

Economical Farm Fencing.

How to fence has for many years been one of the most difficult problems to solve in connection with the management of the farm. While timber for fencing was in abundance, all that was required was to supply the labor between the standing tree and the snake fence, and although this fence was considered a vast improvement upon the first barrier that pioneers were wont to form in the woods to keep their stock in bounds, and whose appearance has been well indicated by the old saying, "Homely as a brush fence," yet it requires a strong stretch of imagination to see anything in the crooked rail fence beyond a temporary barrier, and a very unsightly one at that.

We still have those who advocate the crooked rail fence, contending that if properly built, staked and ridged, it will last as long as any other variety of wooden fence; but the land it occupies, which is worse than wasted, together with the utter impracticability of obtaining the material for building in most localities, puts it entirely out of the question. Most old "snake" fences will yield enough sound rails to construct a straight fence four or five rails high, if posts are used and wire loops and staples for fastening. Some of these patent reconstructed rail fences, however, are entirely worthless. Too many farmers are apparently striving to excel their neighbors in expending work building useless fences, so that it is not surprising that the work on the farm gets behind, for nothing contributes to economical labor like laying out work so that when performed it is finished and lasting. In this way numbers of fences are put up only to be blown down with the first heavy gale, and they are again raised to their tottering height only to undergo the same experience, and thus keep their proprietors in a perpetual turmoil.

If there is anything annoying it is bad fences; they not only teach the stock on the farm to be breachy and troublesome, but contribute more to ill-will between neighbors than any other cause. It is an open question which would first become reconciled after being ensconced behind their more secure surroundings—the breachy stock or the cantankerous neighbors.

It requires very little reflection and less calculation to become conversant with the fact that fencing is the most costly department in the farm expense account; much of this is due to the temporary character of the fences most commonly built. For example, to lay out a one-hundred-acre farm in convenient form and in ten acre fields it will take over 1,000 rods of fence, and if this be built with boards it will cost fully \$1.00 per rod, or in other words \$1,000. Supposing this fence to last twenty years, with simple interest at six per cent. per annum, divide the principle in twenty equal parts, the combined interest and principle will just amount to \$110 per year. A pretty serious item in the farm expenditure any farmer will say, yet there it is in black and white, and no way to get out of it.

Side by side with every conceivable sort of rail, board and picket fence, we have wire fences in pretty nearly the same multifariousness. Some of these have undoubted features of excellence. Very strong claims, for example, are made on behalf of the Page Woven Wire Fence as a complete barrier to all kinds of stock, it being distinguished by strength and elasticity owing to its coiled springs. Even with only three posts to the hundred feet, it is said that it will not sag nor draw together between, but we would be disposed to recommend more in order to greater security. After a thorough test on a small scale the Lake Erie & Detroit Railway last year used seventy-five miles of this fence. Some forty rods having been in use for years on the Michigan Agricultural College Farm, the Executive Committee unanimously ordered more of it. This style of fence is sold ready to stretch on the posts.

Then we have the different kinds of hedge fences, doubtless instituted with a view of providing winter pasture for field mice, if we may judge of the way these rodents have gone for rods of hedge plants during last winter. They have appreciated the efforts of the companies who have provided the plants, but just who is to suffer the loss the farmer will tell later on, and probably when settling time comes round pleasantries will be at a premium. We have no way of estimating just how many thousand miles of these hedge fences have been set out, nor do we know how competent to fulfill expectations the company will be that has had its persuasive agents abroad. This we can say, that we have seen miles and miles in more than one county of these prospective hedges, the owners of which state that the allotted time when the finished fence should be handed over is drawing near, yet the completion seems to be as far off as when the plants were first set out.

That they will make an impassable barrier if sufficient posts and wires are placed among the plants we have no doubt, but just what part the

hedge plant itself is to play, further than ornament, we will leave some one else to answer. With regard to the obligations that farmers have placed on themselves in giving orders for these fences we cannot say, but we would feel tempted to try how far the courts would support the company before we would be inclined to pay the last instalment on the contracts.

That wire fences of some variety are to be the future field barriers people seem pretty well agreed. What sort is best suited to the requirements of the farm is the question to be decided, and it is the weak and strong points of each that we wish to discuss. Those who have had valuable horses or other animals ruined by the cruel barbed wire realize that it should have no place where valuable stock is kept. Again, this fence does not answer the purpose of a barrier, unless uncommonly well built, as the wires are readily sprung apart, and by this means unruly cattle often get through to feed upon the crops in the adjoining field. The same difficulty is found with many of the smooth wire fences where no netting or cross stays are placed to hold the wires together.

Now, what are the requisites of cheap fencing? The answer is, A fence that requires the least number of posts, with wire at the cheapest rate per pound, with the other necessary attributes of a perfect, lasting structure that is not injurious to the stock it confines. This latter danger is avoided where strong smooth wire is used, and permanent durability is gained by utilizing stays and clamps, such as the Locked Wire Fence Co. have succeeded in applying, either in the case of old or new fences. In building this sort, seven horizontal wires are used, although in some localities this is not considered sufficient. However, the wire is smooth and cheap; it can be purchased at three and a-quarter cents per pound, but it is in the stay and lock that forms the strength, as the lock effectually ties all the wires together, forming a truss that no animal can possibly get through or break down. Other good points in this fence are: The ease with which it can be joined if the wires have been cut to form a gap, or under any emergency; the fence readily adjusts itself to excessive heat or cold; if weighed down with ice or snow, when freed it springs back and assumes its former position without assistance. It is strong and durable. Gates can be very cheaply made on the same principle. This fence is also suitable for lawns and gardens.

Millet.

There are several distinct varieties of this grass, of which the Hungarian grass and common millet are the kinds most frequently sown, although German millet, which matures a little later in the season, is grown to some extent with good results. Our experimental stations are taking up this plant with the view of providing a good substitute for hay in the short years, and they have a number of new varieties which they report as being much superior to the common varieties now grown.

In this country it is grown altogether as a fodder crop, either to be fed green or cured as hay. Millet is especially valuable to supplement the hay crop in bad years, for a farmer can wait until he can determine the yield of his hay or ensilage crops before sowing, consequently he can calculate the amount of millet which will be necessary to insure the usual amount of winter feed for his stock; while nearly all other crops require an earlier sowing as well as a longer season of growth, millet can be put in quite late in the season and still give a heavy crop of feed.

A dry rich soil is desirable, but though it will grow on thin soils it pays best on fertile land. It will grow well on any soil of sufficient richness to give a good crop of corn or potatoes. The soil should be well pulverized and troweled, and made smooth and level, so that the small seeds may not be buried too deeply. From three pecks to thirty quarts are enough, when sown broadcast; if drilled, less will be needed. After sowing the seed roll the surface. Sow after corn planting is finished, when the weather has become settled and the nights are warm, which will doubtless, in most parts of Canada, be about the first of June.

It should be cut as soon as the heads are well formed and before the seed ripens. Millet ripens very irregularly; some heads will be ripe when others are just shooting out, so it should be cut on the early side to get the best quality of feed. Cut with a mower and cure the same as common hay. One objection to the general growth of this crop is the fact that it is an annual and thus requires the ground to be prepared and the seed sown each season. Millet makes very rich feed and all kinds of stock eat it greedily, so that most growers prefer to mix it with common hay or other coarse fodder. If any of the crop has been allowed to go to seed it should be fed with great care and only in small quantities, as there is a certain amount of danger in feeding at this stage. Great care must be exercised when buying millet and Hungarian grass seed, that it is pure and free from foul weed seeds. A great deal of mustard and similar seeds have been introduced into the Northwest and Manitoba in this way; in some sections every farmer who was growing millet could be pointed out at a distance by means of the yellow mustard blossoms in the crop.

Live Stock Portraiture.

There is a peculiar satisfaction in work well done that comes to the publisher in no other way. Though aiming at constant improvement in all departments, we are reminded by many congratulations that in live stock portraiture the front page illustrations of the FARMER'S ADVOCATE exhibit a distinct advance in this feature of agricultural journalism. Recognizing the existing need in past years for improvement, we are pleased to be able to place within reach of Canadian breeders a class of work that will do life-like justice to stock, the excellence of which has gained world-wide repute. The portrait of Messrs. Jackson's Southdowns, occupying the place of honor in this issue, has probably never been excelled, it indeed equalled in periodical work. Its fidelity to life is remarkable. Among others with which we hope to favor our readers shortly will be a group of Mr. John Bell's celebrated Tamworth swine, Messrs. Gibson & Walker's Lincoln sheep, and the noted Ayshire sire at the head of Mr. Thos. Guy's herd.

The Hawks and Owls of North America and Their Relation to Agriculture.

Bulletin No. 3 of the United States Department of Ornithology and Mammalogy describes the above birds and their value to the farmer. The statements made in this book regarding the foods consumed are based upon a critical examination of about 2,700 stomachs, thus showing the enormous amount of labor expended in compiling the work. The results prove beyond a doubt that a class of birds commonly looked upon as enemies of the farmer and destroyed whenever occasion offers, really ranks among his best friends, and, with a few exceptions, should be preserved and encouraged to take up their abode near his home. Only six of the seventy-three species of hawks and owls are injurious, and of these three are so rare that they need not be considered, and another, the Fish Hawk, is only indirectly injurious, leaving only two, the Sharp-shinned Hawk and Cooper's, or the true Chicken Hawk, that really need to be taken into account as enemies of agriculture. Omitting the species which feed largely upon poultry and game, 2212 stomachs were examined, of which 56 per cent. contained mice and other small mammals, 27 per cent. insects, and only 3 1/2 per cent. poultry or game birds. In view of this the folly of offering bounties for the destruction of hawks and owls, as has been done by several states, becomes apparent. When certain birds are known to be harmful, the farmer has a right to demand that the protection of the law be withdrawn.

At first sight it would seem an easy matter to divide birds into the two great classes of injurious and beneficial, but in fact there is no more difficult task, because their habits vary with the different locations and the different seasons of the year. For instance, the bobolink is one of the most highly prized visitors of the Northern States and Canada, but in the Southern States this same bobolink, there called the rice bird, annually damages the rice crop to the extent of a million dollars. The crow is considered one of the worst enemies of the corn field, but when the corn is past danger the crow changes from an obnoxious to an exemplary member of bird society, and wages war against the cut-worm and other insects.

In spite of the general opinion that these birds are injurious, the investigations go to show that owls are among the most beneficial of all birds, inflicting very little damage upon the poultryer, and conferring vast benefits upon the farmer; also that all hawks, with possibly one or two exceptions, are to some extent beneficial to the farmer.

This work divides hawks and owls into four classes; the first contains six wholly beneficial or harmless birds, of which the Rough Legged Hawk, or wrongly named Hen Hawk, is the best known. This hawk lives principally upon mice and other small rodents. The second class includes those which are mainly beneficial, and contains thirty-four varieties, of which the best known are the Sparrow Hawk, Barn Owl, Screech Owl, Hawk Owl and Snowy Owl. The third class includes those in which the good and evil balance each other. This class contains seven birds, of which the Golden Eagle, Bald Eagle, Pigeon Hawk and Great Horned Owl are well known. The fourth or injurious class has already been mentioned; Cooper's Hawk is a common species throughout the United States and Canada. Much of the ill-favor with which birds of prey are looked upon is due to the depredations of this true Chicken Hawk, together with its smaller congener, the Sharp-shinned Hawk. Unquestionably both species should be destroyed whenever and wherever possible.

It will be seen from this bulletin that of our birds of prey there are but two which deserve to be put upon the black list and pursued without mercy. The greater number pass their whole lives in the constant performance of acts of great benefit to man, or else make good any injury they may do poultry or insectivorous birds by destroying a greater number of animals known to be hostile to the farmer. This bulletin, which contains a description of nearly sixty varieties, with handsome colored plates of about twenty-five of them, was prepared under the direction of Dr. C. Hart Merriam, Chief of the Department, by A. K. Fisher, M. D., Assistant Ornithologist.