

Antiseptic Animal Surgery.

On all live-stock farms well-being and profit call for minor surgical operations. The knife is the chief tool used. Until a comparatively recent period no attention was paid to the aseptic condition of the knife. It might have last been used to open a malignant tumor and simply wiped, leaving numbers of disease germs on the blade, and in this condition the next operation was on the healthy tissue of another animal. The germs on the knife would enter the healthy tissue of the freshly-incised wound, causing it to swell and gather pus, causing the animal much needless pain and perhaps endangering its life. All who practice animal surgery now know the value of sterilizing their instruments. This is usually done by the use of a solution of corrosive sublimate. This is not convenient on the farm, so a knife may be sterilized by washing in boiling water, then hold the blade for an instant in the flame of a gasoline stove, finishing by wetting with alcohol. Parts of an animal to be operated on should previous to the operation be washed with strong soapuds. After the operation the animal should have clean quarters to lie down. If these precautions are observed, very little trouble will be found. A light diet of bran with oats or slop, according to the nature of the animal, should be given.—*Twentieth Century Farmer.*

FARM

An Experiment in Clover Curing.

To the Editor "Farmer's Advocate":

In reply to the enquiry re curing clover hay in the green state, I will give you the plan that we followed last season, by which we saved from 75 to 80 tons of hay. I prefer to cut clover when it is in full bloom; at that time it contains the greatest amount of digestible nutrients, and especially the honey, which adds so much to the palatability of the hay. If any person wants evidence of this fact, I would ask them to chew a head of clover in the winter season that has been cut at the proper time. Stock relish sweets as well as mankind. But, as we cannot cut all of our clover at the proper time when there is a large acreage, I prefer to start early, say before the blossoms are all fully out, so that all may be cut before the blossoms start to turn brown and the stalks woody. In matters of this kind we have to deal with averages. Cut in the morning, after the dew has dried off the grass. That which was cut in the forenoon may be raked up and put into cocks after dinner. Do not run the mower later than four o'clock in the afternoon. All that is cut must be put into cocks before the dew falls. This should be hauled to the barns the next day and tramped into the mows tight, without using any preservative such as salt or lime. This plan may be continued from day to day until all is saved in the barns.

Three things should be borne in mind in curing hay by this method.

First—Do not cut the grass until dry in the morning.

Second—Do not allow fresh cut hay to lie on the ground over night, exposed to the dew or rain.

Third—If any hay should get wet with rain, let it stand in the cocks until thoroughly dry before taking to the barn.

By this plan all of the leaves and blossoms, which are the most valuable portion of the plant, will be saved, and the hay will come out of the mow as green as the day it was put in the barn and almost as palatable to the stock as the day it was cut.

There was no evidence of spontaneous combustion, as the blossoms on the alsike clover were all pink and the red-clover blossoms were from purple to a light amber color. I did not detect any heat in the mows. If there had been much heat I am of the opinion that the blossoms would have been of a dark-brown color. There was no mould and the hay was the freest from dust we ever had.

A great advantage is gained owing to the short time required between cutting and storing in the barn. If there is an appearance of rain, do not cut that day. It gives the farmer a great chance to get his hay saved between showers.

I have not put any hay in stacks or overhead lofts with open floors. The mows were large, with double-inch boards for floors in two cases. In another mow the bottom went to the ground. There were cracks in the siding of the barns, between the boards, averaging about $\frac{3}{4}$ of an inch each. The hay was open in all of the mows on the driving-floor side, and it came out from all parts of the mows alike, which was pronounced by all who saw it the best they ever saw.

HY. GLENDINNING.

Ontario Co., Ont.

[Note.—We would like to hear briefly as to the results of any other trials in storing green clover, and also exactly what were the conditions under which it was done. Farmers will deem it prudent to have full information before generally adopting the plan.—Editor.]

Immigration and Farming in Manitoba.

During the past twelve years I have been giving information to parties who thought of coming to settle in Manitoba. Ninety per cent. of such information was given to farmers or farmers' sons. The great field offered for investment was in our broad acres, ready for the plow, with rich soil that gave a bountiful crop to the husbandman. I was always well aware that if the land were occupied and tilled by farmers, there would follow the necessary number of mechanics and business men of all kinds. To-day I can only repeat what I have so often said before—perhaps a little more emphatically, for 22 years' residence in Manitoba has confirmed my views regarding the possibilities of our Province. When I came to Manitoba, in 1880, there was so much land offered for homesteading at \$10 for 160 acres and an additional 160 acres to pre-empt at \$1 per acre, that it was somewhat difficult to make a selection: so many wanted to be near timber, to have a living stream of water; at the same time, that every foot of the homestead could be plowed, and also wanted a hay meadow on the pre-emption, and, if possible, stones on the banks of the creek for building purposes. Oh, no, we were not greedy! These things were scattered all over the prairies, and many of the early settlers secured more than two of them. To-day, after twenty years' residence in the Province, there are hundreds—yes, thousands—of farmers who are so satisfied with their farms that they consider them equal to if not better than any other in the Province.

On the advent of a railway (the C. P. R.), we considered that our lands had increased very materially in value, for we were then in communication with the outside world and could dispose of our products. As settlement increased, branch railways were built; then came a competing line of railway, and now we have a network of railways in all parts of the Province, and the end is not yet, for many branch lines are to be extended and new ones constructed the present year.

Speaking generally, our \$1-an-acre land was worth \$5 an acre on the advent of the C. P. R., and \$10 an acre when a second railway corporation was introduced. To-day, with all our branch railways and reduced freight rates, our lands adjacent to railways are valued at from \$15 to \$20 per acre. With increased settlement and more general cultivation, within ten years these prices will be doubled. Put this statement in tabulated form and we can better judge of what benefit our railways have been:

25,000,000 acres of tillable land in 1880, at \$1 per acre, value.....	\$ 25,000,000
25,000,000 acres on advent of C. P. R., at \$5 per acre, value.....	125,000,000
25,000,000 acres on advent of competing line of railway, at \$10 per acre, value.....	250,000,000
25,000,000 acres to-day, with all our branch railways, at \$15 per acre, value.....	375,000,000

I admit that the land in itself is of no value unless cultivated or used for grazing—that we must have settlers to cultivate it, and that it has been the settlers who actually developed the "gold mines," as it were, of Manitoba—but so intimately associated with the farmers' work is the railway work, that it is impossible in such a Province as Manitoba to separate the one from the other, or to reckon the success of the one without considering the success of the other. There are some men, even editors of newspapers, so illogical in their deductions, so barren of ability to grasp figures, conditions and events, so permeated with the leaven of fault-finding and jealousy, and with that most detestable attribute of seeking popularity by associating the success of individuals and corporations with the implied degradation and servitude of the farmers, that they at all times endeavor to lead farmers to believe that they are still where they were 20 years ago. It is not true. Manitoba farmers have made wonderful progress in the last twenty years. The progress and success of all our railway corporations and business concerns come only from the heart-beats of the great farming community, and to-day the farming pulse is so strong that the wheels of commerce are paralyzed in attempting to carry out our products and at the same time adequately supply the farmers with their wants.

To-day the farmer in Manitoba who has 320 acres of land, and uses a fair amount of diligence and attention in cultivating the same and raising stock, has a safer investment than \$6,000 in the bank, for he has a sure reward for his toil, ample to supply the wants of himself and family in comfort—yes, in luxury—and he has the pleasing satisfaction of knowing that his investment is increasing in value from year to year.

An extensive, prosperous farming community is to-day the safest place in the world for investment and business. Manitoba and the N.-W. Territories present such a place. Our great crop in 1901, which blocked our elevator and railway systems, has awakened new interest in the Northwest. Men are now coming in thousands, ready to work and with capital to invest. I predict that in 1905 the Northwest Territories will have more wheat to export than Manitoba had last year.

HUGH McKELLAR.

Breaking Prairie Land.

After years of practical experience extending over a period of nearly a quarter of a century, during nearly all of the time with exceptional facilities for studying the requirements and conditions of the Province, Mr. S. A. Bedford, Superintendent of the Brandon Experimental Farm, contributes his views on the breaking-up of new land. As he deals with the question in considerable detail, the article will be of special interest to many thousands of new settlers who will read this edition.

Mr. Bedford writes: Northwestern Canada is particularly fortunate in having such a large area of rich virgin soil in the very best possible condition for the new beginner. Nature has apparently done her utmost to prepare the way for the millions of pioneers soon to take possession of its immense areas of prairie and park lands.

Although nature has done much to prepare the soil of a prairie farm, there is still considerable work necessary before the land is ready for the seed, and the yield of future crops depends largely on how this preliminary work is done.

SHALLOW BREAKING.

For the best success the prairie sod must be so thoroughly rotted and broken up that there is abundance of soil to form a seed-bed for the grain. This can best be accomplished by plowing the land when the plants are full of sap. This is usually from May 1st to June 15th, but in a very early season work can be commenced two weeks earlier than this date. The breaking should be done quite shallow, just deep enough to turn all the sod. This will generally be from 2½ to 3 inches deep, depending on the smoothness of the land. This shallow plowing will sever the roots of the natural grass plants, leaving portions of them in the ground and turning the balance up to the sun to wither. The furrow should be sufficiently wide to allow the complete inversion of the sod. The fancy plowing of the old countries, with the furrow set on edge, showing a handsome "comb," is not desirable here. The flatter the furrow the better will the sod rot. It is desirable that the furrows be straight, so that none of the land be missed by the plow. Straight breaking also lessens the work of backsetting. All surface boulders and small clumps of scrub should be removed before the breaking is commenced. This will not only give an air of neatness to the farm, but also permits of labor-saving machinery being used to the best advantage. If the breaking is at once well packed with a land roller, running the opposite direction from which the land was plowed, it will smooth out the wrinkles in the furrows, compact the land, and greatly hasten the rotting of the sod.

BACKSETTING.

As soon as the sod of the breaking is thoroughly rotted, the second plowing, or "backsetting," as it is commonly called, should be commenced. This is usually done in the same direction as the breaking, but a little deeper, so as to bring up some additional soil to furnish a good seed-bed. All backsetting should be finished before harvest. This prevents the weeds from going to seed. The land should be well disked in the autumn, and all that is necessary to make a perfect seed-bed for the grain in the spring is a slight harrowing either before or after sowing.

DEEP BREAKING.

Many farmers on light soil are giving up backsetting. They break deeply, and simply use a disk harrow to work up the rotted breaking. This plan has been tried on the Experimental Farm, but the deep breaking is much heavier on the horses, and the sod does not rot nearly so well. On land cleared from timber and scrub, which is usually quite free from sod, very satisfactory results are obtained from breaking deeply, followed by surface cultivation with disk and iron harrows. Where the scrub is composed exclusively of willows and rosebushes, the work can often be done with very little chopping. A strong brush plow furnished with an upright coulter fastened into the point of the share will root up and turn over quite large willows. These can be raked out later with the harrows and burned.

Cleared scrub land is the only kind on which it is advisable to raise a crop the first year, and even then it seldom pays to grow anything besides field roots and vegetables.

Preserving Fence Posts.

As a result of a series of experiments conducted by the Department of Agriculture, Germany, in the preservation of fence posts, we have the following report: Posts used in vineyards were dipped in different solutions to preserve them against rot. The period of the experiment covered twenty-four years. The best results were secured with tar. Only nine per cent. of fir posts impregnated with tar had rotted at the end of twenty-four years. At the end of twenty years, thirty-three per cent. of those impregnated with copper sulphate (bluestone) had rotted; nevertheless, the ease and cheapness with which posts, particularly green posts, can be saturated with copper sulphate solutions seems to make its use more desirable than that of tar.