

### Entomologists in Convention.

Last week the Canadian Entomological Society held its annual meeting in London, Ontario. This association of scientific men and women devotes years of time and infinite patience to the study of insects, that their habits may be known, that remedies may be suggested for the control of injurious forms, and that beneficial species may be fostered. Prof. Lochhead, Entomologist at the Ontario Agricultural College, is president of the Society, and read the President's annual address, in which he accounted for the abnormal development of some species of insects by the unnatural conditions due to excessive production of certain crops under the management of man, and explained that in time the natural order of things, which is a perfect balance between insects and their foes, may be expected to recur, but, in the meantime, something must be done to control the more troublesome forms. At present, the work of the entomologists for the control of insects lay in two particular directions—one, the introduction and encouragement of the growth of parasitic and predaceous forms, and the other, the perfecting of insecticides. As instances of the first method, the Professor noted the success of the introduction of Australian Ladybird beetles into the orchards of California for the control of the cottony cushion scale. Australia is the original home of both the scale and a particular species of Ladybird beetle, but the scale was introduced into America before its predaceous foe, and so gave considerable trouble before the latter were brought over. Similar work is being done by an American entomologist in China, who recently discovered a species of Ladybird beetle that preys upon San Jose scale. This beetle has been introduced into several orchards in America, but, so far, has only been successful in Georgia. Another instance of this kind of work is the introduction of the Guatemala ant into the cotton-fields of Texas to prey upon the cotton-boll weevil. In Guatemala the ant is a desperate enemy of the weevil, but in Texas its introduction has not proved an unqualified success.

In Canada, more attention is paid to improvement of insecticides, and the combination of insecticides and fungicides. This year, near St. Catharines, experiments were carried on to determine the value of adding sal soda to the lime and sulphur wash for scales to obviate the necessity of boiling for two hours the lime and sulphur mixture, and the experiment has proven quite effective this season, but, of course, insects were comparatively easily controlled this year. The proportions were twenty-five pounds of lime, twenty of sulphur, and twelve of sal soda, to forty-five gallons of water. This preparation, without boiling, gave the beautiful amber color that should characterize the lime-and-sulphur wash. In another experiment, caustic soda was used in place of sal soda, in the proportion of thirty pounds of lime, fifteen of sulphur, and five of caustic soda, to forty-five gallons of water, and this proved quite efficient this year. In other districts, arsenite of lime and Bordeaux mixture are becoming quite popular as a spray for fruit trees. In concluding his address, the President said: "Farmers and orchardists are too slow to recognize the importance of insect control. The depredations of insects annually amounts to millions of dollars. Prof. Slingerland, of New York State, estimates the cost of feeding the insects of the State to be greater than the State's educational bill, and if this be true of N. Y., it is equally true of Ontario."

Papers and addresses dealing with insect history for 1904 were necessarily short, as the season just past was not favorable to the development of insect life. Among the forms reported as injurious in Eastern Canada were the Hessian fly, from one district in Wentworth Co., Ont.; some wheat midge near Belleville. Clover midge, although not as prevalent as last year, has been quite largely reported from the Lake Erie counties, and in the district about Lake Simcoe. Of orchard insects, those most prominent this year were the green apple aphid, pear-tree psylla, and plum curculio, and, in some localities near Hamilton, Ont., the apple-leaf sawer is quite common, but is very susceptible to common insecticides. In this same district, the second brood of codling moth is quite active. This year, the plum curculio was again noticed working upon apples. The grape thrip was quite abundant in the Niagara district, but did little harm. Wireworms were bad on tomatoes, and the root maggot more than usually abundant. Growers do not care to take preventive methods to protect cabbages, but rather prefer to replant fifty per cent. of the plants. In the district between Lake Ontario and London, the asparagus beetles were quite prevalent. About Guelph and Berlin, the twelve-spotted was most harmful, while in the Niagara district the steel-blue did most harm. Where poultry have daily access to asparagus-beds they keep the beetles well in check. This year, a weevil attacking strawberries did considerable harm in some parts. The insect, which is about one-tenth of an inch in length, winters as an adult, and appears about the time the strawberry

blooms. The female punctures the bud, but feeds only on pollen. It is recommended to plant principally pistillate varieties, and employ staminate ones for trap crops, where these weevils are troublesome. Borers in ornamental plants and shrubs did considerable harm, and one florist recommended slitting the stalks, killing the borer and binding up the wound. Millers in some parts call attention to the presence of the cheese mite in flour, but no tested remedy could be recommended.

The Society were favored this year with a visit from Prof. Wickham, of Iowa City, Ia., who took part in the proceedings of the regular sessions, and also gave an illustrated lecture on the Great Basin (that desert region lying between the Rockies and the Sierra Nevada Mountains) and its entomological features.

Mr. T. N. Willing, of Regina, Chief Weed Inspector for the Northwest Territories, was present and gave an address on the work against noxious weeds and insects in the Northwest. The stand taken by the Territorial Government against weeds has had a most beneficial effect, and the people appear to be willing to co-operate with the weed inspectors to destroy the more noxious forms of weeds. In some cases inspectors order whole large areas to be plowed up for the general good of the country. No compensation is given. Dr. Fletcher, of the Central Experimental Farm, Ottawa, was present, and contributed several papers of a scientific and technical nature, and, as well, contributed largely to the discussions upon practical subjects, such as the perfecting of the lime-sulphur wash and the control of injurious forms.

Officers for the ensuing year are: President—J. D. Evans, Trenton; Vice-president—Dr. J. Fletcher, Ottawa; (secretary and treasurer not yet elected). Directors: For Division 1, C. H. Young, Hurdman's Bridge; 2, C. E. Grant, Orillia; 3, J. B. Williams, Toronto; 4, Geo. E. Fisher, Burlington; 5, S. B. McCready, London. Librarian and Curator—Rev. Dr. Bethune, London. Editor Canadian Entomologist—Dr. Bethune. Editing Committee—Dr. J. Fletcher, Ottawa; Messrs. H. H. Lyman, Montreal; J. D. Evans, Trenton; Prof. Wm. Lochhead, Guelph; Geo. E. Fisher, Burlington; J. B. Williams, Toronto.

### Climatic Changes Through Forest Destruction.

By Anna L. Jack.

Anyone living for many years in the same place, and watching the gradual destruction of forest trees, on Indian and other land, cannot fail to notice the changed condition of climate from that cause. Fifty years ago the country was sheltered by the "forest primeval," and tender plants lived in the ground where now the cutting blasts of a wind-swept country cause them to succumb to its icy breath.

It is strange how many people are willing to "kill the goose that lays the golden egg," and in the matter of forest trees do not understand the full meaning of their value as a moderator of summer heat and winter cold, or the great influence that forestry exerts upon our watercourses.

Legislature, that interferes with many unnecessary affairs, enacts no laws stringent enough regarding forest protection, and the carelessly thrown match or deserted camp-fire do their part in the work of destruction, ably seconded by the axeman. Little is done in forest planting in this country, and if it be true that "He who plants a tree plants a hope," there is inspiration and encouragement in the work that should prove an incentive to its prosecution, but we live in an age of moneymaking and grasping for quick returns, and the apple tree is, as a rule, the only one set out; but does not prove the shelter that was found in the grand old elms and spruces and pines that withstood the storms and held back the snow from the quick melting that now follows a thaw, for want of their retaining power. Since timber has had such a money value there has been an indiscriminate slaughter of the grand old trees, and the advent of railroads, with the needs of manufacturers, have stimulated the greed of man, with results little short of disastrous.

The demolition of our forests is largely responsible for the extremes of heat and cold that affect our summer, and the bitter cold winds that sweep over the land in winter, with no wind-break to temper their severity. In proof of this, it has been noticed that the trees on the favorable side of a shelter-belt will frequently blossom full while those on the opposite side are killed, and it is known that apple trees considered hardy fifty years ago do not thrive to-day in the same location, while the protection of the forest often saved the crop from late spring frost. So much has the climate changed that the spring freshets have become more dangerous. When the forest existed all through this unexplored and primeval country it stayed the wind from sweeping away the fallen foliage, and the leaf mulch prevented the land from becoming too compact, while the soil slowly absorbed the moisture. For the snow melted slowly, and in such river regions as this it did not come with a sudden rush as now, when there is nothing to stay its course, and a flood is the consequence, followed by drying winds and heat before the land can be got into proper condition for planting. But it is not easy to prove to the man who can sell his timber, that he should sacrifice his

greed or his need for money to benefit a community, so the work of destruction goes on, and the trees the God of all nature planted to be a heritage through generations, are sacrificed to the vandals who do not look to or care for the consequences.

Cherish the forest. If it has been cut over let it be attended to; the underbrush and young growth trimmed into shape, cattle kept out, and a chance given it once more to grow into beauty and usefulness, to be a blessing to the present and to future generations. No crop can give such pleasure, or be more appreciated, for the forest tree is a protector and friend.

"Summer or winter, day or night,  
The woods are ever a new delight,  
They give us health, and make us strong,  
Such wonderful balm to them belong."

### Hogs in the Orchard.

A reader says: "I have a young orchard, set out three years last spring. It is now seeded to red clover, and I would like to know what you think of the plan of pasturing it with hogs. I have other land convenient to hogan, and wish to arrange pasture for the swine. This year, the quick curing of clover was a great success. We put away twenty loads of eight acres, and it is keeping fine. This is the third year we have cured clover this way. Would it make good feed for hogs?"

The great objection to letting the hogs have the run of an orchard so young as this is that they may destroy many of the trees by tearing up the roots, by chewing off the bark, or by rubbing the trees out of position. We would rather be on the safe side, and crop the orchard a few years longer, until the bark on the trees got thicker and the roots firmer fastened in the ground. It would be a good plan to plow up the clover next fall, and prepare the land for roots, corn or peas, and continue cropping, with frequent introductions of clover, roots, etc.

The cured clover is one of the best things to feed hogs. It is best fed after being passed through a cutting-box, and mixed with a mixture of ground grains, fed wet. The neglect to feed some kind of bulky food to growing hogs accounts for many failures in hog-raising. A little experience teaches how much is best for such stock, and after once being used, a good feeder will not willingly be without bulky food for his hogs. Our correspondent is fortunate in the handling of his clover. No doubt, he gives every attention to details.

### Applying Ashes.

Which would be the most profitable place to use wood ashes, on land sown to mangolds, turnips, corn, peas, or oats? The land is inclined to be heavy, but is quite loamy. In what quantity would you advise the ashes to be used?

FARMER.

Ans.—No one can tell off-hand which crop would return the greatest profit from the application of ashes, and, besides, that is but one consideration. There are cases where crops are absolutely in need of ashes, but which by their very nature would not return as large a profit for the expenditure of fertilizer as would some other crop not so much in need of an application. A good way to tell whether or not a plot requires the potash of ashes or the phosphoric acid of some other class of fertilizer is to notice the character of the crop previously grown. It is generally safe guessing that when a soil possesses an excess of nitrogen, as shown by too rank a growth of straw or tops, the condition would be improved by an addition of mineral matter, but, of course, whether potash or phosphoric acid would do most good can only be correctly ascertained by experiment. Perhaps the best way to apply ashes is to mix them with the manure when it is accumulating in the yard or stable, and spread them on with it, but this means that the excess of nitrogen in barn-yard manure will be partly neutralized by the presence of potash. In the general run of farm operations, oats would follow roots or corn, and peas would follow sod, in which case the manure would be put on less fertile land, to be worked up for roots, and perhaps this would be as good a place as any to put the ashes. From fifty to one hundred pounds per acre would be a fair amount to apply.

### Best He Has Seen.

Enclosed please find \$1.50, in payment of my subscription to the "Farmer's Advocate." I may add that I rate the paper the best that I have seen of, as well as full of valuable information.

JAS. H. MACLELLAND.

Please find enclosed one dollar and fifty cents, for which send the "Farmer's Advocate" to Mr. Robert Potter, Guelph, and send me the knife as a premium. I received the knife and like it very much. I am going to try to get some more subscribers.

CECIL BRETHET.