. The crop on the breaking is better than that on the old land. I am certain, however, that if I had understood alfalfa better and had cut it when about six or eight inches high to kill the weeds and had not harrowed it till after the first rain in the spring, the better crop would have been on the old land, for my father had weeded one corner of this piece of ground, and there was a much stronger crop in that corner than on the breaking. The breaking stood the harrowing best. The weeds and the harrowing account for the better crop on the new land.

The old land on which I sowed the alfalfa had been used for three years as a truck patch. It had raised white turnips, swedes, mangels and potatoes, and was worked fine to a considerable depth. This told decidedly in the growth of the alfalfa, for where the weeds were kept down, the alfalfa plants were much taller and larger than those on the breaking.

W. I. THOMAS.

Note—Since sending these notes samples grown under different conditions have been forwarded. In giving an outline of what these samples represent, Mr. Thomas wrote on June 20: "No. 1 grew on new land and was cut; that is, the crop was cut last year after we began to have light frosts at night. No. 2 grew on the same new land, but the crop was not cut in the fall.

No. 3 grew on the old land and the crop was cut at the time the area which produced No. 1 was cut. Unfortunately the idea of leaving some uncut did not occur to me till all the old land was cut."

An inspection of the samples shows that it is advisable not to cut late in the fall. No. 2 stands fifteen to twenty inches high, and is several inches longer than No. 1; besides it is a bright green and seems to have a vigorous growth. No. 3, although cut in the fall, is practically as high as No. 2.

Commenting further on his experience with alfalfa Mr. Thomas says:

"This year's growth makes it certain that alfalfa, here at least, grows better on old land than on new, and better when not cut in the fall. I am very much encouraged with my alfalfa trial, especially as the test was made in a field the rest of which was sown to winter wheat. Although I have had considerable experience with winter wheat and have the best piece in the neighborhood and had no previous experience with alfalfa, and in consequence made several mistakes (which I would know better than to make again) and this has been a very hard season on winter wheat, the alfalfa came through the winter and dry spring in better condition than the winter wheat and is growing better now."

Flax as a Paying Crop

EDITOR FARMER'S ADVOCATE:

In growing a flax crop prepare the ground thoroughly, and sow about June 5th. I have



THE PULVERIZING PACKER IN USE IN SASKATCHEWAN

known excellent crops to be harvested that were sown June 20th. Sow 14 quarts of seed per acre. As flax is very hard on the land—that is, land sown to flax becomes very foul—it is well to follow with a crop of Mandscheuri barley. Do not try to grow flax on the same land more than once in seven or eight years. If you do the second crop will die because of the flax wilt.

In cutting use a flax dump, which all binder manufacturers make to fit their machines. It costs about \$7.00. Leave the crop in the field just as it falls from the binder until you are ready to thresh, provided you can thresh in a reasonable time. Then haul direct with teams to the thresher. However, if you are not able to thresh until quite late in the season it is best to stack it.

Flax is a strange plant. If sown too early it grows, and the frost kills the young plants. As the plant becomes older it will stand considerable frost.

I am of the opinion that flax can be grown successfully in many localities in Alberta, as there are places here which have six weeks longer summers than others. There are many such favored localities in Alberta where flax can be grown to perfection.

I say, farmers study your localities. Branch out! Do something different from what the mass of farmers are doing; and, most of all, study your own farm, and learn what it and yourself is best adapted for.

It is useless for a man to try to do anything if he is not really in love with the work he is trying to do; for example, if a man is not in love

with dairying he should dispose of his cattle. However, all should keep poultry, hogs, sheep or horses, something that they can take honest pride in, and they will succeed.

Some like flax as part of their annual crop. Others will not grow it. If it is grown it should be harvested when it is brown ripe and rattles. Of course, if it stands until the next day it won't hurt, unless a snow storm comes. With a fair yield and prices such as have ruled for some time, there is money in it.

Alta.

A. L. DICKENS.

Grading Country Roads

EDITOR FARMER'S ADVOCATE:

Two practices that are very objectionable are: (1) Taking the earth from the bottom of the slough, thereby deepening the hole and making unsightly, dangerous holes, and (2) digging trenches in order to get dirt for grade, making the edges perpendicular so that any person who, either in the dark or through a runaway, or in any way loses control of the team, happens to drive over the edge of the ditch, cannot avoid an upset.

Earth should be obtained from the high ground and ditches should have a gradual slope or arch such as a road grader makes; also back of ditch should have slope enough to allow a team and rig to be driven through at right angles.

In order to utilize the ditches for drainage, it may be necessary to haul the dirt some considerable distance. For this purpose wheel scrapers are advisable; in fact, in any case they are best. A wheel scraper holds nearly one yard. The small scraper holds about one-ninth of a yard, and each scraper takes a man to work it. Three wheel scrapers, a snatch team and a plow team makes a good outfit.

With regard to culvert, either tile or stone piled across the slough bottom, the pile to be large enough to give drainage. A pile of stones three feet wide and two feet six inches high would be enough with smaller stones on the top and sides, and a gravel finish where possible. This kind of culvert is indestructible and almost everlasting. The end up stream should project three feet beyond the grade. In view of the heavy traction outfits that travel the roads, a grade should be twenty feet wide on top where the grade is over two feet high. It is desirable to drain the water, if possible, in order to prevent the washing away of grade, and it may therefore be necessary to make a ditch on one side of the road only.

This, in my experience, is the cheapest and most effective gang for constructing grades through sloughs; the same outfit could be used on a grader if so desired: One snatch team; three wheel scrapers; one plow team; three men, one levelling and two filling scrapers.

Sask.

JOHN PARKER.

Spring Wheat and Oats in U. S.

The July crop report of the United States department of agriculture discloses a rather serious state of affairs in the Northwestern States. The states of North Dakota, Minnesota and South Dakota contain nearly 85 per cent. of the area sown to spring wheat in the United States, and in these three states the most serious damage has been done. The condition of spring wheat in North Dakota, July 1, was 45, in Minnesota, 73, and in South Dakota, 64, as compared with a condition of 95.92 and 94, for the three states respectively on July 1, 1909. During June there was a serious deterioration in the spring wheat outlook in North Dakota especially, condition decreasing from 93 to 45. Lack of rain and long periods of intense heat with drying winds has burned up the crop to such an extent that in some sections farmers are plowing up their fields. In Minnesota the early sown oats are ripe, or rather have been cooked white, and thousands of acres of this cereal are ready for the binder and scarcely high enough to cut. In oats Illinois and Iowa are the chief producing states, and in both this crop has gone back considerably in the last month. In North Dakota the condition of oats is given as 42, where it was