Farm and Field

NATIVE LOCUSTS

We read from time to time, and have done so for many years past, of vast hordes of locusts darkening the sky, as they sweep onward, from unknown breeding grounds; how they devastated the crops and ate up every living leaf in any locality they happened to make a stopping place, and in fact left behind a desolate and leafless waste where a few hours previous all had been luxury and beauty. Such is said to be the case, at times, in parts of Africa, India and certain South American countries. There is, however, no longer any mystery connected with these visitations. Science has explained all that; has discovered the breeding grounds and is doing much to eliminate the injury by guarding against attacks and providing for them when they occur.

We are not, as a rule, apt to associate our common grasshoppers—many of which however, are true locusts—with those devastating species. In fact, of all our many different kinds we usually claim but one as truly migratory, namely, the Rocky Mountain locust, Melanoplus spretis, the locust made famous by having a special commission appointed to investigate its ravages. This species, in the past, has done immense damage to vegetation mostly in the United States, but it also invaded a great portion of Manitoba in the seventies, and is specially remembered on account of its having practically swept the Red River Valley clear of vegetation. Since then there have been two minor outbreaks confined to Southern Manitoba, the locusts having evidently flown from somewhere south. In spite of the prevalence of this species in Manitoba at times it is very doubtful whether it can be classed as a native, a distinction which, after all, we are not anxious for.

It is a wonderful thing this migration. Few animals are free from a desire or instinctive stimulus to move to other parts and so spread the species. Plants, also, are constantly doing it by means of their seeds, and those that cannot go far by their own exertions, fasten themselves to such as can, and so, as with ourselves, air, land and water, are all made use of for the purpose of travel.

With regard to grasshoppers, it is strange that their regular periodical movements have been largely overlooked, though no doubt this is partly due to a lack of knowledge as to where to look. At Aweme, Man., where locusts have been troublesome of recent years, one instinctively looks up towards the sun, taking care to get behind some building or in some way hide the sun's disc and then, if there are any flying, they will be easily observed within a radius of from one to fifteen diameters from the sun.

When a locust has the instinctive incentive to fly it is said to inflate the air sacks along the side of its body; it then rises with a spiral movement, round and round, higher and higher, until reaching a height of some hundred feet or more and feeling the resistance of the wind, it sails slowly away, usually flying with its head facing the breeze if it is at all strong, and gradually getting higher as it moves along with it, until it becomes a mere speck of glistening whiteness, when close in line with the sun and invisible elsewhere. When there is no breeze it will return obliquely to earth to await a more favorable opportunity.

That this desire, or instinct, to fly elsewhere is no sudden impulse is shown by the fact that a locust when disturbed seldom flies at any great distance, and in fact seems incapable of doing so, while those that are prepared rise easily. Nor is the movement due to lack of food, as one often sees them rise in the midst of plenty. No, it is nature's way of spreading her children over the country, and she has taught them through the law of natural selection, to go and also how to prepare for their journey.

The migratory season commences soon after locusts reach maturity, that is when they have passed their final moult, and some three or four weeks before they commence laying eggs. It lasts almost a month. There is not, however, a continual movement, only hot sunny days are chosen and even the locust is dependent on the wind, which not only carries it along but also indicates its direction. The days most preferred are those when the breeze averages some fifteen miles an hour, though lesser winds, as well as higher, are used to advantage; locusts seldom fly, however, when the wind is blowing hard.

It is interesting to watch these movements on a gusty day, when calm one moment and breeze the next. Then every fresh gust is taken advantage of and one sees hundreds of locusts rise on such occasions, as if having waited their opportunity. It is the same while looking up towards the sun, one moment will only discover a few, the next a perfect swarm moving at different angles owing to the breeze having slightly different directions at different heights, and so the journeys continue, first east, then west, south or north, as the wind varies. At night they apparently drop to earth to infest new neighborhoods or perchance rise and move elsewhere next day. But not all go, as for some nature has made a wide provision. Some are endowed with long wings; these are specially built for locomotion and conveying the insect long distances. Others of the same species have short or rudimentary wings which oblige them to stay at home. So that while the long-winged forms seek newhomes, there are enough short-winged brothers and sisters to carry on the work at home and incidentally the work of destruction also.—The Ottawa Naturalist.

FARMERS' MEETING

The farmers of Lanigan, Sask., at their regular fortnightly meeting on December 23, discussed the relative merits of plowing

"Puritan" Potatoes weighing from 2½ to 3½ lbs., grown on the farm of Jas. Johnston, Beresford, Man.

and of burning the stubble and discing for the second crop after fallow.

While not much actual data was available as regards the best method to pursue in this particular district, it was thought that burning the stubble and discing would give the best results on account of the extra moisture secured by the stubble holding the winter's snow. Plowing in the fall might be considered advantageous in some respects, but at the expense of a lessened amount of moisture.

Peter Polson gave a very interesting account of his observation on this subject, gathered while on his trip West. In part he said, that in some districts he had been in, the farmers followed the burning and discing method for the second crop and fallowed for the succeeding crop of oats or flax, then fallow again. This, of course, to apply to well worked fallow. He considered it a success and thought it should work here, although perhaps our soil was a trifle lighter.

"The best method of summer fallowing." This question provoked more general discussion as fallowing is beginning to be practised to a considerable extent in this vicinity. The majority of the members were in favor of plowing once as early as possible and thereafter cultivating and harrowing as often as necessary to keep the weeds in check and conserve the moisture. Late plowing was considered a great mistake as thereby the very object of fallowing was defeated. For working the fallow a spring tooth cultivator was said to be better than the disc, but even the cultivator was said to be a failure by those who have used them, if the weeds were allowed to attain a strong growth. Mr. A. McDonald had used a packer the following spring, but thought it could be used to good advantage immediately after plowing. Mr. L. Dunn had found the wild rosebush the weed hardest to get rid of, and said that plowing should be carefully done so as to ensure the cutting of all weeds. Though the general idea is to plow deep, one member thought that when the land is new, that is to say, when one or two crops have been taken since breaking that it is not so important to go as deep, as there is still a certain amount of humus and organic matter in the soil, which helps to retain the moisture and produce a good crop. In his opinion the depth and character of the surface soil should regulate to a certain extent the depth to which that soil should be plowed, and in any case the lower soil should be brought up gradually

FLAX GROWING

Editor Guide:—I read with interest your article on flax growing in the issue of December 21. Among the things you mentioned was that a movement was started some time ago to establish a factory in Winnipeg to utilize and convert into commodities flax straw. Such an enterprise would certainly boom the growing of flax here, and it can be very successfully grown in this country.

This year I sowed one hundred acres of flax on spring breaking and harvested fifteen bushels to the acre, which I sold for more than $2 a bushel, and paid me much better than wheat would have done on a good field of summer fallow. I disced the land twice in the spring and pulverized the land up as much as possible, as flax always does best on a good seed bed owing to the seed being slow to start, and from the fact that the plant derives most of its food from the soil during the first month. I might mention here that I broke my land with a motor plow and found it a fast and very satisfactory method. I also sowed fifty acres of oats on breaking and harvested a bumper crop.

In regards to sowing oats with flax I have not tried this scheme, but many of the farmers around here have grown the two with success. I should think flax would grow equally well when sown with wheat on fields that the grain was inclined to lodge, although I have never seen it tried.

D. B.

Moose Jaw, Sask.

ROTATION OF CROPS

Editor Guide:—The agricultural columns of your December 14th issue contained a letter from Mr. Lynch, and you invite farmers to express their views on the system outlined therein. In the first place I wonder if this is a plan which Mr. Lynch has in view for future practice, or if he is actually following it, and if so, for how many years has it been followed? I am convinced that, with an eye to the future, we should change our methods of farming, but I am doubtful of the success of the changes suggested. If I understand his letter aright, this system would call for a farm to be divided into 6 fields, and in the case of a half-section each field would be approximately fifty acres after allowing for waste land. The crops on these fields would be about as follows:

Field No. 1 would be devoted to hay (first crop).

Field No. 2 would be devoted to hay (second crop).

Field No. 3 would be pastured and broken in fall.

Field No. 4 wheat (first crop).

Field No. 5, wheat, (second crop).

Field No. 6, oats, and with the seed would also be sown grass seed for the same rotation.

Now for my objections to this plan. There would be too little wheat, only one-third of the farm, and the general experience in this district is that wheat following two or three crops of grass is anything but a success. It is probably a clean crop, but for some reason—most likely the dry state of the soil—it is the poorest yielding wheat on the farm. Then, again, there would be one hundred acres of hay, quite a large amount to be handled properly and in season, especially if the weather should be catchy. Sometimes there is a good sale for hay and sometimes the reverse. Of course the ideal way would be to feed it to stock during the winter and return the manure to the land; but taking into consideration the labor involved and the amount the farmer receives for beef—usually around three cents—the question arises, "will it pay?" Or rather, "will it produce as good financial results as our present system of growing more grain and fallowing a portion each year?"

It seems to me the time is not yet ripe for such a radical change. If one crop of hay were eliminated from this rotation and four fields given to grain instead of three it might be better; but after all, summer fallowing a field does not necessarily mean that a year is lost for that land, as at least two succeeding crops reap the benefit of the stored up moisture, and a moist soil is not a bad proposition in this land of limited rainfall.

W. E. WILKINS.

Reston, Man.

SEED CONTROL ACT

In an address before the Live Stock Association Mr. T. G. Raynor, Ontario representative of the seed branch of the department of agriculture for the Dominion, pointed out many good points in the Seed Control Act. He said:

"There are not many men who would go to the cupboard and take a dose of poison, and yet I fear that many farmers in the past, and some at the present time, are acting in that way so far as their land is concerned. They do not make a close examination of their seed, and they poison their farms with the weed seeds. The Seed Control Act was framed for the very purpose of safe-guarding the farmer in this respect. The act was passed in the interest of everybody concerned in handling seed. Some thought it was framed in favor of the farmer to the exclusion of the seed merchant, and others have thought that it favored the seed men and was very hard on the farmer.

Five to the Thousand

Now I want to say that the act applies to the farmer the same as it does to the seed men when he sells clover or timothy seed for seeding purposes to his neighbor. If he is selling to a neighbor and delivering on his own premises the farmer has an exemption privilege, and many farmers have jumped to the conclusion that that applied alike to timothy, clover and alsike. Now, I want to say that it does refer to weed seeds, but it allows the farmer to sell certain seed without putting any label on the package, such as a seed mer-

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