



MANITOBA SECTION

This Section of The Guide is conducted officially for the Manitoba Grain Growers' Association by R. McKenzie, Secretary, Winnipeg, Man.

Noxious Weed Course

Sixty weed inspectors of the province of Manitoba, opened their four days' convention Tuesday, June 14, at the Manitoba Agricultural College, receiving addresses from Principal Black and Professors Bedford and Lee.

In the opening address Principal Black impressed the inspectors with the work and the increasing urgency of the problem of eradicating weeds. He declared that the loss directly due to weeds amounted to about five million dollars in this province. By checking the nuisance and cleaning up the country, he expressed a hope of seeing Manitoba a land of clean farms in 1920.

For the realization of this hope he said the agricultural worker must have public sympathy. The cleaning up process is to be perfected by education among the young and old, teachers (at the Normal school), pupils, farm owners and everyone. A system must be inaugurated, inspectors' books issued and inspectors' difficulties removed.

At this commission, one great object to be attained is the formation of a weed control association. Every delegate present must undertake to have every farmer he knows enroll in this association. Those who learn must teach, instruct, sympathize with, and admire those who are interested in agriculture and lastly condemn the remiss.

In closing he emphasized the importance of the inspector's work, and bespoke the hearty co-operation of the farmers throughout the province.

Professor Bedford followed the principal, and described the various methods of introducing noxious weeds into the country. Among these, unclean seed proves to be most serious, and seedmen are to blame to a certain extent. Yet it is a difficult thing to prove that the weed came with purchased seeds. Many searching questions came from the audience. In looking up the history of the problem it is found that the first weeds recognized and feared were found in 1818. In February, 1821, a party of agriculturists, not scientific cultivators, imported seed grain, and the grasshoppers made a clean sweep. They ravaged the country again in 1865. Then the Dominion government imported seed in 1883, and in the peas there were wild oats. Milkweed, dock and other pests came in beet seed. Russian pigweed and purslane appeared with dodder in alfalfa. Peppergrass, tansy, mustard and treacle mustard appeared in timothy, and in packing material with glassware. The Russia thistle was introduced in flax in 1873. The first appearance of Russian pigweed in Manitoba was at Headingley in 1886, said to have been brought direct from Russia by immigrants. Tumbling mustard, hare's ear and cow cockle came from Central and Southern Europe with the swelling tide of immigration, and in shipments of flax as far back as 1887. Many questions were put, and the trend was to show that the provincial and federal governments are now enforcing the noxious weed act.

Weed Grasses

There was so much discussion of wild oats at Prof. Lee's lecture in the upper class room after a short recess that hardly any other subject was touched. Prof. Lee explained many peculiarities of wild oats, results of his own experiments, showing that after six years and even ten years, the wild oats will germinate. He said he never heard of wild oats degenerating and killing itself off, though the Canadian thistle has done so. From black through several grades to the white variety, Prof. Lee described ten kinds of wild oats. An interesting feature he described as common to plant and animal life is the recurrence of peculiarities after skipping generations. He declared that the belief in the decay and disappearance of wild oats after an absence of frost, is unfounded, though heat plays an important part in its germination.

Prof. Bedford again took charge of the afternoon meeting and discussed at some length the injury done by noxious weeds, and the keen realization of the danger shown by the inspectors prevented the session from proceeding to the second section, the discussion of how to proceed against these pests. Nearly everyone had something to say on the injury done in his district.

Prof. Bedford explained the manner of the weeds injuring the growth of useful grains and grasses. By robbing the soil of plant food and moisture they retard the growth of the good plant and in a majority of cases, due to their advanced germination, are able to crowd the right-

roadside weed which cannot gain a foothold except on farms that are improperly worked. The Canada thistle, Prof. Lee described as standing from 2 to 4 feet high, with deeply feathered leafage of variable lengths, and propagated by seeds and underground rootstalks. Its seeds are frequently introduced in grass and clover, also in oats. It has a blue tassel when ripe, white just before maturing.

The bull thistle is also from 2 to 4 feet high, branching widely, with many deep purple heads. The blue lettuce has a heavy foliage below but stands 2 or 3 feet high, full of white milky juice. It is propagated by seeds and fleshy rootstalks. The sow thistle stands from 1 to 4 feet high and is full of bitter milky juice. It has many leaves and is propagated by seeds and running rootstalks.

SIR WILFRID LAURIER REPLIES

Sir Wilfrid Laurier has written the secretary of the Manitoba Grain Growers' Association, that he will be pleased to meet the Grain Growers during his stay in the West, and has arranged to meet the Manitoba Grain Growers in a conference at Brandon, the afternoon of Monday, July 18. The executive of the Manitoba Association are making an effort to have every one of the branches in the province appoint one or more delegates to attend this conference with Sir Wilfrid. The secretary is in communication with the different railway companies to secure the usual convention railway rates for these delegates. The view of the farmer on the importance of a reduction of the present tariff schedule, and the advisability of the government accepting the offer of the United States government to enter into negotiations for a reciprocity treaty between Canada and the United States, will be presented to the premier. The Terminal Elevator situation at Fort William and Port Arthur and the latest development of the method employed by the elevator owners, will be presented to him and the unanimity on the part of Western Grain Growers, as to the importance of the immediate construction of the Hudson Bay railway and the inaugurating of improved methods in the marketing of stock and the exporting of animal products to the Old Country markets.

The farmers should not lose this opportunity of impressing upon Sir Wilfrid the handicap under which farming operations are conducted in the Western provinces, due to the fact that we are situated in the centre of the continent, separated from the markets by thousands of miles, making it possible for corporations of capital to create conditions that place the producer at their mercy. Also that the present fiscal policy of Canada unduly handicaps the farmer in his farming operations by placing an excessive tax on practically every commodity that he uses in the conduct of his farming operations, rendering it difficult for him to compete in the world's markets with other countries having lower duties to pay on what they have to buy and having transportation facilities adapted to meet their export requirements.

ful tenant out of existence. This species of injury is fundamentally serious, but where the useful grain survives in quantities worth gardening, the noxious weed again shows its venom. Its presence increases the labor of plowing and harrowing. Then the machinery used in reaping suffers. The binder is overtaxed, extra weight has to be carried for no grain, the threshing is more difficult and the cleaning and other processes are greatly embarrassed.

In his part of the proceedings, Prof. Lee devoted much time to the discussion of thistles, illustrating the distinguishing features of the blue lettuce, sow thistle, Canada thistle and bull thistle. There is much confusion experienced in distinguishing the blue lettuce from the sow thistle before the flowers appear, but then the latter variety shows yellow. It is the more serious weed, but both are detested for their abundance. There was a great deal of discussion on the subject, showing that this weed is very common throughout the province.

The bull, or spear thistle is not such a serious problem, as a single plant lives but two years. The Prairie or Western Full thistle is still less to be feared, as proper cultivation almost invariably overcomes it. In fact it is fast becoming a

Professor Bedford introduced a change in the program, by discussing the implements best adapted for eradicating weeds. He recommends the harrow as the most effective implement for the purpose, as it can be cheaply operated over a very large area. But it must be used when the weeds are small before the crop is out of the ground. On this account it is powerless against deep-rooted weeds like wild oats.

As another good implement, he recommends the weeder. The teeth are flat iron but the points surrounding them make them good searchers. This also must be used while the weeds are small. When the teeth become clogged, a lever can be used to lift it and allow of cleaning. The tilling harrow is a form of the same invention. The two-horse cultivator in several shapes, with various attachments, also received strong favor.

Wednesday's Session

At Wednesday's session Prof. Lee delivered a very instructive lecture on the value of chemical sprays for weeds. He gave an experience which he and some friends had had concerning the spraying of weeds at two local farms. One was at Mr. Mansell's farm at Sanford, and the other at Mr. Boyce's farm at Bergen.

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The experiment at Mr. Mansell's farm was a failure and at Mr. Boyce's farm was a success. The reason of the failure was that it was very warm, a day with strong sunlight when the exhibition was given, and on the day at Mr. Boyce's farm it was cloudy and dark. On the sunny day the pores of the plants were tighter and the poisonous fluid did not penetrate them, and so failed to kill them. On the dark and cloudy day the reverse was true.

Professor Lee went on to say that it was no good having a poor spray, a powerful one being needed that would shoot the fluid well out. The best fluids are the following:

1. Iron sulphate (green vitrol), 100 pounds to fifty gallons of water sufficient for an acre.

2. Copper sulphate (bluestone), 12 to 14 pounds to 50 gallons of water sufficient for one acre.

3. Common salt, one-third barrel to 50 gallons of water sufficient for one acre.

4. Sodium arsenite, 1 to 2 pounds to 50 gallons of water sufficient for one acre.

The next lecture was given by Prof. Bedford on the extermination of mustard seeds. The first remedy was given on charlock weeds. This seed, said Prof. Bedford, is almost the size of a small grain of wheat, and for this reason great care should be exercised in cleaning the seed grain containing it.

Charlock seed germinates readily at a low temperature in the fall, and for this reason land infested with the weed should be lightly plowed or disc harrowed directly after harvest, so as to germinate a large proportion of the seeds before winter.

Professor Bedford then went on to say, that early in spring the land should be again worked up with the plow and harrow so as to encourage all the seeds near the surface to sprout before the grain is sown. The land may be harrowed directly after sowing the grain, and again as soon as it is above the surface.

A thorough summer fallow will usually prove very effective in reducing the number of seeds in the soil.

To prove effective in Western Canada a summer fallow must be plowed as early as it is possible to get weed seeds lying near the surface to germinate, say, not later than July 1. After six days' plowing it should be harrowed before night, so as to retain the soil moisture, but shallow cultivation should be continued throughout the season to stimulate the growth of weeds, and to destroy the seedling plants.

Going on to French and stink weeds Prof. Bedford said that the best remedy is to sow clean seed. Being a winter annual, the young plants are perfectly hardy, therefore it requires somewhat different treatment from the ordinary mustards.

Land infested with this weed should be plowed and harrowed as soon as the crop is harvested, and when the weed seeds have germinated in spring the land should be cultivated and harrowed so as to destroy the young plants when at a tender age.

As soon as the grain is above the surface and before the weeds have their second leaves, a weeder or light harrow should be used to destroy all weeds coming up among the grain. If this is done promptly the crop will then be strong enough to smother out any fresh weeds that may start.

Prof. Bedford then gave an interpretation of the Dominion Seed Act. This Act was made to protect farmers against noxious seeds.