

timothy sod after the first crop of timothy, plowing deep and keeping cultivated all summer, and breaking shallow and backsetting in the fall. I do not approve of either. In the first place if the land is dirty there are weed seeds in the soil that have not germinated when the timothy has been taken off and the land broken in either of the ways mentioned. The growing season is too far advanced to germinate the seeds, so they just lie in the sod till the following spring. The consequence is you will have a very poor grain crop and very dirty one as well.

I will give my way of handling timothy sod which I think is very satisfactory. There is no use of trying to grow either wheat or timothy on dirty land. I think all land that is to be seeded to timothy should be summer fallowed and sown to wheat and seeded with timothy when the wheat is sown, using regular grass seeder attachment. This land should be left seeded down for about four years taking two crops of hay, then pasture for one year and in the fourth year breaking up about the first of June to about two inches in depth. After breaking use the packer, leave till fall and then backset. By this method what weeds grow in the timothy each year will be cut and what grow after will be pastured down; then when the land is broken early it gives all the growing season to germinate the weed seeds and by backsetting in the fall all growth is killed, thus insuring clean crop the following year. I do not approve of breaking and cultivating deeply. If the land has been seeded four years I think land so worked will be too flat and solid, whereas if it is broken and backset it will be left open for the frost and will be in better shape for a crop; more so if the land is a heavy clay.

Man. THOS. WALKER.

Plows Sod Twice

EDITOR FARMER'S ADVOCATE :

I have had some little experience in the preparing of timothy sod for grain which I will give as briefly as possible. First I tried plowing the sod at the usual depth, about six inches, discing it twice and harrowing in the fall. The crop following was very unsatisfactory. Next time I tried plowing as shallow as possible, discing twice and harrowing as before in the fall. The grain crop that followed was fairly good. Then I tried another plan. I cut the timothy just as early as it was fit to make good hay and dropped all other work to hurry the plowing of the sod. I plowed very shallow, not over two inches in depth, followed the plowing with the roller and left the field until the last week in the fall. It was then plowed again, backset, as we would ordinarily call it, to a depth of about four inches. The crop next season was so satisfactory that I concluded this was very nearly the proper method of breaking up timothy and have followed this plan ever since, always with the most satisfactory results.

Man. C. D. BLACKBURN.

Seeding Down Versus Summer Fallow

At present there is considerable discussion regarding the comparative merits of seeding to permanent grasses and bare summer fallow. If we consider the objects aimed at in these two farm operations we will at once see that there is no conflict between them and the best results will be obtained where both are carried on. We summer fallow with the following objects in view, first to destroy weeds and their seeds by plowing down all weeds already germinated and then to encourage as many more weed seeds as possible to start and kill these as quickly as they appear above ground. By frequent and thorough cultivation an immense number of weed seeds can be destroyed in one season, but the work must be commenced early in June, otherwise some of the early ripening weed seeds such as sweet grass, French weed and pepper grass will have already shed their seed and instead of the summer fallow lessening the number of weeds it will increase it.

Summer fallow properly performed greatly increases the water content of the soil, plowed early and worked frequently on the surface every particle of rain that falls soaks into the soil and very little of it escapes through the dust mulch on the surface. This moisture helps to decay all accumulated stubble, roots, etc., and is available for the next year's crop.

Although a summer fallow does not add fertility to the soil it makes what fertilizing material there is in the ground available; it destroys weeds and adds moisture; it also enables the

farmer to plow and otherwise prepare for seeding a portion of his land during a comparatively slack season which is a great advantage where farmers are so pressed for time in spring.

The advantages gained from seeding down to grass are often fully as great as those from summer fallow, but are of a very different character.

By seeding a variety of grass adapted to the locality abundance of excellent fodder is provided, and when the grass is plowed up the land is supplied with sufficient fibre to prevent it drifting with the wind. Seeding to grass I consider one of the most promising means of successfully fighting the wild oat. By seeding down an infested field to some good vigorous grass and taking off a crop of hay for two years, then pasturing for two more years, very few wild oats will have survived and the field will be found nearly free of them when next put into crop.

Instead of abandoning either summer fallow or grass seeding, they should each be given a place on the Western farm.

M. A. C.

S. A. BEDFORD.

Road Making System for West

EDITOR FARMER'S ADVOCATE :

I was glad indeed to see that you are again drawing the attention of your readers to the necessity of better roads. As you state, this is as much a matter of importance to the towns and villages as to the farming community, but as most of these places are in the embryo state they have to devote their energies to improvements within their corporation limits. In practice, therefore, the country districts must work out their own salvation.

The question is, which is the best way to it.

There is certainly one way by which roads will never be built, viz.: by statute labor in any of its forms. The rural public should be given distinctly to understand that they have no more right to work out their road tax than they have to take turns in teaching school because they pay a school tax. In many cases they are just as well fitted for the one job as the other, and in most instances if a man is farming his land he has no time to waste on road making at the season of the year in which road work is usually done, and often he breaks up a four-horse team to take a couple of horses on the road.

The "contract" system has generally proved unsatisfactory because usually insufficient work is let at one time to induce men inclined to make a business of it to leave their present vocation and no farmer can afford to take teams from his land during the open season.

In my opinion there is but one system suited to the West, and that is the appointment by each municipality or local improvement district of a road commissioner, who, needless to say, should be an intelligent, competent man and as such should receive a fair annual salary. In the early winter he should look over the ground with the councillor of the Ward and then with the aid of an engineer the work could be laid out in the cold weather. Then brush could be cut and filled into sloughs where necessary, and material drawn to the ground for bridges, culverts, etc.

In the spring he would be provided with a camping outfit, cooking equipment, and all necessary implements (and one quarter of the present expenditure on such would suffice) and be empowered to hire teams and men sufficient to do the required work before freeze-up.

With this outfit he would move to the vicinity of the work to be done and before leaving complete the job, which is quite contrary to the usual practice in most of the localities with which I am acquainted. If the roads are once made, many farmers would be willing to use "King road drags" free of charge to help keep them in order.

SYSTEM

The outline above would, of course, need money and the question is how is it to be raised?

SUPPLYING THE FUNDS

In my opinion a large share of the necessary funds should be supplied by the Dominion government — not to be raised by taxation, but by the sale of lands now being given away as homesteads. This, of course, opens up another question but it seems to me that now that the country has been proved by a quarter of a century of pioneering to be a land in which, by using methods suitable to the soil and climate crops can be raised as regularly as in regions apparently more favorably located geographically, that it is time that these indiscriminate gifts (stated by some recent writers in the press to be worth \$3,000.00 to each individual) should cease.

There is no danger that immigration would cease (and to tell the truth we would be better off without a lot that we have). You could not stop it "with a club" now.

The only other possible scheme appears to me to be by the issue of debentures to run for long periods of time — 20 to 40 years — for their is no reason why posterity should not help pay for the roads they will use — and if such debentures are approved by the provincial governments as those raised for school purposes are at the present time, doubtless money could be secured at four or, at the most, five per cent. and the cost need not exceed \$15.00 per annum, per quarter-section, in the average municipality.

At present we are not paying inroad tax more than enough to properly maintain the roads of the country, let alone build them.

Sask.

F. J. COLLYER.



GOOD ROADS IN STONEWALL DISTRICT.

This fine road is on the abandoned bed of the C. P. R. that formerly ran from Stonewall to Portage la Prairie. The photograph was taken by a representative of the Farmer's Advocate soon after a rain. Mud never forms.

After a barn the next best place for storing hay is a shed with an adjustable or lifting roof. The ground dimensions should be ample to allow the first cutting to cover its floor and not be over five or possibly six feet deep when first put in. The bottom of the mow should be raised at least one foot from the ground, and the floor should have at least a twelve-inch air space every three feet. Poles or joists covered with dry straw or old hay make a good floor. Spread the hay over the entire floor surface, on a layer of straw or other dry material. Use barrels or boxes for ventilation, and lower the roof until the second cutting. For such a roof the covering should be of some such material as rubberoid, and the rafters need not be heavy, except about every sixteen feet. Strong iron clamps can be easily adjusted to the supports. When the second cutting is ready, raise the roof, which should be in sections, and put the second crop on top of the first. Follow this plan for all other cuttings. If a shed with a stationary roof is used, dry straw, or hay, or corn stover should be put on top of each cutting to protect the alfalfa from rain. Almost any kind of a shed or covered structure is preferable to a stack. — Coburn's "The Book of Alfalfa."