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PROCEEDINGS

OF THE

FOURTH ANNUAL MEETING

OF THE

CENTRAL

FARMERS' INSTITUTE.

1891.



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Proceedings

Central

TO THE HON. JOHN DRYDEN,

Minister of Agriculture,

SIR,—I have the honor to submit herewith the proceedings of the fourth annual meeting of the Central Farmers' Institute of Ontario.

The membership of the Electoral District Institutes has increased very largely during the past year. There is evidently a growing interest in the work of the Institutes, and, their usefulness being more widely extended, requiring a large increase in the number of Annual Reports of the Central Farmers' Institute.

It contains a full report of papers read and the discussions thereon, together with the report of the Executive Committee and Treasurer's abstract and a list of secretaries and their P. O. addresses.

I have the honor to be, Sir,

Your obedient servant,

A. HAMILTON PETTIT,

Sec. Central Farmers' Institute

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TO THE OFFICERS

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Proceedings of the Fourth Annual Meeting

OF THE

Central Farmers' Institute

OF ONTARIO.

The fourth annual meeting of the Central Farmers' Institute of Ontario was held in Victoria Hall in the City of Toronto, Feb. 3rd, 4th and 5th, 1891, the President; Mr N. Awrey in the chair.

The meeting was called to order at 2:30 p. m., when, on motion of T. A. Good, seconded by Mr. Wood, the minutes of the last annual meeting were taken as read.

The following report of the Executive Committee, which includes the financial report of the Treasurer, was read :—

REPORT OF MEETING OF EXECUTIVE COMMITTEE

ON 3RD FEB, 1891, AT 11 A. M.

Members all present except Mr. D. McPherson.

W. J. McNaughton was appointed one of the Auditors in the absence of Mr. Derbyshire.

Treasurer read his report.

Messrs. McEwing, Ewing, Jones and Mowbray appointed a committee to take into consideration the resolution "Re Agricultural Education."

Treasurer's and Auditors' report adopted.

Moved by T. Lloyd Jones, seconded by Daniel Black, that the president receive \$50 additional for his services last season. Carried.

REPORT OF THE EXECUTIVE COMMITTEE.

TO THE OFFICERS AND MEMBERS OF THE CENTRAL FARMERS' INSTITUTE OF ONTARIO

Gentlemen,—The committee beg to tender their report as follows ;

During the Institute year there have been held three meetings of the Executive Committee. The first at the close of the last annual meeting. The second on the 19th of June, and the third on the 16th of September, a report of which will be found on pages 33, 34 and 35 of the last annual report, 1890.

The president, vice president and secretary waited upon the Mayor of Toronto to secure a building for the holding of this meeting, and the use of Victoria Hall was kindly granted.

ABSTRACT OF TREASURER'S ACCOUNT.

RECEIPTS.

April 16, To Cash grant from Ontario government	\$750 00
Sept. 27, " Balance grant from Ontario Government	750 00

DISBURSEMENTS.

By cash paid treasurer as per last report	\$ 63 42
" " L. B. Young, stenographer	50 00
" " Printing 1889 and 1890	48 10
" Expenses delegation re Anti Combines Bill	95 75
" Expenses Executive committee	221 90
" J. A. Livingston, printing annual report 1890	200 00
" President as per resolution of Executive committee	150 00
" Secretary " " "	32 00
" Postage, stationery, express charges and telegrams	48 11
" Salary secretary-treasurer	200 00
" Cash to balance	390 72

\$1,500 00

(For the Executive Committee)

A. HAMILTON PETTIT,

Secretary.

Grimsby, Feb. 2nd, 1891.

On motion the report was adopted as read.

The following report of the auditors' was then read and adopted:—

We, the auditors, hereby certify that we have examined the books and vouchers of the secretary-treasurer and find them correct, showing a balance in favor of the institute of \$390.72.

(Signed)

W. COWAN,

W. J. McNAUGHTON, } Auditors

Feb. 3, 1891.

THE PRESIDENT'S ADDRESS.

Gentlemen,—You will see that the next order of business is the President's address. That is the most difficult part of my work every year; not so difficult this year as at other seasons though, because I have some words of congratulation to offer to the members of the Central Farmers' Institute, as to the prosperity of the Institutes throughout the province of Ontario. I have had the pleasure of attending during the last year a very large number of meetings, taking the winter and summer meetings together, and I find that these meetings are growing from year to year of more interest to the farmers and of incalculable benefit as we go on. It is only since institutes have been established that the farmers of the Province of Ontario have felt that in a measure they could express their views to the two governments, represented as they are by the Local Government at Toronto and the Dominion Government at Ottawa. I have often thought, and I have said it upon more than one occasion, that it has been a matter of regret that the farmers of this province, having under their control the larger proportion of the wealth and the business enterprise of the province, have never seen fit yet to so band themselves together that their just demands would receive due consideration at the hands of any government. When

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PETTIT,
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we take into account that the farmers of Ontario have invested over nine hundred millions of money, that is, you have nearly one thousand millions of cash invested in farms, farm implements and stock. You compose four-fifths of the people of the province; you have more money invested than all other trades, professions and callings and yet you are the solitary class in the community that have not had an organization up to five years ago; you were never a united body; you were simply isolated individuals, without cohesive properties and without a single aim or object in common, but since the establishment of our Central Institute and its branches, throughout the Province of Ontario, we have expressed our opinion with some degree of force, and the Ontario Parliament, as well as the Dominion House of Commons, recognise to-day that the farmers of Ontario are to be reckoned with when any great public question is to be considered by either Legislature or the House of Commons. You will have noticed that the Ontario Government have granted the farmers a department of their own, with a chief who is a farmer. Then you will notice too that the Dominion House of Commons, or at least the Dominion Executive, has recognized the right of the farmers of this Province to have more than they have had in the past by establishing a number of experimental stations throughout the Dominion, and they have done within the last week that which will be of incalculable benefit to them. It is perhaps strong language for a man who is politically opposed to the party in power, yet I am bound to say this, that Hon. John Carling deserves credit for having within the last week determined to establish dairy schools throughout the province, because, after all, the dairying interest of the Province of Ontario is one of its greatest interests. I have this to say with regard to the treatment that has been meted out to us by both the Legislature and the Commons, that they have striven one with the other and appeared to vie with each other which shall do the most for the farmers of the Province of Ontario; and why? Simply because, after all, we are the power behind the throne. (Hear, hear.) As we vote, governments go in or go out. As we express our opinions through the ballot, so must executives yield to our demands as expressed from time to time. We have been recognized in times past as very useful animals. I suppose there are old grey-headed men before me who can remember the time when he went into a town or city he was looked upon as in the character of a hay seed, or merely a man who was a beast of burden, who tilled the soil, prepared the food and produced that which kept life in the bodies of the denizens of the cities and towns. Now we are looked upon as respectable individuals, and it is no wonder, because as time has rolled on intelligence has increased amongst the farmers and to-day we feel our power, and our power is being recognized. We should not forget, however, these old men who laid the foundations of our province broad and deep; not very highly educated perhaps, not so highly polished as some of the present day; they were the men who only had as their capital the muscle of their strong right arm and the intelligence which a kind Providence had given them, yet they came into our province, they hewed out for themselves homes, they gave their children a competency and with that competency came education, and these old men deserve at the hands of the people of Ontario a place in the annals that should be more enduring than if their names were placed upon marble, simply because they were the grand founders of a grand province and the fathers I trust of a grand people. (Applause.)

After congratulating you upon our success as farmers in connection with our institute work, perhaps the cause for congratulations might cease. I am bound to say as an honest man that the position of the farmer in the Province of Ontario is not as brilliant as it might be. I am bound to say that you men who toil from morning until night are prepared to say with me that you are not receiving all the reward of your labor that you should receive. You will be prepared to say too with me that the value of your real estate is not what it should be; and the problem naturally arises for solution in the minds of each and every one of you. What are we to do? How are we to conduct ourselves? What line of business must we follow in connection with farming that is going to add to our wealth? Because, after all, in this progressive age, unless we can convince our sons that there is a margin of profit, that there is some gold at least to be had as the reward of our labor, we cannot expect them to farm. So the problem for us as farmers is to say what are we going to do?

I propose now just for a few moments, although figures are very dry and dry and wearisome, to just place before you the position in which we stand as farmers; where we have been sending our produce and where we can no longer send it, and then ask you to follow me for a few moments and see whether we cannot strike out for ourselves lines in other directions by which we can add to our fund, not only as to knowledge but as to dollars and cents. I venture to say that we have the larger proportion of the intelligent farmers, that is, we have the best or some of the best of the farmers from different parts of the province congregating here from year to year; or at least the men the farmers themselves recognize when they send them here as their representatives, as some of their most progressive members. I suppose you will agree with me that you no longer propose to raise wheat in the Province of Ontario expecting to derive any great profit from it. There are those who can remember when it was only necessary to tickle the soil and you could get a crop of 25, 30, 35 or 40 bushels per acre of very fine wheat, and the time has been when you could get \$1, \$1.25, \$1.50 and it has been as high as \$2 per bushel. In those days farmers were prosperous in the Province of Ontario. But that time is past, the fault is not of ourselves, not of our climate, not of our locality, but simply that in the Northwest there has been opened up a tract of country which is practically unlimited; where they can grow their wheat at half the cost of production that we can, go into the European market and compete with us and drive our wheat out of the market. We are not responsible as farmers for that. What I say with regard to our Northwest, I say with regard to Russia and India, that the cost of production is very much smaller than it is here. We used to get about eight millions every year for our wheat. Last year, in 1889, that is the last year I have returns for, we only got \$1,727,000 for our wheat. There is a falling off in revenue of from four to five millions of dollars. In 1889 we got \$6,454,603 for barley but you know that so long as the McKinley tariff is in force, which is not the fault of we Canadians but of our neighbors to the south of us, that no longer can we have that market. We did not feel the effects this year simply because we rushed our barley over before the McKinley tariff came into force. I can illustrate how it worked. Going down from the City of Hamilton my friend Mr. Pettit, I think, saw a train of cars; it was a long one and this was the placard that was posted on it, "Hurry me along, McKinley is after me, just two days to get over to the other

side of the line to

Now, without us and we must for the loss of the States last year of the same character Peas we shipped \$1,091,078, but worth but that States \$822,381, States \$494,666 \$111,005, eggs \$ means \$14,731,1 products of your far you have had no you must find m else, or you will lightened to the is one item there is that we cannot cattle, because, v ship cattle that produced for our by buying the a that we cannot who raises his s ship to the Unit just the length o stance that goes it comes to the p American have should sell a sto States. Feed th farm I say ag States. With r to us. Whether whether they d ranged so that simply a duty o specific and ad is that the high to pay proportio duty is not mor best sheep now McKinley tariff account.

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Now, without any fault of our own, that market for our barley is closed to us and we must find some methods by which we can recoup ourselves for the loss of the sale of our barley. Beans were sold in the United States last year to the amount of \$406,101; but the duty on beans is just of the same character that we cannot ship them into the United States. Peas we shipped to Great Britain, and that market is still open to us \$1,091,078, but we shipped at the same time to the United States \$312,000 worth but that market is closed to us. We sold in hay to the United States \$822,381, potatoes \$192,576. We sold of horned cattle to the United States \$494,666 worth, \$932,127 worth of sheep, horses \$2,169,792, poultry \$111,005, eggs \$2,156,725, hides \$459,355, wool \$219,841. Now, that means \$14,731,172 worth of the products of the Province of Ontario, products of your farms, that without any fault of your own, and over which you have had no control, the markets for which are closed to you men, and you must find markets some other place, or you must produce something else, or you will find that the coffers of the farmers of Ontario will be lightened to the extent of \$14,731,172. Yet, I am bound to say that there is one item there that I think is a God-send to the farmers of Ontario, that is that we cannot ship to the United States \$494,666 worth of horned cattle, because, where we ship over to the United States store cattle, we ship cattle that should have been fed in our own stables, that should have produced for ourselves the profit which the American produces for himself by buying the animal and feeding it in the United States. I am very glad that we cannot ship our store cattle to the United States. The farmer who raises his steer until it is of two years of age and sells it to a buyer to ship to the United States is doing an injustice to himself. He has kept it just the length of time that it has been taking out of the land all the substance that goes to make the bone and muscle of the animal and just when it comes to the period when the profits commence to come in he lets the American have it. No progressive farmer in the Province of Ontario should sell a store beast to ship either to the Old Country or to the United States. Feed them in your own stable; the manure should go back to the farm. I say again I am glad you cannot ship store cattle to the United States. With regard to sheep, too, the new tariff has been no disadvantage to us. Whether the people of the United States did it purposely or whether they did it unintentionally, the duty on our sheep has been arranged so that it is less than it was before the McKinley tariff. Now it is simply a duty of so much per animal. You know there used to be a specific and ad valorem duty, but now these is only one duty and the result is that the higher priced sheep you send over there the less duty you have to pay proportionately; and the result is that with it in some cases the duty is not more than one-half of what it was under the old tariff and our best sheep now can be shipped to the United States because so far as the McKinley tariff is concerned it is an advantage when we take sheep into account.

Now, how are we going to find a substitute for this? You must understand that we have shipped to great Britain of horned cattle in 1889 60,000 head, that is \$4,992,161 worth. Great Britain will take twice the number if you will only ship the right kind. They don't want poor beef, they won't buy it, but if our Canadian farmers produce the very best kind

of beef there is an unlimited market in England for it. That is what I like about an Englishman, he likes his beef, he likes it good and if you give him a good article he does not care much what he pays for it, because to suit his palate he will pay almost anything, and I like an Englishman as a customer. Why not as Canadians, instead of shipping our store cattle to the United States and Great Britain, feed them in our own stables, breed the very best kind of animals for beefing purposes, ship them to Great Britain and there is an unlimited market, and you can add at least from four to five millions to your revenue from year to year.

Now, there is another thing: we are not shipping much butter. I don't like to touch upon this question because most of us have wives who manufacture butter, but let us think that is not my wife that he is meaning, it is some other fellow's wife who manufactures poor butter. Yet, let me say to you as farmers, that the Canadian butter to-day in England will not command a price at all, only for soap grease: not so much the fault of the farmers' wives, as it is the method of shipping. We take our butter to the store-keeper, he buys good, bad and indifferent, and he pitches it all into one firkin and he sends it off to the old country, and all you have to do is to brand a firkin of butter with the Canadian brand and you cannot sell it. Now, it is exactly the opposite with our Canadian cheese. We sell over nine millions of cheese in the course of a year, and why? Simply because that cheese is branded Canadian make with McPherson's or Ballantyne's name on it, and it will command a higher price than cheese made in any other part of the world. Why? Because we manufacture the very best article and they will pay for the very best article and pay a fair price for it. Now, just consider with me for a moment how much butter is bought by England and how much we sell there. We sent to England only 902,087 lbs. How much does she use? Great Britain buys 189,000,000 lbs. of butter more than she manufactures. Who sells it to her? Denmark sells 69,000,000 lbs.—little Denmark with only one hundred thousand more milch cows than we have in Ontario. I don't know what they have to-day, because these figures were taken two years ago: they had 900,000 milch cows and we have over 800,000. They sell England 69,000,000 lbs of butter and we don't sell her 1,000,000 lbs. Why? Because Denmark manufactures the very finest butter that can be manufactured outside of Ontario. We could manufacture just as good if we would manufacture the right kind. France supplies 49,000,000 lbs., Germany 18,000,000 lbs., Holland 16,000,000 lbs., and the United States only 2,000,000. Now let me give Holland as an illustration of the folly of manufacturing a poor article. Holland eight years ago sold to Great Britain over 50,000,000 lbs. of butter. Last year she sold them only 16,000,000. Why? Because they got greedy for money and they commenced to manufacture oleomargarine. Great Britain found out there was some inferior butter being sent from Holland and they refused to buy butter manufactured there and the result is that, instead of sending to England 50,000,000 lbs. she only sends now 16,000,000, showing that as Canadians we only have to manufacture a first-class article to get the markets of Great Britain. Now, why cannot we furnish good butter? And here is where I say that our Dominion Government deserves credit. They say to the farmers of this Province, or have within the last two or three weeks, you have asked us to establish dairy schools, and dairy schools they have promised to establish, where the young men and young women and old men and old

women can take lessons, and to-day as you are in making that would sell in round and you would example; you all small creamery of he sends it to the summer and winter ter simply because in England, in London article. He is manufacturing where there are chemists experts that a cheese of between \$ of cheese. Why? just when butter is the winter time we cows should be milked as they have been not a fact that you profit they gave you here who will disappear have let your cows go dry perhaps in months of the year it has been profitable that should be added incomes from year

Now then, the duty of all you men institutes are not lines that are profitable want to say to you Farmers' Institute from either the Extension College in Guelph send for your present requirements of you for it, instead of reaching other your success profitable to you to have made money largely upon your institute is for farmers comes now to a meeting, I say to you submit to him get all him so, and if wrong go and state the opinion of a sensible national beings.

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women can take lessons in the manufacture of butter upon scientific principles, and to-day there is no farmer or no lot of farmers banded together as you are in making cheese who could not manufacture a kind of butter that would sell in the markets at from 18 to 25 cents per pound the year round and you would have an unlimited market. Let me give you an example; you all know Thomas Ballantyne. Thomas Ballantyne has a small creamery of his own manufacturing a very superior kind of butter, he sends it to the Toronto market once a week the whole season through, summer and winter, and he has been getting 25 cents a pound for his butter simply because there are customers in the city of Toronto, as there are in England, in London and Liverpool, who will pay a good price for a good article. He is making money out of it. Now, I want to say to you men where there are cheese factories that according to a calculation made by experts that a cheese factory can be converted into a creamery at an expense of between \$200 and \$300. It won't interfere with the manufacture of cheese. Why? Because cheese is manufactured in the summer time just when butter is the poorest price and butter could be manufactured in the winter time when butter is bringing the very highest price. Your cows should be milking 11 months of the year, or 10 at least, instead of as they have been from April until November. Now, as candid men is it not a fact that your cattle in the winter time have been eating up all the profit they gave you in the summer time. I don't think there is a farmer here who will dispute that fact, simply because under the old system you have let your cows calve in April or perhaps in February and you let them go dry perhaps in November and you feed them through all the other months of the year and it costs more to feed them in the winter time than it has been profit in the summer time. These are a few of the methods that should be adopted by which I believe the farmers could add to their incomes from year to year.

Now then, there is another question and I must close. That is the duty of all you men when you go back to your different institutes. These institutes are not being created for fun, but they should be conducted upon lines that are profitable to the farmer and having an object in view. I want to say to you that you depend too much upon outside help at your Farmers' Institutes. You expect very often two or three of the professors from either the Experimental Station at Ottawa or from the Agricultural College in Guelph to be present and discuss these questions, or you will send for your president or vice-president perhaps who does not know the requirements of your part of the province at all and what will be suitable for it, instead of reading papers yourselves and discussing them, and telling each other your successes and your failures, telling whether it has been profitable to you to feed an animal and how you have fed it, whether you have made money out of butter and how you made it. Depend more largely upon your own efforts. The great advantage of the Farmers' Institute is for farmers to discuss these questions themselves. And when it comes now to a man like Professor Saunders who will address you this evening, I say to you as farmers if there is a question that you want to submit to him get up and ask him the question and if you differ with him tell him so, and if he cannot convince you that he is right and you are wrong go and study the matter for yourselves. It is dangerous to take the opinion of a single individual unless you study it yourselves. You are rational beings. I have told the story before and I am going to tell it

again that illustrates this. It happened in the County of Halton, a man was at a Farmers' Institute in the County of Halton where a man was talking on the subject of the breeding and care of sheep and he described it as being necessary for sheep to have a good run. You all know what that means, simply that they should have a large range of pasturage but this man took it literally that they were to have a run. He went home and says, John, I was to the institute meeting yesterday and there was a man said that to have success in raising sheep they must have a good run, he says, bring them up and we will put them into a 10 acre field and set the dog on them, and he actually did it, and he did that for over a week and the result was at the end of the week the sheep were so breachy it was impossible to keep them in an inclosure. Then some man came along and told him to pierce the sheep's ears and tie them back to the wool and they would not jump any more. This shows that it is dangerous for thinking men to adopt any particular theory without first weighing the matter carefully and studying it for themselves. That is one of the objects of the Farmers' Institutes and men who think for themselves should study questions for themselves, should form their own conclusions after having read all that they can read upon a subject, and getting all the information that they possibly can. That is one object of the Farmers' Institute. Another is that you may make your power felt. I have no sympathy with a farmer in this province who is not prepared to say I have a good right to have at the hands of either the Legislature or the Dominion House of Commons that which is just to me as a farmer; I think very little of the farmer who is not prepared to say that, when he sees that every other class in the community stands shoulder to shoulder when they make a demand.

Let me give you an example. The stove manufacturers of the Province of Ontario are composed of Grit and Tory alike, but I tell you when they want anything they forget that they are Grits and Tories, they don't remember that fact, they simply go down to Ottawa—goods Grits that don't believe in protection at all, yet they think they could get more for their stoves—and so they go down there, side by side with their Conservative friends, and say we want a higher duty, and they get it. Then they form a combine. I venture to say that there is not a stove manufacturer in the Province of Ontario that dare fix the price of his own stove. How is it done? The stove manufacturers of Hamilton send their castings to Toronto; a committee weigh the castings and put a price on them, and he must sell them at that price or subject himself to a penalty of \$100 if he sells it \$1 under the price fixed by the committee. You can go to Hamilton and wander from one end of the city to the other, where there are seven or eight foundries, and you cannot get a stove of the same weight one cent less from one man than you can from another, and they will honestly tell you the reason why. Because they entered into a combination by which they agreed to sell at certain prices, and if they sell a cent less they will be subject to a penalty of \$100. You, as free men, as farmers who have to pay for the stove, should be the first men to rise and demand that the power to fleece you in that way by combinations should be taken away from these people by act of parliament (applause). Take, too, even the men that manufacture the coffins in which our bodies must be placed before they are put in their final resting place, the coffins are sold at prices fixed by a committee; there is a combine in caskets. We cannot even

bury our dead and furnish the casket without paying the price demanded by a committee sitting in the City of Toronto. There is not a single class of manufacturers in the province from the sugar refiners to the men who manufacture the twine that ties up our grain that grows in our fields but what fixes the price. We are powerless to help ourselves unless we do it by the ballot. Now, just look how we are treated: Clarke Wallace's is as good a bill as ever was proposed, I suppose I am a fairly good Grit yet Clarke Wallace and I agree upon this one point, that the law should declare these combines illegal (hear, hear), and yet the only reason why we don't get it is that the senate at Ottawa have not to come before us to get a lease of power, and while we can drive the House of Commons the senate at Ottawa refuses to make that law what it should be. We should declare by our ballots that there be no longer any combine or no longer any senators. (Hear, hear, and applause). It would be only fair to ourselves. We could do away with both of them and not lose very much.

Now this is one of the objects of our institute, to ask what is just and take nothing less and be ashamed to demand more than we ought to have as farmers. And when we demand it, when we ask a thing let us go as one man, let us forget for a time perhaps that we are either Grit or Tory but that the time has arrived when we are Canadians, when our highest interest is our common country, and when as farmers we reach that period in our states as citizens, just when that time comes our demands will be satisfied. They sometimes say let them go, they will talk one way and vote in the other direction; but let us be free born men and citizens first, after that let us be politicians. We don't need to sacrifice our political convictions; all we need as men to do is to say to Grit or Tory, when you are a candidate, vote in our interests when we are not asking you to sacrifice the interests of any other man, and when we do that it won't make any difference which party is in power, our demands will be granted and we will be on the road at least to prosperity when we have all that farmers should have in this province; room to work and determination to accomplish, that is a combination, that is in the honest sense of working together, and with the intelligence that is given to us I hope the enterprise that is in the farmers of the Province of Ontario and the determination that we all should have to make this Ontario of ours, which is one of the finest countries on the face of God's earth, if possible one of the most prosperous and happy countries under God's heavens. It is our work as farmers and upon us rests the responsibility of doing our duty to ourselves, to our country, and when we do that we can rest assured providence will bless our efforts. (Applause).

Mr. McFadden—There are a very large number of farmers who never go where there is an institute meeting. You can't get them there for the simple reason that they think they know it all and what they don't know isn't worth knowing. That is for the want of being properly educated up to the point, and the point is this, get them to understand that it is to their interest to commence a Farmers' Institute and thereby get the benefits of being united, when by remaining isolated individuals they will never be able to do anything. Farmers are 7-10ths of the community, and if they are 7-10ths they should have 7-10ths of the representation, but in the Dominion Parliament there are only thirty-six farmers altogether, and that is more than they ever had before. Why not combine as other people

do and look to their own interests and throw party politics aside and thereby get good, honest, straightforward government.

Moved by Dr. Cowan, seconded by Mr. McFadden, that the president's address be referred to the following committee: Messrs. T. Lloyd Jones, Gordon, Mowbray, Cochrane, Ewing, Dunbar, Black, and McEwing. Carried.

Moved by Mr. Lane, seconded by T. Lloyd Jones, that N. Awrey, M.P.P., be president for ensuing year. Carried.

Moved by Thomas Kells, seconded by Mr. McFadden, that T. Lloyd Jones be vice-president for the ensuing year. Carried.

Moved by John Douglass, seconded by A. Gardiner, that a committee of seven members be appointed to divide the province into seven districts each district to have one member on the executive committee, said committee to be named by the president. Carried.

The president then named the following gentlemen to compose the said committee to divide the province into districts: Messrs. Kells, Good, Cowan, McNaughton, Stutt, Whelihan and McIlquham.

Moved by Mr. Servos, seconded by Mr. McFadden, that A. H. Pettit be secretary-treasurer, for the ensuing year. Carried.

Moved and seconded that Thomas A. Good be one of the auditors for the ensuing year. Carried.

The president then named Dr. Cowan as the other auditor.

It was then resolved that the election of the members of the executive committee should take place next morning.

The report of the committee on credentials, which is as follows, was then read and adopted:

REPORT OF COMMITTEE ON CREDENTIALS, 1891.

ELECTORAL DISTRICT.	DELEGATES.	P. O. ADDRESS.	
Addington	James Ried, Wm Haycock	Centreville	Haldimand
Brant N	H R Nixon	St. George	"
Brant S	Thos A Good	Brantford	Halton
"	J E Brethour	Burford	"
Bruce C	D H McIntyre	Paisley	Huron E
"	Richard Right	Eden Grove	"
Bruce N	John Douglass	Tara	Huron S
"	John Pearson	Burgoyne	"
Bruce S	Henry Arkell	Teeswater	Huron W
Carleton	Robert Findley	Walkerton	Kent E
"	Robt H Grant	Hazeldean	Kent W
Dufferin	John Craig	North Gown	"
"	G F Breen	Melancthon	Lambton E
Durham W	W G Sproul	Shelburne	"
"	J M Jones	Bowmanville	Lanark N
Dundas	Peter Werry	Tyrone	"
"	J D Dickson, Peter McIntosh	Case Bridge	Lanark S
Elgin E	J C Dance	Kingsmill	Leeds
"	Francis Leeson	Aylmer	"
Elgin W	Joseph Pierce	Tyrconnell	Lennox
Frontenac	Alex Ritchie	Inverary	"
"	J M Fair	Kingston	Lincoln
Glengary	Wm McNaughton	Lancaster	"
Grenville S	W H Thompson	Prescott	Middlesex N
"	James Bissell	Brockville	"
Grey C	David R. Ellis	Woodhouse	Middlesex W
"	Thos Kells	Vandalere	"
Grey N	John Clark	Meaford	Middlesex E
"	James Cochrane	Kibsyth	"
Grey S	Wm Irvine	Lamlash	Monck
"	Thomas Brown	Holstern	Norfolk N
			"
			Norfolk S
			Northumberland E
			Northumberland W
			Ontario N
			Ontario S
			"
			Oxford N
			Oxford S
			"
			Peel
			Peterboro E
			"
			Peterboro W
			Prescott
			"
			Prince Edward
			"
			Perth S
			Perth N
			"
			Renfrew S
			Simcoe S
			"
			Simcoe C
			"
			Stormont
			Victoria E
			Waterloo S
			"
			Welland
			Wellington C
			"
			Wellington S
			Wellington W
			Wentworth N
			Wentworth S
			"
			York E

politics aside an	Haldimand	D Best	De Cewsville
	"	M Toohey	Cayuga
t the president	Halton	Francis Ruddle	Georgetown
T. Lloyd Jones	Huron E	J R Lindsey	"
McEwing. Car	Huron S	A G Gardiner	Leadbury
	"	Euria McFadden	Brussels
at N. Awrey, M	Huron W	John Torrance	Varna
	Kent E	John Hanna	Seaforth
	Kent W	Isaac Fisher	Goderich
, that T. Lloy	"	G R Langford, James Brown	Kentbridge
	Lambton E	W C McGregor	Tilbury Centre
	"	John Clarkson	Chatham
hat a committee	"	Wm J McAlpine	Warwick
o seven districts	Lanark N	Richard Stutt	Forest
ee, said commit	"	Joseph Yuill	Carleton Place
	Lanark S	W L McDouham	Lanark
	Leeds	George Oliver	Perth
	"	L N Phelph	Philipsville
to compose the	Lennox	Joseph P Redmond	Lansdowne
srs. Kells, Goo	"	Geo B Hodgins	Selby
	Lincoln	W N Collar	Napanee
	"	Rowland W Gregory	St. Catharines
hat A. H. Pett	Middlesex N	Alex Servos	Niagara
	"	C M Simmons	Ivan
	Middlesex W	Joseph Cobble Dick	Mooresville
the auditors fo	"	A P McDougald	McLourne
	Middlesex E	R S Musen	Appin
	"	T B Scott	Vanneck
itor.	Monck	James R L	Lambeth
of the executiv	Norfolk N	Samuel Kennedy	St. Anns
	"	F L Culver	Waterford
	Norfolk S	J F Cohoe	Ronson
as follows, wa	Northumberland E	Albert Gilbert	Simcoe
	Northumberland W	J H Douglass, J B Ewing	Warkworth
	Ontario N	Walter Riddle, James Russel	Cobourg
	Ontario S	Wm Broomfield	Brechin
	"	Andrew Annis	Brechin
P. O. ADDRESS.	Oxford N	Ceo E Mowbray	Oshawa
reville	Oxford S	Abraham Bean	Bright
George	"	Lewis A Price	Mt. Elgin
utford	Peel	Justice Cohoe	Norwich
ord	Peterboro E	D E Smith	Churchville
ley	"	Robert Burgess	Norwood
n Grove	Peterboro W	Frank Birdsall	Birdsall
	Prescott	D Kennedy, John A Davison	Peterboro
oyne	Prince Edward	Jonathan Cross	Caledonia Springs
water	"	Thos Dick	Henry
kerton	"	T G Raynor	Rose Hall
eldean	Perth S	G V Cristie	Bloomfield
h Gown	Perth N	P Whelihan, Alex Wood	St. Marys
methon	"	Wm Kieth	Listowell
burie	Renfrew S	James Dickenson Jr	Donegal
manville	Simcoe S	Duncan Stewart, G McIntyre	Renfrew
ne	"	James Willson	Newton Robinson
Bridge	Simcoe C	Robert Miller	Hobart
smill	"	John Sissons	Crown Hill
er	Stormont	James Martin	New Lowell
onnell	Victoria E	Thos Henry	Berwick
rary	Waterloo S	J O Naylor	Fenelon Falls
ston	"	J Hallman	Washington
aster	Welland	Thos Waters	Rockwood
ott	Wellington C	James Henderson, G H Price	Crowland
ckville	"	W J Gordon	Elora
hhouse	Wellington S	Henry Dunbar	Ospringle
alerc	Wellington W	Wm McCrae	Guelph
ord	Wentworth N	James McEwing	Drayton
yth	Wentworth S	Samuel Hunter	Rockton
ash	"	Erland Lee	Stoney Creek
ern	York E	Major Walker	Ancaster
		John Leadley	Wexford

YORK COUNTY	ASSOCIATION.	DELEGATE.	P. O. ADDRESS.
York E		Simpson Bennie	Milliken
York N		A B Haines	Aurora
"		Luke Gibbons	Newmarket
York W		Robert L. Crawford	Richview
	Agr. and Arts Association	Josh. Legge	Gananoque
	Clydesdale and Shire Horse Assoc.	Geo. Moore	Waterloo
	"	W. H. Millman	Woodstock
	Dom. Draught Horse Association	John Gardhouse	Highfield
	Sheep Breeders' Association	James Russell	Richmond Hill
	Eastern Dairymen's Association	Henry Wade	Toronto
	Ontario Creamery Association	M. Moyer	Toronto
	Ont. Fruit Growers' Association	L. Woolverton	Grimsby
	Ont. Beekeepers' Association	Allen Pringle	Salva
	Ont. Agricultural College	James Mills, president O. A. C.	
	Experimental Farm, Ottawa	Prof. Wm. Saunders	
	Hog Breeders' Association	Fran'is Green	Toronto
	Markham Farmers' Club	H. P. Crosby	Unionville
	The Ont. Veterinary Association	W. Cowan	Galt

Allen Pringle, of the Ontario Bee-Keepers' Association, read the following paper on

BEE CULTURE IN ONTARIO.

Mr. Chairman and Gentlemen,—My business here is to represent the Ontario Bee Keepers' Association as their delegate to this farmers' convention. Were I merely an apiaran specialist I might feel a little out of place here, but being a farmer as well, and a working one, I ought to feel at home amongst farmers. I shall not, however, on that account take advantage of the occasion to bore you with a long essay.

The Ontario Bee Keepers' Association is a legally incorporated body with a membership ranging from three to four hundred, and has a number of local societies in affiliation, to each one of which the parent society makes an annual grant for the encouragement and promotion of the industry. The bee keepers of Ontario number some tens of thousands and they produce annually nearly half a million pounds of honey. This province of Ontario in its honey yielding capabilities, as in many other respects, stands second to none in the world. Nor is apiculture in Ontario, either as a science or art, behind that of any other country. My own opinion is that she takes the lead in taxing the "busy little bee" for all it is worth—the same as she herself is taxed for more than she is worth, or at any rate more than she can pay and live decently.

The most formidable enemy bee-culture has to-day to contend with throughout the world is the disease known as foul-brood, caused like so many human diseases, as science has disclosed, by a microbe which destroys the young brood. Ontario, I may say, has taken the lead of other countries in wise measures and vigorous action for the extermination of this pest, as we have now in our provincial statutes an "Act for the suppression of foul brood among bees," recently passed, which is, without doubt, the best of its kind in the world. Under its provisions we shall be able speedily to overcome this greatest enemy to bee-culture.

In this as well as in other directions the Ontario Bee Keepers' Association is doing a most useful work in developing bee culture in this province, thus placing on our tables a wholesome, palatable, and cheap food—not merely a luxury, for there is more nutriment in 1 lb. of honey than in 5 lbs. of fat pork. Our association is also doing its part in upholding the credit of Canada abroad as a producer. At the Indian and Colonial Exhibition held in London three or four years ago Ontario Bee Keepers exhibited many tons of the finest honey in the world and took the palm in the public eye and popular taste against all competitors. Our

fields and forests everywhere.

I have always been an agriculturist, and, of course, a farmer, and am, from my experience of a quarter of a century, ranged from ten to a hundred to ten thousand, and bee-culture a most profitable part of my business. I have entered into bee-culture with the advantage to supply not only the comparative advantage amongst the small other way, the bee as they like and

Although the peaceable, yet it is always ready to

But the honey sides gathering ho of settled land in of bees, else the c be.

I need scarce pollen from flowe ing a fruition of f most important f Between apicultu connection, and t hand in hand as

Horticulture day, and I am plee sometimes arisen ripe fruits by the and is not very g ture or injure sou the oozing sweets jures in any way in fertilizing his b were the service v exclusively under crop. Thus it is each other, and o than they do.

There is also farmer against th Instead of realizi gathers, he charg grain after the b mistaken. He h his buck wheat pa well ought to co

fields and forests yield abundantly of the choicest nectar nature produces anywhere.

I have always thought that bee culture was a proper and legitimate part of agriculture, and, consistently with that opinion, I have always kept bees on the farm, and am, therefore, very well acquainted with the little insects through an experience of a quarter of a century. My stock of bees from year to year has ranged from ten to one hundred and fifty colonies, and my crop of honey from one hundred to ten thousand pounds. The bees I regard as a part of the live stock and bee-culture a proper part of farm work, and I may say, with me, the most profitable part. I do not mean by this to advise every other farmer to go largely into bee-culture. While the great majority of them might keep a few colonies to advantage to supply their tables with the most wholesome and palatable sweet, only the comparative few can handle the bee successfully and profitably. Indeed, amongst the small bee keepers of "old box-hive" fashion it seems to be just the other way, the bees handle the man instead of the man the bees. They do about as they like and more than the manipulator likes sometimes.

Although the bee is a highly interesting and industrious creature and fairly peaceable, yet it always means business, and has a bumptious "business-end" always ready to present to interlopers on very short notice.

But the honey bee performs an invaluable service in the economy of nature besides gathering honey for us. For this, if for no other reason, every square league of settled land in Canada ought to embrace within its area at least a few colonies of bees, else the clover seed and fruit crops must fall far behind what they might be.

I need scarcely say to you that the bee carries the fertilizing and fruitifying pollen from flower to flower in our orchards, gardens and clover fields, thus securing a fruition of fruit in the one, and an abundance of seed in the other. This most important function and service of the honey bee is not duly appreciated. Between apiculture and horticulture especially, there is a close and indispensable connection, and the apiculturist, horticulturist, and agriculturist ought to work hand in hand as being mutually useful to and dependent on each other.

Horticulture, our nearest industrial kin, is, I believe, well represented here today, and I am pleased to say that the misunderstandings and differences which have sometimes arisen between us as to the alleged injury done to grapes and other ripe fruits by the bees are fast passing away. It has been satisfactorily proved, and is not very generally understood by the fruit growers, that bees do not puncture or injure sound fruit, whether mature or immature. The bee will, it is true, sip the oozing sweets from a broken grape, peach or pear, but never punctures or injures in any way sound fruit, while the benefit the bee brings to the fruit grower in fertilizing his blooming trees and vines, he would be better able to estimate were the service withdrawn. Indeed, he has found it necessary when growing exclusively under glass when the bees were shut out to introduce them or fail his crop. Thus it is that the bee keeper and fruit grower are naturally beneficial to each other, and ought, therefore, to understand and appreciate each other better than they do.

There is also, unfortunately, here and there, a prejudice in the mind of the farmer against the bee, which is equally unfounded and ought to be removed. Instead of realizing the great service it renders him apart from the honey it gathers, he charges that that field of buckwheat of his will not yield so much grain after the bees have "sucked the flowers," as he called it, but he is greatly mistaken. He has more grain instead of less. Let him get to the leeward side of his buckwheat patch on any fine morning when it is in bloom and his sense of smell ought to convince him without any scientific argument that the nectar of his

blooming buckwheat or clover is rapidly escaping into the air by evaporation. "Instead of wasting its sweetness" thus, why not let the busy bee take it up for our pleasure and profit, and fertilize the flowers at the same time? For twenty years past I have been in the habit of sowing buckwheat every season at several different times, partly for the bees and partly for the crop, and I almost always have a crop of grain as well as honey from each sowing. The notion is general that in order to get a crop of buckwheat the seeding must be done about the end of June or first of July. I sow my first lot about the end of May, the second some three weeks later, and so on till August, each sowing usually producing a fair crop of grain, and some a super abundant crop. The last sowing is, of course, sometimes caught in bloom by the fall frost, but in that case it can be immediately ploughed under for manure, and nothing is lost. I am well aware that in parts of Ontario, buckwheat is in bad repute among the farmers, and almost unknown. Nevertheless, it is all the same, a good and profitable crop. Three years ago when that terrible drought in the east scorched up other kinds of grain, many farmers in Prince Edward and other counties "saved their bacon," not this time for buckwheat but with buckwheat. In desperation they ploughed up their scorched fields of grain—or rather no grain—and sowed to buckwheat. The rains came at last, and they reaped thousands and thousands of bushels of the despised and abused buckwheat—all the crop they had, in fact. I am a friend of the buckwheat every time. No farmer who understands his business need be troubled with that bugaboo of "after seeding" as it is called. I may say here to those who have not tried it, that the Japanese variety of buckwheat is by far the best of any; and next comes the Silver-hull. The former is a much larger grain, more productive, and better in every respect than the common kinds. When I took some of it to mill for cakes the miller complained that it would not go through his buckwheat sieves on account of its enormous size and wanted to know where on earth I got it. And the cakes it makes, spread over with honey instead of being soaked with pork gravy, are fit for gods or men, and angels or women, (which perhaps mean about the same thing.) But this is a digression—a pertinent one, however, for buckwheat, like the fruit tree and clover plant, yields a double crop—one of honey and one of grain.

In conclusion, I may draw attention to one other fact from the economic standpoint in favor of bee-culture as an important branch of agriculture. Every bushel of grain and pound of meat which we raise and sell off the farm represent and carry away with them a certain amount more or less of our agrarian capital, or, in other words, the fertility of our soil. Not so much with the sweet nectar of the flowers, which would be mostly wasted in the air were it not ingathered by the bees. When you sell 20 bushels of barley for \$10 (and you can hardly get that unremunerative price for it) along with the barley you part with certain of your soil elements, which means more or less impoverishment of your land; but when I sell 100 lbs. of honey for \$10 the transaction involves no corresponding impoverishment—that is, I have saved and gathered what would have been otherwise practically lost. I am, therefore, a more profitable producer of wealth in the body politic and the body industrial than either the agriculturist proper, the horticulturist, or the stock raiser. This economic fact, together with that other fact, that pure honey is the most palatable and wholesome sweet made in the whole laboratory of nature or art, ought to place apiculture in equal rank with, if not ahead of, every other branch of agriculture.

Moved by Mr. Hodgins, seconded by Mr. Haycock, that a vote of thanks be tendered to Mr. Pringle for his excellent paper on bee culture. Carried.

The President—What has been your average income from sales of honey and bees per year from say 20 colonies?

Mr. Pringle—Spring count, by has been about age about 50 lbs.

Mr. Kenne

Mr. Pringle—First I kept the bee kept in this cept in a very c Italians and the being longer. I I may say that has been quite a The secretion of it is too dry or partial failure f than usual. Th regard-to feedin can be wintered produce honey l they cannot ma nearly the same the other is just them on and the the best beekeep short, and we ha enough honey w they are falling them bad honey sugar altogether the honey and v fully on buckwl grades of honey honey and I find good as the ligh tectly wholesome years ago a pro Popular Science comb was first r being done with done more harm slander that has over the country lieved him. Th manufactured; the editor of the slander in his m me asking me to the statement a offered \$1,000 to manufactured h

Mr. Pringle—My average returns per colony for a number of years by spring count, by that we mean in the spring before they begin to swarm, has been about 50 lbs. I have taken 100 lbs. per colony, but on the average about 50 lbs. At 10 cents that means \$5 worth of honey.

Mr. Kennedy.—What kind of bees do you keep?

Mr. Pringle.—I have kept the different races of bees for some years. First I kept the native bee, the brown or German bee, which is the usual bee kept in this province. It cannot reach the nectar in the red clover except in a very dry season when the heads are small. I have tried the Italians and they can reach it unless the heads are very large, their tongues being longer. I know of no other bee that would do as well as the Italian. I may say that during the last 2 or 3 years the honey product of Ontario has been quite a failure as it has been throughout many parts of the world. The secretion of honey in the flower requires a certain temperature and if it is too dry or too wet it is equally unfavorable, and on account of the partial failure for the last 2 or 3 years the price has been a little higher than usual. There is a very erroneous impression in the public mind with regard to feeding sugar to bees for the purpose of making honey. Bees can be wintered on sugar syrup successfully, but we don't feed sugar to produce honey because we cannot get honey by feeding sugar to the bees, they cannot manufacture sugar into honey. While sugar and honey are nearly the same there is the difference that one is the nectar of flowers and the other is just sugar. We can feed syrup from No. 1 sugar to winter them on and they will winter successfully on that and it is often done by the best beekeepers in the province because we find our stocks sometimes short, and we have to carry them through, but the better way is to leave enough honey with them. I am not in favor of feeding sugar at all but if they are falling short it is better to feed them sugar syrup than to feed them bad honey. I think if you take the trouble and expense of feeding sugar altogether into account I don't think it is profitable to take away the honey and winter your bees on sugar, as you can winter them successfully on buckwheat honey that is not worth quite as much as the light grades of honey. I winter my bees almost every winter on buckwheat honey and I find it is a good winter store. Some people think it is not as good as the light honey but my experience is the contrary, it makes perfectly wholesome winter food. As to the adulteration of honey, some 9 years ago a professor of science in the States made the assertion in the Popular Science Monthly that comb-honey was manufactured; that the comb was first made by machinery and then filled in, the whole thing being done without the mediation of the bees at all. That gentleman has done more harm to the industry throughout the world than any other slander that has ever been uttered. It was copied in the magazines all over the country and the people who did not understand the matter believed him. The fact is there has never yet been a pound of comb-honey manufactured; it is beyond the art of man to do it. A year ago last fall the editor of the Popular Science Monthly found out for the first time that slander in his magazine had done our industry great harm and wrote to me asking me to correct it. I did so through his own paper challenging the statement and we have heard nothing from the professor since. We offered \$1,000 to any man that would bring forward one pound of this manufactured honey or tell us where it could be had, and I myself offered

100 colonies of bees, but they have never come to claim my bees or the money because the thing cannot be done. In regard to wintering bees my opinion is that the cellar for the common farmer who keeps a few stock is the best place if it is fairly dry. I can winter mine outside on the summer stands by properly packing but I would not advise any one inexperienced in bees to attempt them outside. I generally winter my bees in my cellar, where I pack 100 or 150 colonies in together and my average loss is from 2 to 5 per cent.

The committee on new business was then appointed which consists of the following gentlemen: Messrs. Jones, Mowbray, Cowan, Black and Kells.

The committee on legislation was also appointed which consists of the following gentlemen: Messrs Pringle, Simmons, Black, McEwing, Gott and Jones.

The meeting adjourned at 5:10.

EVENING SESSION.

Business was resumed at 7:30, the president in the chair.

Prof. Thomas Shaw, of Ontario Agricultural College, Guelph, read the following paper:

THE SHEEP INDUSTRY IN ONTARIO AND THE MEANS OF EXTENDING IT.

There has been a steady decline in the sheep industry in this province since 1882, and this decline has seriously affected our revenue both from mutton and wool. This province was the proud owner of 1,915,303 head of sheep in 1882 while in 1889, the last year for which we have any returns the number has dwindled down to 1,344,130, that is to say, Ontario in 1889 was only possessed of 70 per cent of the number of sheep which she possessed in 1882.

In a country possessed of natural advantages so decidedly favorable to the growth of sheep it becomes us to inquire into the causes of this decline, and to seek a remedy that will prevent its continuance. Various reasons may be given each of which affords at least a partial explanation. First—the decline in the price of wool has more perhaps than anything else affected the sheep industry adversely. The abnormally high prices paid for wool during the American war greatly stimulated the production of sheep in this province. The great drop in the prices at the close of that period did not check the industry so seriously at first, as the hope of better prices lingered in the minds of sheep owners. When however, those better prices did not come and adverse tariffs grew higher, the retrograde period commenced, which is marked by the long line of shadow by which the declination of the industry may be traced since 1882.

Second—Our export trade with Great Britain has greatly declined. The trade at one time amounted to more than 300,000 head in a single year. The number of sheep exported to Britain for the fiscal year, ending 30th June, 1888, from the whole dominion was only 43,477 head. The falling of in this trade was

largely owing to the New Zealand and carrying ships. A reported compared with

Third—The decline had the effect of reducing the opinion obtained to thrive well on the other conditions which our explanation shows Ontario.

This decline in prosperity in a market States and Great Britain revenue of the country for our export of difficult of attainment

The assessed land and the part of scavenger's rent assessed lands. Dividing these and head of sheep to every of resident land, and In other words we province, one for every cleared lands. This below what it will be industry. Every one 13 head of sheep, value for food during several would be kept in grass stubble fields and c

It is thus apparent one hundred acre farm or without reducing not even excepting

If the farms of a half millions of sheep two million head of more lambs for sale fatten these lambs require 100,000 acres the Ontario Experiment small grain ration would grow rape would be lands of the province purpose.

largely owing to the phenomenal growth in the rival trade in dead mutton from New Zealand and Australia, and to the imperfect facilities for transport in the carrying ships. A third reason is found in the lack of quality in the animals exported compared with what it might and ought to be.

Third—The dairy industry has greatly increased since that time, which has had the effect of reducing the number of the sheep kept in the dairy sections. The opinion obtains amongst dairy-men that sheep and dairy cattle will not thrive well on the same farm, which, under certain conditions is true, and under other conditions which may be controlled by the farmer is not true. It affords our explanation however, of the reduction in the number of sheep now kept in Ontario.

This decline in the sheep industry of this agricultural province affects its prosperity in a marked degree. One million more lambs per year to the United States and Great Britain would mean an addition of \$5,000,000 annually to the revenue of the country, a sum nearly equal to what we have hitherto been receiving for our export of barley. To realize these returns is a possibility that is not difficult of attainment.

The assessed lands of Ontario in 1889 numbered 28,278,638 acres, the resident assessed lands 21,294,019 acres and the cleared lands 11,311,277 acres. Dividing these lands into one hundred acre farms we have at present but 4.75 head of sheep to every one hundred acres, 6.31 head to every one hundred acres of resident land, and but 11.88 head to every one hundred acres of cleared lands. In other words we have but one sheep for every 21 acres of assessed lands in the province, one for every 16 acres of assessed lands, and one for every 9 acres of cleared lands. This proportion is manifestly far below what it should be, and far below what it will be when we become fully alive to the importance of the industry. Every one hundred acres of occupied lands could sustain a flock of 12 or 13 head of sheep, virtually without any additional cost for summer food, that is for food during seven months of the year. This number of sheep with the lambs would be kept in great part at least by the pickings of bye places, such as lanes, stubble fields and cattle pastures discarded for the season. They would thus act the part of scavengers, picking up the waste vegetation of the farm, including a large number of noxious weeds. These conditions of keep, instead of being adverse to their welfare would be exactly in the line of their development, for the sheep above all other animals luxuriates on a change of pastures, even though it be a change composed largely of varied weed vegetation. The principal additional cost would be the wintering during 5 months in the year, and the cost of this is materially becoming less, now that corn ensilage is being introduced as a part of the winter ration.

It is thus apparent that from 12 to 13 head of sheep may be kept on every one hundred acre farm without materially interfering with other line of farming, or without reducing the capacity of the farm to sustain other kinds of live stock, not even excepting dairy stock.

If the farms of Ontario were thus stocked instead of having as now one and a half millions of sheep all told, we would then have three million head, that is, two million head of breeding ewes, the progeny of which would give us one million more lambs for sale than our province furnishes annually as things are now. To fatten these lambs in finest form, at least for the autumn market, would only require 100,000 acres of arable land to grow rape, as it has been demonstrated at the Ontario Experimental Farm by actual trial, that one acre of rape with a very small grain ration will fatten from 10 to 12 lambs. The land then required to grow rape would be only the one, one hundred and thirteenth part of the cleared lands of the province, and surely this much land might be spared for so useful a purpose.

As to the most profitable sheep for the farmer to breed there is likely to be no little difference of opinion, in determining this question, and it is one of great significance; we have to consider the object which the breeder has in view and the present and prospective requirements of the markets for wool and mutton respectively.

If the object of the breeder is to provide customers at home or abroad with pure-bred sheep for the foundation or improvement of pure-bred flocks of the same breed, the two most pressing items for his consideration are the market and excellence of product. These influences react upon one another in a marked degree, for it is a matter of live-stock history that excellence of product has been most marked when prices have been brisk. And that the standard of average excellence has been lowered with the declension of these. If his object is largely to provide males for crossing upon the common stocks of the country, he should consider first, the public taste in reference to mutton and wool, and, second, the breed which, when used for crossing, is likely to produce an animal such as the public taste demands. With the first object in view a skilful breeder may be fairly successful with almost any useful breed adapted to the country; but with the second his choice of breed is narrowed down of necessity to breeds of a certain general type, of which certain leading features are possessed in common, notwithstanding individual difference. The number relatively of those who keep pedigree animals, though it will continually increase will never be very large relatively, for the reason first, that the intuitive genius required to breed in best form is too rare a gift. Second, that the acquired skill and experience wanted, involve much study and labor, and third, because the trouble of keeping pedigrees repels from, rather than attracts to this work.

The question of adaptability has never received that attention in this country which its importance demands. The assumption that all breeds are equally well adapted for all portions of the country is no more true, than that all men of physical development, however, diverse, are equally adapted to the requirements of physical exertion.

The Southdown will not do equally well with the Lincoln on level arable lands, producing rich pastures, and the Lincoln will not do equally well with the Southdown on rolling uplands where the good supplies are not very plentiful.

Some breeds will only give results that are completely satisfactory in mild temperatures, and others in climates that are colder. The former include some of the fine woolled varieties, and the latter such breeds as the black-faced Highland.

The attempt therefore to grow sheep in best form amid conditions that are unnatural is doomed to end in failure more or less complete. The most profitable sheep, therefore, will usually be found to be that which is best adapted to the conditions amid which it is reared, such as temperature, elevation, fertility and soil-grainage.

The question of the respective requirements of the markets for mutton and wool is a point of much significance. To so great an extent is this the case that the future success of the sheep industry may be said to hinge upon it, providing these requirements are met by the sheep grower.

In reference to wool, the home market calls for medium wools, finer than those which the long-wooled breeds produce. The major portion of the wool produced in this country in former years has been of the long woolled types; and even at the present time more than half of the wool clip is of this class. Some of this wool is used at home, but a large portion of it is sold to go to the United States, which country it enters in the face of a stiff duty. Fine wools are largely imported into this country for manufacturing purposes, and, it may be said, why

ere is likely to be should we not turn our attention to the production of this class of wool. Two
 it is one of great difficulties stand in the way. First, our climate does not seem so well adapted to
 r has in view and the production of this class of wool in finest form. Second, the home market has
 wool and mutton not hitherto been sufficiently good for fine wool to justify breeding for wool alone.
 We seek a return in mutton as well as in wool, and for this double pur-
 ose the fine wool brands have not in the past been found the most suitable. The
 or abroad with medium wools, most in favor now, are those produced by crossing dark-faced rams
 flocks of the same in the common stocks of the country.

Our markets for mutton are three - The home market, the United States
 market, and the Great Britain. It cannot be said of the home market that its
 has been most requirements have hitherto been so discriminating as to exclude any kind of mut-
 of average ex-quirements have hitherto been so discriminating as to exclude any kind of mut-
 object is largely to on. But this may not be expected to continue. As our cities grow and wealth
 y, he should con-accumulate, the tastes of our people will assert themselves, and we have no reason
 second, the breed-to suppose that those tastes will differ very much from those of other peoples who
 h as the public-ave already pronounced in favor of mutton of certain types.

The market of the United States has already shown a preference for dark-
 faced lambs, and this preference is likely to become more and more decided.
 Great Britain has for years given the preference to the mutton of dark-faced
 heep. This preference has not only manifested itself in an increased demand for
 uch mutton, but also in an increased price paid for it. If then these markets
 how a preference for mutton of this class, the effort of our sheep breeders should
 be to produce it.

To meet the demands of the markets therefore for wool and mutton at the
 present time, the line of breeding is the same. Our foundation stock throughout
 Ontario are of the long-wooled grade Leicester types. The wool is rather coarser
 than our home market seeks, and the mutton has too little of an intermixture of
 fat and lean in it. By introducing on these foundation stocks rams of the dark-
 faced breeds, we get pretty nearly what we require in both wool and mutton; we
 get a hardy, vigorous, plump-bodied sheep, quick to mature, that weighs well, that
 will give a good return for the food fed, that produces a medium wool much in
 request, and that furnishes mutton in which the fat and lean are nicely blended.
 To secure this class of sheep we are happily situated. We have but to use dark-
 faced rams on the stocks which we now have; we do not require to invest our
 dollars in the purchase of grade ewes, unless our desire should be to increase our
 stocks. We have only to purchase rams that are purely bred and they should be
 good ones at that. The supreme folly of using grade lambs, however excellent in-
 dividualy can no more be committed by the progressive farmer.

For the improvement of the wool the smaller varieties as the Southdown
 would probably be the best, but for producing lambs of good size and weight, the
 adapted to the Shropshire Down, the Oxford Down, and the Hampshire Down breeds will all
 n, fertility and answer well.

Would it be wise then for those engaged in breeding long wool sheep pure to
 go out of the business? Manifestly not, so long as they can get good returns for
 is the case that them. The fashions like the pendulum are continually swaying to and fro, and it
 on it, providing may be that soon again the demand for long wool will be brisk. At all events a
 arge amount of it will be wanted as long as the world lasts

The demand for lambs in the United States is a most extraordinary one.
 According to the last returns furnished, we shipped of sheep and lambs to the
 United States 307,775 head out of a total export of 360,131 head, of which no
 Some of this doubt the major portion were lambs. The room for increase in this trade is very
 United States, great, so far as one can judge by present indications; but in future our farmers
 ve largely im- will of necessity have to take more pains in the breeding and feeding of their
 y. be said, why lambs.

The nameless grade, without character or quality, will soon be rejected alike by the Ontario shipper and the American dealer. The same may be said of lambs that have not been castrated. The day is not far distant when the farmer will forfeit one dollar per head in the selling price who neglects this all important matter in producing feeding lambs. The lamb worth \$5 per head will gradually supplant the lamb at \$3 per head, and this will be to the advantage of the producer, the dealer and the consumer.

There is no method of preparing lambs for the American market so cheap as that which fattens them on rape grown for the purpose, when pastured on the rape for two months with the addition of a very small grain ration they increase in value during that period to the extent of \$2 per head when they are the produce of pure sires. I have already said that one acre of rape will thus fatten from 10 to 12 lambs.

This we have demonstrated at the Experimental Farm where last year 50 acres of rape were grown and where more than 500 lambs were thus fattened, at a handsome profit. The rape was grown on land, which the same season had produced a crop of rye for the silo, and the land was also cleaned by the process and left in good condition as to fertility for the succeeding crop.

To regain the British market some modification in methods of production, preparation and shipping would probably be required. The same style of lamb would suit the British market that is now becoming popular in the United States, viz., a lamb with dark face and legs of medium size and compact in form. Those lambs will require to be fed all winter of the first year and shipped in the spring. They should then attain the weight of 140 to 150 pounds.

It is not improbable that it will be found advantageous to shear lambs intended for this market early in September, but this has not as yet been fully demonstrated. There will also of necessity be some modification in shipping facilities which will have the effect of lessening the freight charges. This would involve some special arrangement of space on the principle of the double deck system in cattle transportation. These modifications, however, will doubtless be forthcoming as soon as it is made apparent that we are equipped for the trade, and that the trade will prove remunerative. To ascertain what may be done in this way, we are feeding 100 lambs at present at the College farm, which are intended for shipment in the spring.

It is probable that we may soon be able to do a good business in growing lambs for the spring market, both for our own market and that of the Americans. It may yet turn out that the best sheep for the purpose is the Dorset Horned. With this breed, lambs may be produced in late autumn, which would bring an excellent price at Easter. In England the Dorsets breed twice a year, but it has yet to be demonstrated that they will do so in this country with its sterner climate. If they would, however, breed but once a year in the autumn, the lambs would not only bring a good price when sold but the dams might then also be turned off to good advantage early in the season, when increased numbers would justify such a step. They are a hardy and prolific breed but a Down cross improves the quality of the mutton.

It has been shown, therefore, that the sheep industry may be easily doubled without encroaching seriously on other lines of production, and that this may be done without any further actual outlay than the investment required to increase the foundation stocks. These foundation breeding ewes may be had any autumn for from \$5 to \$6 a head and the return in lambs and wool would refund the outlay and would also pay in part the keep of the sheep. It rests with our farmers to determine whether they will reap this ungathered possible harvest, or whether they will continue to mourn the diminished and diminishing returns that are the inevitable result of growing grain in Ontario for purposes of sale.

In addition

I may say that the Experimental Farm lambs were all of a very superior quality, one-half pint per head, the province and were shipped from on the rape. that we had not ham 145 more, over and above lot. Altogether per head. They should have been put on about rape two months allowed to go out at night and then them to Great Britain in the first place winter, and in the shape for one reason closely in the winter temperature, particularly with reference to We selected dark treated were sold the 19th of December weight, an average to have lambs in but I have already course we had to sold \$5.60 apiece fed, not taking in of \$1.60 per lamb. Valuing the 100, we made \$878 and something else in advantageous to the fields of that farm we selected some clean them. I have not the cheapest ground that farm sometimes it may ground was ploughed as it was ploughed mould board plough quite so far apart seed at the rate of the last week in J

In addition to his paper Prof. Shaw spoke as follows:

I may say here that we fattened about 527 lambs on the Ontario Experimental Farm last fall. We grew more than 50 acres of rape. These lambs were all fattened with the rape grown on the farm, with the addition of a very small ration of grain, consisting principally of oats, less than one-half pint per day. These lambs were purchased in the eastern part of the province and cost about \$3 per head. Between 300 and 400 of them were shipped from Pakenham and were brought to the farm and fattened on the rape. We found after they had been on the rape for some time that we had not enough of lambs, and we purchased in the County of Durham 145 more, which cost \$3.75 per head, and we had the freight to pay over and above that, so that this lot were dearer relatively than the other lot. Altogether 527 cost when laid down, after paying all expenses, \$3.76 per head. They were put on the rape somewhat later in the season than they should have been, but it was as soon as we could get them. They were put on about the 1st of October, the first lot, and pastured on the rape two months. 100 of them were shorn about the 1st of October, and allowed to go out and pasture on the rape in the day time and kept in at night and those are being fed now with the intention of exporting them to Great Britain in the spring. The benefit of shearing is two-fold, in the first place we consider they are likely to fatten better in the winter, and in the second place the buyers would rather have them in that shape for one reason amongst others that they can be stowed away more closely in the vessel, and they will be less affected by changes of temperature, particularly by change from cool to warm climate. I may say with reference to these 100, that they are doing well at the present time. We selected dark-faced ones as far as we could. Those that were not so treated were sold to go to the Buffalo market, shipped from the farm on the 19th of December and were sold for \$5.62 per hundred pounds live weight, an average of 98½ pounds each, a lighter weight than we are used to have lambs in this section of the country at that time of the year, but I have already said we were somewhat late in buying them and of course we had to take such lambs as we could get. They averaged when sold \$5.60 apiece, so that we had for our rape upon which the lambs fed, not taking into account the grain, which was very little indeed, a gain of \$1.60 per lamb over and above all expenses on the whole transaction. Valuing the 100 that we have now at 5 cents per pound at Christmas time we made \$878 and some cents on the 50 acres of rape. Now, there was something else in connection with that transaction which was equally as advantageous to us as the money that was made on the lambs. Some fields of that farm unfortunately were not very clean a few years ago and we selected some of the dirtiest of those fields and adopted this plan to clean them. I have been convinced for sometime that the bare fallow is not the cheapest way of cleaning land. I would not take the extreme ground that farmers should never summer fallow their land, believing that sometimes it may be the best thing to do, but I think very seldom. The ground was ploughed between the middle and the end of June and as soon as it was ploughed it was harrowed, then it was drilled with a double mould board plough; the drills were made at a distance of 22 inches, not quite so far apart as for turnips, and the rape was sown the same as turnip seed at the rate of one pound per acre and that cost 15 cents. It was sown the last week in June and the first week in July and after it had come up

to the height of about one inch the horse hoe was put on and kept running till the rape got so high that the tops met between the rows. Then make sure that the work of weed destruction would be as thorough as possible we went over it twice with the hand hoe. One person would hoe over two acres a day the first hoeing and three acres the second time that the process was not so slow as might be supposed: and about the end of September I don't think you could have found 100 weeds in the whole of 50 acres that were reproducing seed of any kind. It is my firm conviction that these fields are quite as clean as though they had been submitted to the process of bare fallow. The sheep were given access to all the land they required. Now you see the value of this mode of cultivation. It produced us a crop of rye in the first place that I considered worth about as much as an average crop of hay: we cleaned the land as thoroughly as if it had been subjected to the process of bare fallow: we grew a crop of rape that fattened 10 lambs to the acre and made \$1.60 each, that is the revenue from the rape: and I hold the land was left in better form for growing a crop than if it had been treated in the ordinary way, for the reason, the rye being cut at the stage when we cut it is not a very exhaustive plant, and then coming on with rape, a plant that draws largely from the air, and the land now is full of roots which are in process of decay and all we require to do in the spring is to go on with the cultivation and cultivate it thoroughly and sow any kind of grain crop that we may desire.

Now, what we have done any farmer in Ontario can do. There is no patent on this mode of growing feed and any farmer in the land can follow the same mode of cultivating the soil under proper circumstances and fatten lambs in the same way. Prices of course may not be quite so good every year. It is only fair to state that we got very high prices for our lambs: we sold at the very best time they could be sold. Now, if the farmers of this province were to grow lambs and simply to set aside 10,000 acres of the arable land of Ontario, and that is only a very small portion of it indeed, one million of lambs could be prepared every year for export either to the United States or Great Britain. I may say, gentlemen, in addition to what I have said, that I think the possibilities of this country in regard to sheep production are very great indeed. The amount of land that I propose to set aside for the purpose of fattening one million lambs is not a very large amount in proportion to the whole of the arable land of the Province of Ontario. With the increased production of feed that the silo would bring along with it, I think all I have been talking about is quite possible without encroaching in the slightest degree on the number of live-stock of other kinds that we have.

Question.—In preparing that ground for rye was there any manure applied?

Prof. Shaw.—No manure applied to these two fields either in the fall or spring.

Question.—What was the previous crop?

Prof. Shaw.—In one case pasture and in the other case a crop of clover on part of the field and pease on the other part. I cannot tell you just exactly how it had been treated years previously, but there has been no manure applied on either field since I have been in charge of the farm.

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Question—What time did you sow the rape?

Prof. Shaw—In the one case the last of June and in the other the first week in July. We have experimented considerably in regard to the best time for sowing, and the result of our experiments point to the last week in June, as soon as possible after the 20th.

Question—How did the turnip fly affect it?

Prof. Shaw—Much the same as turnips, only rape is naturally a more vigorous plant and therefore the fly has somewhat less effect on it.

Question—Did you try feeding cattle on the rape?

Prof. Shaw—Yes; but I don't regard the pasturing of the rape with cattle was as successful as with lambs. They trample a great deal of it, and it is destroyed for feeding purposes.

Question—What is the winter ration of the 100 lambs you are feeding at the present time?

Prof. Shaw—We may modify it before spring but the ration at the present time is long hay, turnips sliced and a quantity of oats and peas. I cannot give you the exact quantities just now.

Question—Was the grain ground?

Prof. Shaw—No, we prefer giving it whole.

Question—What kind of hay?

Prof. Shaw—Clover and Timothy mixed, but the major portion of it is Clover.

Question—About what time did you plow after taking off the rye; what time was the rye taken off?

Prof. Shaw—It was removed from the field about the 20th of June and we plowed the ground immediately afterwards. It is only fair to say—I would not like to mislead any person in reference to this question—but every part of Ontario will not answer well for the growing of rape. If your land will grow turnips well I think I am safe in saying it will grow rape well.

Question—In the case of a wet fall would the lambs destroy much of the feed through tramping?

Prof. Shaw—No, practically none. We could scarcely have a better test of that than we had last fall; but the lambs commenced at one side and went over it in that way, much like an army of grasshoppers. There were a good many things about the lambs that were not very desirable; most of them had long tails and that is a very undesirable thing in lambs feeding on rape because when they are first put on the rape it is apt to purge them somewhat. It is a very important matter that the tails of the lambs should be cut if they are intended to be fattened in that way. Then nearly one-half of them were ram lambs and that is an exceedingly undesirable thing. The time is not far distant when a less price, probably to the extent of 50 cents or \$1 per head will be paid for a lamb that is not castrated in the fall compared with one that is.

Question—In what respect are they better?

Prof. Shaw—In the first place they will fatten better and in the second place if you want to keep them over winter for feeding for the Old Country market they are much less trouble and a dealer will give more for them.

Question—Is there not danger of losing sheep and lambs in turning them on to the rape? At what stage should the rape be in before you turn them in to get the best results?

Prof. Shaw—There is a decided danger if no precaution is used. Lambs should not be turned on to the rape until after having been well fed; in this way the danger is reduced to a minimum. In regard to the proper stage at which rape is fit for turning them in, if you sow the rape the last week in June it will usually be fit for pasturing not later than the middle of September; it seems to have about completed its period of growth then.

Question—What kind of sheep would you recommend in the northern country where there is no limestone—hilly, rocky country?

Prof. Shaw—Some of the lighter breeds, Southdown and Shropshire down.

Moved by W. J. Sproul, seconded by J. F. Breen, that a hearty vote of thanks be tendered to Prof. Shaw for his able paper on sheep raising etc. Carried.

Prof. Saunders, of the Ottawa Experimental Station, addressed the institute on barley culture as follows:

MR. CHAIRMAN AND GENTLEMEN, I assure you I take it as a very great privilege to come before the Central Farmers' Institute, representative body as it is, to have an opportunity of speaking of some of the results that have been obtained at the Experimental Farm with two-rowed barley. At the outset of the Experimental Farm work it was strongly impressed on my mind by the Minister of Agriculture the importance of instituting a series of experiments with two-rowed barley, with a number of the most promising varieties of this kind that command such a good price in the English market. A few experiments were carried on at the Central Farm in 1888, and we distributed 400 samples of two-rowed barley in different parts of the Dominion; in 1889, 947 samples were sent out. In 1890, 5,513 3-pound bags were sent through the mail to farmers in all parts of the country, with the request that they would test this grain, take careful note as to the length of time it took to mature, and send to the Experimental Farm after they had threshed, a sample of the grain so that we might ascertain the weight per bushel. Last year the Government, on the recommendation of the Minister of Agriculture, appropriated the sum of \$25,000 for the purpose of importing a quantity of seed barley to be sold to the farmers. 10,000 bushels of barley was imported in 5,000 bags of 112 pounds each, and offered to the farmer at \$4 per bag, the Government paying the railway freight charges to the nearest railway station. There were nearly 3,000 purchasers of this barley. Farmers are a little slow sometimes in responding to such requests, and out of 2800 up to the present time we have only received 1039 returns. Of these 1039 let it be said that 862 were from this province. Of that number 337 report the crop sown after roots, and the average of these reports is 27½ bushels per acre. The samples that were sent, weighing about a pound each, averaged 50½ pounds per bushel, but in many instances the farmers wrote to say that they sent these samples just

they came from the in such a way as age weight per bu results of that gro as follows: yield pounds per bushel given by the Bureau case of the barley grown after other has an advantage per acre of increase Ontario, \$350,663 of some moment; two-rowed instead of \$1,157,000. able character of t all probability be whole 1039 reports little over 26 bush

There are many cultivated and cov reasons why a sud reason, however, f rowed barley is an recent legislation a The most profitabl which does not cor it makes good por our stock and hors commonly fed to h been feeding half oats at the Experi and cheaper than that they have fed farmer can get 40 means to sell grain oats and feed more than the six because can be accepted as general now than to do with keeping year when there w p r bushel and at cents per bushel d our Canadian brew cient quantity un both.

A great deal barley, and it is t for this grain. It anything of that k that market. Gro to supplement wh and in Great Brit price. If we can and malster we ca cient quantity to

they came from the thresher: so each sample was cleaned with a small handmill in such a way as to make it merchantable. The second weighing showed an average weight per bushel of $51\frac{1}{2}$ pounds. This was the grain grown after roots. The results of that grown after other crops, the returns for which numbered 525, were as follows: yield 24 19 bushels per acre, weight of barley as received, 50 1-5 pounds per bushel. The average gain of the two-rowed barley over the estimate given by the Bureau of Industries, 22 1-5 bushels, is $5\frac{1}{2}$ bushels per acre in the case of the barley grown after roots, and about 2 bushels in the barley that was grown after other crops; and taking the whole returns for Ontario the two-rowed has an advantage in yield over the six-rowed of 3 3-10 bushels. As each bushel per acre of increase, estimated at 50 cents, adds, on the basis of the barley crop of Ontario, \$350,663 to the returns of the farmers of this province, this question is of some moment; and it is fairly presumed that if the crop of Ontario had been two-rowed instead of six there would have been a gain to the farming community of \$1,157,000. And I think it is not unreasonable, if we consider the unfavorable character of the season, to presume that the results another season would in all probability be better than we have had during the past year. Taking the whole 1039 reports from all parts of the Dominion the average yield has been a little over 26 bushels per acre.

There are many difficulties in the way of changing a crop so extensively cultivated and covering so large an area as six-rowed barley and there are many reasons why a sudden change is not in every respect desirable. There is no good reason, however, for supposing that the relatively larger yield this year of two-rowed barley is an exceptional yield. The question often arises in view of the recent legislation across the lines as to what we shall do with our barley crop. The most profitable way probably for any farmer to dispose of any barley crop which does not command more than 50 cents per bushel is to feed it with peas; it makes good pork and is an important and useful addition to the daily ration of our stock and horses. In California and South America barley is much more commonly fed to horses than oats. For the past two or three months we have been feeding half barley and half oats and some part of the time $\frac{2}{3}$ barley and $\frac{1}{3}$ oats at the Experimental Farm at Ottawa and we have found it equally as good and cheaper than oats. I have known some farmers who have reported to me that they have fed barley entirely to their horses with excellent results. When a farmer can get 40 to 45 cents for 34 lbs. of oats and only 50 cents for barley if he means to sell grain at all he will find it more economical to market more of his oats and feed more of his barley. The two-rowed in this case is more profitable than the six because it yields more bushels per acre provided the returns this year can be accepted as conclusive. The feeding of barley is, I believe, becoming more general now than it has been in the past and I think that possibly has something to do with keeping up the price of barley as it is at present. In February of last year when there was no McKinley Bill barley in Toronto was selling at 40 cents per bushel and at the present time I see it is from 51 to 55 cents in the face of 30 cents per bushel duty which prevails on the other side. There is little doubt that our Canadian brewers would prefer two to six-rowed if they could get it in sufficient quantity unmixed with six-rowed. To mix these two varieties is to spoil both.

A great deal is being said about the English market for our two-rowed barley, and it is to that market we must look if we are to have a profitable outlet for this grain. It is somewhat difficult to ascertain with certainty the price that anything of that kind will bring in any market until it is placed in quantity on that market. Great Britain buys annually about fifty million bushels of barley to supplement what is grown there. This is drawn from all parts of the world, and in Great Britain, as everywhere else, the best product commands the best price. If we can produce a quality that will commend itself to the British brewer and malster we can get a good price for it; but until we send over there a sufficient quantity to admit of an actual test on a large scale the English brewer is at

a loss to know exactly what value to place upon it. The value of the barley every year in almost every country the world over depends on the relative proportion of nitrogen and carbon hydrates compared freshly in its structure, and this cannot be determined with certainty until the barley is malted and brewed and then from the resulting beer the brewer is able to form a correct and exact opinion. After writing to a great many of those who purchased two bushel bags of seed to know if they would spare portions of the product to us the majority replied that all they had to spare was spoken for but those who had a few bushels to spare have sold them to us and that way we have got together 400 bushels of 56 lbs. each, which is the smallest quantity that any of the larger brewers would agree to test, and that barley was shipped yesterday with a view to having it thoroughly tested and compared with the English and foreign barleys which are being used on the market.

An effort has been made to ascertain the value by these samples, and last year probably most of you got bulletin No. 7, containing the results and estimates placed on these different samples of barley in different parts of the Dominion. The last of these estimates of last year were appraised on samples weighing about 51½ pounds to 52 pounds, and these at that time would net to the farmer here about 60 cents per bushel, and some of the better samples would have netted as high as 80 to 85 cents here. Last October an exhibition was held in London, Eng., known as the Brewery Exhibition. It is held annually for the purpose of bringing together the different varieties of barley all over the world, and part as a barley market. Opportunity was taken at this exhibition to exhibit two different samples of barley; three or four of them went from the Experiment Farm, and the others were from different points in Ontario. These barleys have been reported on, and, considering the character of the season and the fact that these barleys did not weigh on the average more than 52 pounds per bushel, the results have been very satisfactory. The judges pronounced it to be fully equal to some of the better grades of foreign barley, although they did not regard it as being equal to the best samples of English grown barley. Most of you will remember a sample called Duckbill, which was very highly spoken of as being of very great promise, but when the judges finally reported on the barleys it was said to be unsuitable for malting in the English market. On seeing that report I had five or six samples of this barley put into the testing house to test its vitality and I found it was very deficient in germinating power. One test only gave 30% and the others varied up to about 80%, so that in itself would have enough, when submitted to the malsters, to condemn that particular sample of barley. Other samples of Duckbill have yielded a very high germination power so that I am a loss to understand very fully the reason why that variety of barley has been so spoken of. I have written for an explanation but have not yet received a reply. It is rather a coarse barley with a thick skin and this may have influenced the judges in their decision or it may have been wholly on account of the lack of germination power. From the results we have had I feel perfectly satisfied that in the better barley districts of Ontario we can produce a very large quantity of two rowed barley which would command good paying prices in the English market. During the past season I find that the large barley buyers in Toronto assumed that the average barley crop which has come into their hands has been at least two pounds per bushel lighter than usual; and if unfavorable influence has been brought about this result with six rowed we may presume that two rowed has been similarly affected, and with two pounds added to the average weight it would in time command a very good price in the markets of Great Britain; and if we find in an unfavorable season that a small portion of our barley is unsuitable for that market we can feed it very profitably at home.

There have been some objections raised to this two rowed barley; one is that it runs out and it will be necessary to import seed almost every year in order to keep up the vitality and fertility of this grain, but in our experience of it in the past four years we find this is not the case, there has been a gradual improvement

in this country the president almost discouraged them to test their germination. I have tested since harvest per cent. I have tested and I did not grow English sun averaged 97.5-6 per cent. could make out by average Canadian Ontario.

In growing barley, I suppose, the soil must be tilled enough fertility in. From the returns of roots, there is a difference of three bushels per acre on a farm. Most of you and which gave the two-rowed barley the second 16 and falling off, far more spring the better, of roots, and sowing your grain results we have at may be taken as a every farmer who to wheat. If the other publications who will take the 1300 bags of this instructions from the per bag this year. year. In order to as to how keeping tested recently and the barley has a good and excellent article.

You may be crops at the Experiment crops I have been we have had are an average of 31; Golden Melon's 31.

In regard to that we are not crops are also being sent country. We are sorts of grain, and they are promising

of the barley every year in almost every variety; and in almost every instance where we have compared freshly imported seed with what has been cultivated three or four years determined with certainty in this country the latter has given the best results. I have received information from the president of the Danish Agricultural Society that in Denmark they were writing to a great many farmers almost discouraged with it at first but now it is one of their most paying crops. To test their germinating power we have had more than 500 samples of this grain tested since harvest concluded and the average of the vitality of this number is 95 per cent. I have had samples of the barleys that took the prizes at this great Brewery Exhibition sent to me through the High Commissioner to be examined and tested and I determined the vitality of these six samples—three of the best grown English samples and three of the best grown foreign samples—and they averaged 97.5-6 per cent, so that the trifling difference of 2 per cent is all we could make out between the finest foreign samples that could be got and the average Canadian samples taken just as they are grown all over the Province of Ontario.

In growing barley the land requires to be properly prepared, though I hardly need, I suppose, to say this so in an audience like this. Its roots are short and the soil must be thoroughly worked and in a good state of preparation with enough fertility in it which is easily available in order to get the very best results. From the returns I have submitted to you you will see that, when grown after roots, there is a difference all the way through the 300 or 400 samples of about three bushels per acre, which is a very important factor in the products of the farm. Most of you may have seen a paper issued from the Farm on this subject and which gave the result of successive sowings a week apart of two varieties of two-rowed barley. The first shows a falling off in a single week of 40 and 30 lbs., the second 16 and 22 and the third week 14 and 13 lbs., showing a wonderful falling off, far more than I ever expected, showing that the earlier it is sown in spring the better, the cool weather in the spring being so favorable to the formation of roots, and you can only do that by preparing your land in the fall and sowing your grain as soon as possible after the soil is ready to receive it. If these results we have attained at Ottawa, which have been very carefully carried on, may be taken as a guide it is a subject that should have the serious attention of every farmer who is growing grain. The same applies in less degree to oats and to wheat. If there are any gentlemen who have not received this bulletin or any other publications of the Farm all these publications are available to any farmer who will take the trouble to ask for them. I will also say that there is still about 1300 bags of this barley left unsold, and the day before yesterday I received instructions from the Minister to offer this barley to the farmers of Canada at \$3 per bag this year. Freight will be pre-paid to every point in the country as last year. In order to meet the question which will be raised by a great many people as to how keeping over the barley has affected its vitality, I had ten samples tested recently and the average vitality of the ten samples is 90%, showing that the barley has a good proportion of germinating power, quite sufficient to make an excellent article of seed.

You may be interested perhaps in getting a few particulars of the barley crops at the Experimental Farm at Ottawa on a larger scale than these sample crops I have been referring to. That is not a good barley district but the crops we have had are as follows: Carter's prize prolific on a field of seven acres we had an average of 31½ bushels per acre; in a field of Danish Chevalier, 30 bushels; Golden Melons 35½, Beardless 26 and Early Mountain 25.

In regard to sending out samples of grain free through the mail I wish to say that we are not confining ourselves to barley alone; samples of oats and wheat are also being sent, the object being to influence the whole grain crop of this country. We are on the lookout all the time in Europe and elsewhere for new sorts of grain, and we test them first at the Experimental Farm and if we find they are promising, at four or five points in the Dominion, I hope in the course of

a few years that a favorable impression will be made on the grain crop of Dominion.

Another class of work we are doing is in endeavoring to help farmers in the vitality of seed grain. We have at the farm a seed testing house, where we have facilities for testing 5,000 samples if they are sent. In a season like the past, where the grain became very wet, the vitality in some instances became injured, and it is a question in many cases whether such grain is suitable for seed. If a farmer sows a sample of grain that has only an average of 40 or 50% of vitality, he cannot expect a good crop, but if he knows this he can double the quantity of seed, and this information is important to him and that information we are prepared to give to the applicants.

As the question of ensilage has been spoken of I will give you the result of a number of experiments we tried with corn during the past year. We had 10 acres of corn, one of which was planted with the White Flint, a variety which has given us for the two last years the best returns of any we have used. The other nine acres gave 30 tons of green fodder. The adjoining acre was sown partly with the Giant Prolific Ensilage, about $\frac{2}{3}$ of it, and the other $\frac{1}{3}$ with Pierce's Prolific, Fa Queen and Golden Dent, and gave 22 tons 1151 pounds. The land was light sandy loam, which had been last year in a crop of oats and which has not received any manure at all since the Government got the farm, and we have no record when it did receive any, but it had the following fertilizer applied to it; 100 pounds of sulphate of ammonia, 400 pounds of superphosphate, and 400 pounds of wood ashes to the acre. Taking the whole cost of production, drawing to the barn, cutting up and placing in the silo, charging $\frac{2}{3}$ of the cost of the fertilizer to this one crop, it gives a cost in the silo of \$1.25 a ton including \$6 for rent of land supposing the land to be worth \$50 per acre, and \$5 a day for the use of the engine and cutter. There is no food that I know of that can be fed so cheaply to stock and on which they will do so well as that particular kind of food. Of course this was a very great crop, but supposing it were reduced to 16 or 18 tons, even then the cost would not exceed from \$1.50 to \$1.75 a ton. It has been about half used and now there is practically no waste.

In reference to the recent decision of the Government to establish experimental dairy stations I might say in the first place it is proposed to make these institutions educational. The present idea is not to purchase any land anywhere or any buildings but to take a factory in operation at some point easy of access where it will be of most benefit to the province and to purchase from the patron the milk for the season at such price as may be agreed on and then to put a practical man in charge who will be directly under Prof. Robertson's guidance, and to invite any person to come at any time and at all times if they choose. This I think will result in greater uniformity of the product all through the country than we have had in the past. The next point is to endeavor to develop the butter interests and to test carefully the advantages of winter dairying and the use of ensilage in such dairying and sending shipments of butter and cheese to a great many markets that have not yet been opened to Canadian products. It seems a strange thing to think of, that Denmark has sent butter to Japan, passed through our territories here. Surely if they can afford to send it from there we can afford to send it to England that is open to us all the time. It is our object and of interest to enlarge the area for the disposal of the products we have for export. An effort will be made in these stations to make a greater variety of cheese, some of these small fancy cheeses that command fancy prices, and to give to our farmers and others who desire it instructions in this work. There will be instructions to our farmers in order to make our products uniform; experimental work in curing as well as preparing cheese of different kinds and form; testing the subject of suitable packages for cheese and also for butter, and the opening of new markets

Question—What kind of soils are best adapted for barley?

Prof. Saunders
better than on sand
day there have been

Question—How

Prof. Saunders
very frequently
heard.

Question—What
did you feed it?

Prof. Saunders
We find it is a very
Treats or barley the
ground.

Question—What

Prof. Saunders
mix the whole together
neal at night, the
When we use barley
half oats, and mix
we use two-thirds

Question—About
did you cultivate it?

Prof. Saunders
the quantity of seed
with the horse culture
was advanced towards

Question—How

Prof. Saunders
because, in that case
a good deal of it
pounds per acre.

Moved by J. J.
Lincoln, that the
is very able and
relating to agriculture

Prof. Shaw then
present at the meeting
Ontario Agricultural
Friday.

The meeting

grain crop of Prof. Saunders—It succeeds very well on clay loam, as a rule, I think, better than on sandy loam, but when sandy loam has been mixed with clay there have been a great many good returns.

help farmers in the Question—How does beardless barley get its name?

testing house, wh Prof. Saunders—It is not because it has not a beard, but because it is suitable for seed very frequently when nearly ripe loses the whole or greater part of this beard.

In a season like the Question—With regard to feeding barley to horses, in what condition did you feed it?

one instances beca Prof. Saunders—In feeding our horses we cut and grind all our feed. We find it is a very great saving to cut the hay short and to crush the oats or barley that we use. We would not think of feeding barley as sown partly winground.

er's Prolific, Fa Question—Would you feed barley by itself?

he land was lig Prof. Saunders—No; we always mix cut oats and hay together and mix the whole together and divide it into three parts, giving the largest meal at night, the next largest in the morning and the smallest at mid-day. When we use barley instead of oats we begin by taking half barley and half oats, and mixing with the hay in the same way, and in the same way we use two-thirds barley.

ich has not receiv Question—About that corn, how far was it planted apart, and how did you cultivate it and what stage of maturity did it reach?

e have no record Prof. Saunders—The corn was planted in drills about two feet apart. The quantity of seed was about half a bushel per acre. It was cultivated with the horse cultivator and hoed twice. The corn on this White Flint was advanced towards the milk stage by the time it was cut.

plied to it; 400 Question—How did you apply the wood ashes?

and 400 pounds Prof. Saunders—They were not applied with the sulphate of ammonia because, in that case the ammonia would be liberated and you would lose a good deal of it. It was applied separately, sown broadcast about 400 pounds per acre.

of the fertilizer \$6 for rent of la Moved by John A. Davidson, Peterboro, seconded by A. Servos, Lincoln, that the thanks of this institute be tendered to Prof. Saunders for his very able and instructive address on barley culture and general topics relating to agriculture. Carried.

for the use of t Prof. Shaw then invited the members of the Farmers' Institute to be present at the meeting of the Experimental Union in connection with the Ontario Agricultural College, to be held in Guelph on Thursday and Friday.

be fed so cheaply The meeting adjourned at 10:15 p. m.

of food. Of course or 18 tons, even it has been about to establish experiments proposed to make the any land anywhere point easy of access from the patron then to put a patron's guidance, choose. This through the country the develop the buttering and the use of cheese to a great extent. It seems an, passed through where we can afford the object and to we have for exportery of cheese, so give to our farmer be instructions vital work in curing the subject of new market

barley?

WEDNESDAY MORNING.

Business resumed at 10:20, the president in the chair.

The Committee on the distribution of the Executive Committee made the following report:

We, your committee on the distribution of the Executive Committee, beg to report that we have divided the province into the following seven districts, each to be represented by one member: Group No. 1 comprises Essex, Kent, Elgin, Lambton, Middlesex and Oxford; No. 2, Huron, Bruce, Grey, Dufferin and Simcoe; No. 3, Lincoln, Welland, Haldimand, Brant, Norfolk and Wentworth; No. 4, Perth, Wellington, Waterloo, Halton, Peel and York; No. 5, Ontario, Durham, Victoria, Haliburton, Peterboro and Northumberland; No. 6, Hastings, Prince Edward, Lennox and Addington, Frontenac, Renfrew, Leeds and Lanark; No. 7, Carlton, Grenville, Dundas, Russell, Stormont, Prescott and Glengarry.

We respectfully recommend that each division be elected separately from delegates from such group.

All of which is respectfully submitted. Signed on behalf of committee.

THOS. KELLS, Chairman

On motion the report was adopted.

The following were then elected as the Executive Committee for the ensuing year:

District No. 1, Daniel Black. No. 2, Thos. Kells. No. 3, Murn Pettit. No. 4, James McEwing. No. 5, J. P. Ewing. No. 6, T. G. Ray. No. 7, W. McNaughton.

Moved by John A. Davidson, Peterboro, seconded by W. J. Sproule, Dufferin, that this Institute adopt the divisions as laid down by the Committee on Divisions. Carried.

Mr. T. L. Jones read the following report of the committee appointed at the last annual meeting re Clark Wallace's Anti-Combines Bill:

To the President and Members of The Ontario Farmers' Institute: Gentlemen—Your Special Committee appointed at your last annual meeting to advise Mr. Clark Wallace, M. P., with his Anti-Combines Bill, beg leave to report.

On the 1st day of May in receipt of a telegram your committee proceeded to Ottawa where they met Mr. Wallace, who placed the following bill in their hands:

An Act to amend the Act for the prevention and suppression of combinations formed in restraint of trade:

Sec. 1 reads—Sec. 1 of the Act passed in the fifty second year of her Majesty's reign, chapter 41, entitled "An Act for the prevention and suppression of combinations formed in the restraint of trade," is hereby amended by striking out the word "unduly" in paragraph (a), (c) and (d) and by striking out the word "reasonable" in paragraph (c).

This Bill as amended has passed the House of Commons and when it appeared before the Senate, it was referred to the Committee on Banking and Commerce. The Committee was sitting when we reached the House.

The chairman in addressing the committee stated he would confine all parties interested strictly to the two words contained in the Bill, viz; "Unduly and reasonably."

Your committee discussed the question involved in the bill and were given a good hearing. They were very ably assisted by Mr. Clark Wallace, M. P., Senator McCallum, T. S. Sproule and Mr. Mathewson, of Montreal.

The discussion on every consideration word "unlawfully." Those in opposition had become law a year previous, and "unduly and unreasonably" without further proceedings. There was another Act repealed and the former Act shall not apply and subject to such Trades Unions Act. Your committee at the next annual

Mr. Jones—I a telegram and started at 10 o'clock and were in the committee room. The Bill and we had not received any news. I said that we would not go "unreasonably," so that distance, we would not go. Trusts and Combinations the question was whether this was the best we could do. I had a test case. Very little discussion was had. Senators after the conclusion the arguments on both kinds would prevail. We can hold and again when this "unduly" and "unlawful" action. It was unreasonable so that it would be a great surprise. Now, if there is

ING.

The discussion lasted about two hours and a half. Both parties received every consideration from the committee. Your committee contended that the word "unlawfully" being changed to "unduly and unreasonably" made the bill of Committee made no effect and inoperative.

Those in opposition contended we had not come with sufficient proof, that no test case had been made in the courts, and that we could not prove the bill which had become law was of no avail. They had the original bill before the senate one year previous, and after very mature deliberation, had changed the words to "unduly and unreasonably", and they did not feel disposed to make any change without further proof.

There was another clause in the bill, viz., Section 6 of the said Act is hereby repealed and the following substituted thereof: The foregoing provisions of this Act shall not apply to the exercise of any handicraft or the performance of labor, and subject to such exception they shall be construed as if section 22 of "The Trades Unions Act" had not been enacted.

Your committee would recommend an open discussion of the whole question at the next annual meeting of The Central Farmers' Institute.

of committee.

KELLS, Chairman

All of which is respectfully submitted,

THOS. LLOYD JONES, Chairman.

Committee for

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Wallace, M. P.,

eal.

Mr. Jones—I will just say that our notice was very short: we received a telegram and started off to Ottawa next morning arriving there at 7 o'clock and were unable to meet Mr. Wallace until about 10 o'clock when we had about five minutes conversation with him before entering the committee room. There were representatives there from Montreal opposing the Bill and we appeared there under great disadvantages because we had not received any notice of the nature of Mr. Wallace's Bill. The chairman said that we would be confined positively to the two words, "unduly" and "unreasonably," so we were somewhat taken aback when, after going all that distance, we were not to be allowed to discuss the great question of Trusts and Combines. However, he was not able to stick to that rule and the question was very ably and minutely discussed. The weakness I felt was this, we were all from one province. If we had had these organizations all over the Dominion we could then go to the Government and demand any legislation which we thought desirable. The interests of the whole Dominion were involved and the fact that we were representatives from only one province was very much against us. However, we did the best we could. They said, Have you had any test cases where you can show to us that the law is ineffectual? and we could not say that we had had a test case. When that Bill was introduced two years ago there was very little discussion; it passed the House of Commons, your representatives felt it was a reasonable law, but when it came before the senate the senators after very mature consideration and a great deal of talk came to the conclusion that it would be a very arbitrary law. There are, no doubt, arguments on both sides. For instance, a law prohibiting combines of all kinds would prevent you and I buying up any commodity that we think we can hold and force up the market. That would be a combine. Then again when this Bill came before the senate they put these two words in, "unduly" and "unreasonably," which would go a great way to prevent the law's action. It would be very difficult to determine whether a combine was unreasonable or that it unduly increased the price of any commodity so that it would be almost impossible to come to a conclusion. But the greatest surprise to me was, two years before the 6th clause was not there. Now, if there is a combine in this country it is the Trade Unions combine

It seems that in bringing in his new Bill Mr. Wallace thought it prudent for some reason that that 6th clause should be exempted, that is that any combine of the Trade Union or mechanic should not be included in the Combines Bill. There are strong arguments for and against it and for my part I believe this, that the workmen of this country, who have this combine for their own interests, should have the same privileges as other people, but I contend that they should not prevent me from discharging one man and hiring another man if I choose to do so. We cannot find fault with the members of parliament, they were anxious that this bill should pass seemingly. The second time it was before the House it passed without even a discussion and went to the senate, and I am positive that had the senate been an elective body a representation from this Central Farmers' Institute would have had greater effect than it had.

Now, I think there is no doubt that these combines are injurious to the farmer in some instances. Although I am in favor of reasonable protection yet I don't believe in excessive protection. These combines and trusts are increasing and the question arises how are we to get rid of them? When we went down there we were accused of representing one of the greatest combines in the country, that of the Farmers' Institute. But if I am to fight the devil I want to fight him with his own club. I believe it is impossible to get legislation to prevent combines of the ordinary nature, but I believe the Government has it in their power to prevent combines of manufacturers who are protected by a high tariff, because when it is evident that such combines are detrimental to the interests of the country all they have to do is to pass an order in council and say, We allow that article to come in free unless you will break up your combine. That is the greatest power to my mind, and if that cannot be done then I say let the farmers of this country combine and I believe if they did so they could burst any combine in existence in Canada.

Now, some have an idea that free trade would break the combines and I would say, Free trade with those countries that have not a high protective tariff; but to have free trade with any country that has a high protective tariff would not answer the purpose because we would be jumping out of the frying pan into the fire. If we had free trade with England where would the combines be? We would have free trade with a country that has free trade, a country in which combines are not known. But I say we cannot consent to join a country where their tariff is higher than ours and where combines and trusts exist to a much greater extent than with us.

I regret that we were not able to succeed better than we did. Some of the senators expressed themselves in this way: The farmers are not represented at Ottawa as they should be, if they were your requisitions and requests would be listened to much more than they are. Some of the senators said they believed if it were not for that 6th clause they believed the bill would pass but I have my doubts about it even if it were erased.

Mr. Stutt—I believe it is impossible to get a conviction under this Act. The words "unduly" and "unreasonably" cannot be defined, they never were intended to be defined. What is it that sustains this combine system? Those who voted for this high tariff; we did it for the purpose of developing the resources of this country and our motives were patriotic

and good, but very men we 35 % what do spiracy against raise prices; a we going to do staple in this against this h was the result to the farmer. are ever to be unanimous. myself on this down. It is reveuue tariff

Mr. Scott statement, tha do evil that g which the wh 15th of Nover Philadelphia a there you paid barrel so that duty in both revenue of the farmer is not which he sells

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Mr. Jones Messrs. McEw Pringle.

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and good, but after 12 years of experience we find it is here yet. These very men we tried to warm into life at an expense of 15 and 17 %, now 35 %, what do they do? They combine, they have entered into a conspiracy against every farmer's home in Canada to prevent competition and raise prices; and I think it is time we bestirred ourselves, and what are we going to do about it. They control every commercial and agricultural staple in this country. We passed resolutions unanimously in Lambton against this high tariff system and sent them down to Ottawa, and what was the result? Simply to raise the tariff upon articles of prime necessity to the farmer. I am not talking party, these are solemn facts, and if we are ever to abolish this gigantic evil we must stand together, united and unanimous. There is not a particle of difference between Mr. Jones and myself on this matter. If the tariff has done this then we must take it down. It is a prohibitory tariff we have now, and what we want is a revenue tariff.

Mr. Scott—I agree entirely with the first speaker except in one statement, that we must fight the devil with his own club. We must not do evil that good may come. I believe the tariff is the corner stone on which the whole of these combines rest. Take one illustration: On the 15th of November coal oil in Toronto was 14½ cents per gallon and in Philadelphia and Baltimore it was seven to 7¼ cents, but if you bought it there you paid a duty of 7 1-5 cents per gallon and 40 cents duty on the barrel so that you might just as well buy it in Toronto. You pay the duty in both cases, but in buying it in Toronto you pay it not into the revenue of the country but into the pockets of the oil monopolists. The farmer is not only burdened on what he buys but he is burdened on that which he sells as well.

Mr. Pringle—Every farmer with 100 acres of land in Ontario pays on the average of tariff taxes from \$1 to \$2 per acre annually, taking what he loses on what he sells and on what he buys. We don't object to pay the legitimate expenses of the Government but we do object to pay our money into the pockets of our fellow citizens that have no claim upon it. It is the tariff that is the foundation of the combine system and not only of that but of much else that is oppressing us. Let us drop party and vote for our own interests and we would be doing no wrong because the agricultural interest is at the bottom of every other interest and we are thereby working for every interest in the community. It is useless for any man to say that the farmers are prosperous in Ontario to-day: our farms are mortgaged from one end of the province to the other and if he stands it much longer, when he has the power to prevent it, he will deserve the name of a beast of burden.

Messrs. McFadden, McEwing and Kells followed dealing with the matter in much the same strain urging the farmers to unite in their own interests.

Mr. Jones' report was then referred to the following committee: Messrs. McEwing, Mowbray, Stutt, Kells, Black, Roland Gregory and Pringle.

The meeting adjourned at 12 noon.

WEDNESDAY AFTERNOON.

Business was resumed at 2:40 p. m., the President in the chair.

Moved by P. Whelihan, seconded by Alexander Wood, that whereas many farmers at the present time find that the lands wholly used for farming purposes lying within cities, towns and villages have become much depreciated in value and unprofitable by reason of the taxes in such urban municipalities and the continuance of such a condition of things would be unjust.

Be it therefore resolved that this grievance of a large number of farmers throughout this province be referred to the Legislative Committee of this Central Farmers' Institute, and respectfully requesting said committee to use their influence at the next session of the Provincial Legislature in promoting the passage of a Bill as a remedy for such grievance.

On motion the above was referred to the Committee on Legislation.

Mr. Mills, of the Ontario Agricultural College, then addressed the meeting:

Mr. President and Gentlemen, I have only a word to say on this occasion. Many of you have heard me speak in different parts of this province on matters connected with institute work and know pretty well who I am and what I am. I shall not attempt a speech of any kind but I am obliged to you for the privilege of a hearing before the members of this Central Farmers' Institute. I consider it an honor to be permitted to appear before, shall I say the choice and master spirits of this age, and of this country. I congratulate you on the work that has been done by the Farmers' Institutes of Ontario. I think already a great deal of valuable information has been disseminated amongst farmers by means of these institutes, and a broader, deeper and more intelligent interest in agriculture has been stirred up by this means than by any other we have ever yet attempted. We have certainly a more intelligent and wide-awake interest in this subject to-day than we ever had in the past. I think I may say I had the honor of organizing the Institute in this province. I think I have spent more time and labor in its interests than probably any other man in the province, and I may say I have a growing confidence in this organization as a simple, inexpensive and effective means of doing a great work for the farmers of this province. I have great faith in the Institute. I think it has been correctly said by several who spoke to-day that agriculture is the most important industry in this country, and if the farmers of this province are only true to themselves, true to their own interests, if they can be induced to become broader readers, closer observers, deeper thinkers and more intelligent and enlightened workers, agriculture will become, not only the most important industry as it is at present, but, I think, the most honorable and the most highly intellectual and elevating occupation in this country. If the farmers in this country will do all that they might do in connection with these organizations, I have no doubt that they will become more and more successful. I congratulate you and wish you abundant success in the work of this Institute, and I shall close by thanking you and by inviting you to Guelph. Any of you who shall feel disposed to come will be made very welcome there. (Applause.)

J. P. McEwing spoke as to the advisability of the Ontario Agricultural College extending experimental operations beyond the limits of the Guelph farm as follows:

Mr. President and Gentlemen, I suppose you are all quite well aware that the proposal is in regard to field experiments, not in regard to the feeding of

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stock. In the Province of Ontario we have a great variety of soils and climates and experiments in regard to the growing of grain or grasses are only useful in a very limited area from the fact that if you go a very short distance from that particular point the conditions are very much different. Now, it has been admitted that it is advantageous to have experiments conducted at certain stations. We have a station at Guelph and the Government at Ottawa has established quite a number of experimental stations; but I have one fault to find with them. They are established on rather an elaborate scale; I believe they are beneficial and useful but I question very much if we get very good value for what they cost. If they were conducted on a smaller scale I believe the country as a whole would receive very much greater benefit from these experiments. It has been admitted by those conducting field experiments at Guelph that they have found by comparing the results arrived at there and the results arrived at in other localities in the province that the results they arrived at could not be relied on in other portions of the province. I believe that if it is worth while to expend Government money in making such experiments it would be wise to establish quite a number of stations through the different sections of the province. I don't approve of making costly and elaborate stations. I believe they ought to be established in connection with the head experimental station, so as to have experiments along certain lines and the results could be given so that the farmers of Ontario would know the results arrived at by the different experimental stations. I feel that in certain cases the experiments as conducted at the Government Stations at the present time are not conducted on the lines which would be of the greatest advantage to the ordinary farmer. As a general thing I believe they are conducted in a special manner and under special conditions. I believe if there were more experimental stations established and these stations conducted on lines which are easily attainable or easily followed by the ordinary farmer they would give much better results. I believe that if these stations were conducted partly under the supervision of say a committee appointed by the Farmers' Institutes of that locality, it would be more satisfactory. However, I don't pretend to know all about it, nor to know much at all about it. I think probably this meeting could recommend some certain course to the Government to pursue in establishing these stations. I think this matter should be fairly and fully discussed before coming to any conclusion in regard to the matter.

Mr. Cochrane—After discussing this matter in our institute we came to the conclusion that it would not be a good thing to have any more experimental stations. I may say that conclusion was contrary to my own views, but the rest were unanimously of that opinion.

Mr. Cross—I agree with Mr. McEwing's idea on the subject. I don't think experiments carried on at the Guelph Farm can apply in any material way to the section of country from which I come. There are different climatic influences and a great deal of difference in the soil, and I think it would be a good thing, if it could be brought about in some inexpensive way, to form an experimental station for each division that we have made of the province, and have a committee appointed or a board of supervisors under the direction of the head of the Experimental Farm.

The following resolution was then moved by Mr. Legge, seconded by Mr. Fair; that whereas both the Dominion and Provincial Governments by the establishment of experimental stations have given great assistance to farmers and disseminated a large amount of useful knowledge by carrying on experiments and the investigation of the productions of the soil which has been of great profit to the farmers of this province. We would ask the Provincial Government to extend the good work by the establish

ment of branch experimental stations in different parts of this province for the encouragement of improved farming: these experimental stations to be carried on on the same lines as those which are now being conducted at the Experimental Farm at Guelph, and to be under the direction of the managers of the said farm.

Mr. Legge—In reference to this resolution I think there should be some plan established for carrying on those experimental stations, as we have different soils and different climates in the different parts of the province and under these circumstances I think experiments should be carried on on the same line throughout the province as they are carried on at Guelph.

Mr. Roland Gregory—I believe instead of establishing these stations that if the work of the Experimental Union that has been started at the Agricultural College was extended and arrangements made with farmers in different parts of the province to test certain kinds of cereals, fruits, vegetables, roots, etc., it would be quite as much benefit and very much cheaper than establishing branch experimental stations. There is too great a variety of soil and climate to establish stations that would meet the wants of every particular place in the different parts of the province. Why could not the Agricultural College make arrangements with parties in different parts of the province to make tests in the lines that were thought desirable. I think it would be quite practicable, be just as much if not more beneficial, and very much cheaper.

Alex. Gardner—I was going to suggest something in the same line. These experimental stations would add a great deal to the expense of the province. Let the government send out parcels of grain after testing at the farm into different localities and let the farmers that take them plant them and give the result of their experiments, what soil and what cultivation they have used, and I think it would meet the demands of the farmers and save a great deal of expense.

Mr. Redmond—I am very much in favor of the motion. I think these experimental stations would do good. The time has come when we must begin to extend our operations farther than even Guelph or Ottawa. They will not necessarily be expensive; the government would not need to establish great farms in every section like the Guelph or Ottawa ones, but to go into the different sections of the country and take the soil of the average of that section, send an expert from the farm to conduct the business and experiment in things that are generally grown in that section. The results of these experiments will be of far more benefit to that section of the country than any experiment carried on three or four hundred miles from there.

Mr. Wilson,—I think if you had an experimental station for each variety of soil and climate in the province the machinery would be too great and too complicated to work successfully. I hold that we have an experimental station at the present moment for every county in the Province and in this Dominion. These gentlemen are only inviting us to send for these grains for us to test them and report the result, and there is not a condition in this province under which grain is produced that they cannot learn at these experimental stations. I hold in these bulletins that are issued, we have experiments from all parts of the province.

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The following amendment to the original motion was then moved by A. Gardiner, seconded by J. T. Breen, that all the words in the original motion after the word "that" be struck out and the following inserted in lieu thereof: That this Institute is of the opinion that by availing ourselves of the advantages now possessed by the farmers of the province of obtaining bulletins from the Ontario Agricultural College at Guelph and the Experimental Farm at Ottawa giving us the results of their work, they are of the opinion that the establishment of further experimental stations will not produce results commensurate with the cost to the province.

Mr. Simmons,—I believe that at the present time we have plenty of experimental work carried on. At Ottawa they are experimenting with 30 or 40 different varieties of wheat and they invite us all over the province to send for samples so that each one may experiment for themselves, and I think we should use the advantages that our Governments put in our hands. I think we have plenty and we don't need any more, and if we don't get the benefit of them it is our own fault.

Mr. Ewing—I am getting tired of this experimental business. It is a good deal of trouble to test these samples that are sent out and I think it would be a great deal better to establish experimental stations where all these things could be tested thoroughly and pay a man for doing it. I believe it would be cheaper than by each individual farmer testing them.

Mr. Arkell—In discussing this matter I think we have overlooked one point, and that is the responsibility that rests upon these people that make experiments. With the professors of the college we look to them for the carefulness that is necessary in these experiments to arrive at a satisfactory result; but if you distribute them all over the province and have all sorts of people making these experiments I am afraid you will come to a very poor conclusion. While they are confined to these gentlemen we know where we are to look and I think they will bear me out that it is very difficult in this business to find men under their own control to carry out these experiments satisfactory even to themselves. I think these experiments should be carried on where they are now.

At the request of the President, Professor Shaw spoke as follows on this subject:

I have very decided views in reference to this question, but I hope you will remember that I am giving utterance to them, not as the Manager of the Guelph Farm, but simply as an individual, and I would like to argue from that standpoint. The experience I have had during the past two years at the Guelph Farm has, I must say, modified my views very much in reference to this matter. I believe if I had been called upon to argue this question three years ago I would have done it very much in the line of the number of gentlemen who have already spoken and who have expressed their opinion in opposition to any further experiments. I may say that the experience I have had has decidedly modified, if not indeed changed, my views. I don't think there would be the slightest necessity for establishing another experimental station in the Province of Ontario, possibly not in the Dominion, for the purpose of carrying on experiments with live stock, because climatic influences and soils are somewhat similar as far as stock is concerned throughout its whole extent. I think experiments which bring certain conclusions in one part of the country can safely be taken as a guide for the management of stock in any other part of the country. I would not, therefore,

recommend extensions in this part of the work at all. I believe, however, it is very different with grains. The College issued a bulletin about the 1st of September last year in regard to the growing of winter wheat. It so happened that not only last year but the year before one of these varieties of wheat in particular, the Manchester, was almost a complete failure at the Guelph Farm. It was rendered almost useless by rust. Of course that was stated in the bulletin and I have no doubt that a good many of the farmers who received that bulletin probably refrained altogether from sowing Manchester wheat simply because it proved a failure at the Guelph Farm. Now, it is quite true at the same time that the same wheat in Middlesex and other counties in Central Ontario had given the best yield of any variety that was sown. Now, for that reason I cannot see but that, if perhaps two or three additional experimental stations, small ones - I don't suppose they would require more than ten acres each - and where the experiments that are being conducted at the Guelph Farm in grain could be duplicated, that the conclusions would be very much more reliable than they are now. Take for instance, our experience in the growing of oats; during the past two or three years we have found three or four varieties imported from France have given altogether the best returns. We were able to say so in the bulletins and before very long we will have a considerable amount of seed to dispose of. Now, the farmers of the province would naturally expect that those varieties would give a similar return in all sections of the province while the returns might be very disappointing indeed. Suppose we had three or four stations where those varieties could have been tested at one and the same time and precisely under the same conditions we could with confidence recommend to the farmers of this country whether they should sow these varieties these varieties or not. There is where the great advantage would come in from the establishment of those branch stations. It has been stated that the farmers are experimenting for themselves in the different parts of the country, which of course is very true, and that they can get certain kinds of grain from the experiment stations that are now existing which of course is also true, and I have not the slightest doubt that a very great amount of good is being done in that way; but I am convinced at the same time that if a kind of grain was found to be generally successful in all stations where it had been tried that kind of grain would be much more speedily introduced and disseminated through the country than it would otherwise be.

For that reason I think that these stations would be a very great advantage indeed. We all know, we feel proud of the fact, that Ontario stands at the front of the agricultural countries of the North American continent, and I hope, and we all hope, that this province of ours will continue to retain that proud position throughout all time. But if we are to do so we must maintain our knowledge of these subjects at the highest state of efficiency. Every one of the United States has a very large grant for this purpose. In a great many of the states they have decided to establish these branch stations in order that the work carried on at the central station will be repeated at this. I therefore think that it would not only be to the interests of the farmers of this country, but, more than anything else, perhaps, would bring a speedy return for the amount of money invested in these stations.

Pres Mills—My mind is not clear on the matter. I scarcely know whether to agree with the the view advocated by Mr. Gregory as to the extension of the work of our Experimental Union, which is conducted chiefly by the ex-students of the College, or whether it would be better to establish a number of additional experimental stations. Isolated experiments carelessly conducted for the guidance of the farming community I have always looked on as worse than useless. If you can have these

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experiments carefully, skillfully, economically and efficiently conducted and not published until you have some broad basis for a conclusion, then a great deal of benefit may result. I think we want more detail before pronouncing on this question. A great deal of good can be done by experimenting and a great deal of harm, and I would like to hear a full statement of the details from Prof. Shaw or somebody else. I have no doubt that good is now coming from the work that is being done by our experimental Union and by experiments that are being made by farmers themselves of seeds distributed from Ottawa. We have not distributed very many samples of seed yet, but I presume we shall do more of that in the future. I can only say that whether it will be useful or not will depend altogether on the details and how the thing is managed; and if the difficulties are too great, the expense too great and the machinery too complicated, I would rather not see it attempted. I am in doubt.

Mr. Bean—I think in order to make it a success there should be an experiment in every county of Ontario. I think that can be done without any outlay, whatever, by the Government except for seed. I think that the Government or the Farm at Ottawa or the Farm at Guelph could pick out one thoroughly good farmer in every county of Ontario, or perhaps half a dozen, and send two bushels of any particular kind of grain to one farmer, tell him to test it and let him report his success. The three pounds is not enough; it is considerable trouble to keep it pure. I think if the former plan were adopted and the results embodied in the bulletins sent out through the country the result would be very satisfactory. Another advantage would be that farmers would have an opportunity of seeing the grain growing.

Mr. Crosby—I think the farmers should make these tests for themselves. If they only take hold and follow out what the professors have done at the experimental farms, I think we would arrive at very proper conclusions.

Mr. Kells—I think the establishment of these experimental stations throughout the province would be a great benefit to the farming community. About six in the province would answer the purpose, of from 10 to 15 acres each, and they could send a man from the Experimental Farm to attend each or perhaps he could attend to two or three, but by all means let them be under the superintendence of the Agricultural College. In our section of the country we have sown several varieties of spring wheat, and they all seem to be failing, and I think experiments of this kind would certainly be of great benefit to the farming community.

Mr. Kennedy—I think these could be conducted with very little expense and that it would be well to have them all under one head. On account of the climate, experiments conducted at Guelph are very little use in some other parts of the province, and I shall support the motion to have these stations established.

Mr. Ewing—The experiments conducted at the stations we now possess are only valuable in a very limited area, and I think some plan could be devised by which, instead of sending out seed in three pound lots, two bushels could be sent to say one man in each riding. Let the institute in that riding select the man to whom this grain is to be sent and let him be responsible for the carrying out of the test. Let a committee be

appointed by the institute to oversee these experiments. I think by this means experiments could be conducted in every riding which would be very satisfactory.

The following amendment to the amendment was then moved by Mr. Richard Stutt, seconded by Mr. Kells, that the resolution be laid on the table for a year, as this institute is not possessed of all the information necessary to give an intelligent opinion on the subject at the present time. Carried.

The original motion and amendment thereto being consequently lost.

Moved by William Broomfield, seconded by G. E. Mowbray, that we think it would be a benefit to the Farmers' Institute to form local Branch Institutes throughout the electoral districts governed by the Central Institute, a code of by-laws drawn up by the Executive Committee to govern the same. Lost.

The following report of the Committee on New Business was read and adopted:

To the President and Members of the Central Farmers' Institute:

We, your Committee on New Business, recommend,

1. That J. H. Carnegie be allowed to introduce the question as to the appointment of judges at township shows.
2. That the communication of John Clarkson with reference to ocean and railway freights be referred to the committee on legislation.
3. With reference to the communication of P. Mahon, Secretary South Wellington Farmers' Institute, we recommend that G. B. Hood be allowed to read his paper respecting township literary institutes.
4. That the communication of D. Black with reference to reduction of county councillors be referred to the committee on legislation.
5. That the communication of Wm. Haycock with reference to an export duty on ashes be referred to the committee on legislation.

All of which is respectfully submitted.

G. E. MOWBRAY, Chairman.

Mr. Murray Pettit read the following paper on

BENEFICIAL EFFECT OF WINDBREAKS ON THE FARM.

We regard windbreaks as trees either growing in their natural condition as forests and the remains of such, or artificially, and propose to deal with this subject accordingly.

There is much that is speculative or imaginary about it, and yet the close observer or candid thinking man must admit that the proper protection of his stock and crops is a question that overtops all other questions of public economy to-day.

We have only to compare the crops grown 40 or 50 years ago with those of the present time in the older portions of the province to prove it most conclusively.

You may say the land was new and rich at that time. We admit that, but clear a piece, of new land in the old and exposed part of the province and can you get such crops? Far from it; and why? The sweeping blasts of winter, the cold, dry, north winds of spring, and the hot, drying, blighting winds of summer are

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the chief cause, hence the necessity of windbreaks. It is well known that the snow, instead of lying equally all over the fields—as was the case when they were well protected by forests—is now driven by the fierce wintry blasts to the fences and roads leaving the land, young plants and roots to be destroyed by repeated sunshine and frost, and bleaching rains which wash the fertility from the soil rendering it hard and unproductive.

Then we have the dry, cold north east winds of spring checking the growth wherever they touch. And the hot, drying, blighting winds of summer sweeping the humidity from the earth and air which is so essential to plant growth, crust- ing and baking the land after every rain until we frequently hear it said the rain has done us more harm than good, and still the wholesale destruction of our forests goes on.

The Canadian farmer has learned to look upon trees as his natural enemy, he has spent a fair portion of his life and strength in clearing them from the soil and is slow to believe the necessity of commencing to repair what he has spent so much hard labor in destroying.

The important question with the farmers of Ontario should be, "How are we to remedy this evil?" By giving greater care and protection to our existing forests. This is a question of vital importance.

Also by an extensive system of tree-planting which should be adopted by every farmer; not only should every roadway and boundary line be planted but the lines between fields in exposed positions should be planted. Were this suc- cessfully carried out throughout the country before many years we would realize the difference. The force of the storms would be broken, snowdrifts would be almost unknown, while a great portion of the country would be cleared and under a high state of cultivation, we would enjoy almost entire immunity from storms and drying winds as if it were one continuous forest. This might be objected to on account of taking up so much land. Not more than one twentieth would be re- quired, we will say one tenth shade and all. Would it be better to have an in- ferior crop on ten acres than a good one on nine? In Europe it is estimated that 25 per cent of all lands must remain forested in order to retain the rest in a state of fertility; where the forests are reduced to any considerable extent below that amount it is found the climate becomes changeable, great droughts will become prevalent while at other periods there will be great floods. The amount of total rainfall during the year or series of years may vary little from what it should be; instead of the rain being more or less constant it becomes fitful with heavy storms at times followed by long drouths. What is true of other parts of the world in regard to the evils of deforestation are becoming alarmingly true in Ontario. The storms blow unhindered over a great part of the country, the rainfall rushes in torrents into our streams causing frequent floods. The climate, once so steady, has become changeable. Fall-wheat and clover, once so certain, can no longer be depended on. Thousands of springs and brooks that once gave forth a continuous flow are now dry before midsummer; streams with ample water-power for the whole year within the memory of most of you now have only sufficient force to turn the mills in spring and autumn. Forest fires and the improvident greed that destroys a \$2 tree to get a 35 cent railroad tie have largely assisted in bringing about this condition. To successfully manage small tracts of woodland, protect them from fire and from pasturage, then let them mostly alone. To demonstrate the financial injury that is being inflicted on the present generation by waste of material and the wrong that is being done to posterity by the destruction of young growths and germs of future forests by domestic animals should be one of the first duties of every society or association connected with agriculture. Comparing the agricultural prosperity of England with many parts of the old world she has stood for centuries above them all, with an area of 60,000 square miles, while many broad, fertile and thickly populated countries have become barren wastes through the destruction of their forests. England's forest protection commenced

about 1000 years ago. They delighted in the chase and gratified their passions for this pastime even to the extent of depopulating large tracts of country, which were set apart as safe preserves for wild animals, to be slain only by royal hands. Through stringent laws the forests received a measure of protection based solely on selfish motives. Unconsciously they become benefactors to their own country, for while the forests sheltered their game it also equalized the humidity of the atmosphere, created springs, controlled the flow of the streams, protected the moisture of the ground and equalized the rainfall.

The Island of St. Helena is another example, showing the effect of forest trees; when discovered in the year 1502 it was heavily wooded but became almost entirely denuded in the last century. The record shows accounts of repeated and almost periodical droughts resulting in great loss of cattle and crops, but near the end of the century, through the foresight of the then governor, trees were brought from all parts of the world and planted, and forest seeds were sown; the consequence of this reforestation are seen in an official report of the Island which says; For many years past since the general growth of trees we have been preserved from the scourge, and drouths, such as were formerly recorded, are now altogether unknown, our rainfall is now equal to that of England.

R. W. Phipps, Commissioner of Forestry for Ontario, says: "The progress made by Germany in tree-planting is but a part of her general progress; the credit is given to the Great Frederick; it was a part of the national policy of his day which raised Prussia from a small power to a great one; by this foresight vast armies have been maintained. Where once the scanty deserts would not nourish a flock of goats the successive regiments of hardy soldiers have poured forth from a fertile soil where 200 years ago the rugged debris of winter torrents, the thorn and the thistle, overspread a thirsty and impoverished land. Germany to-day presents a model of systematic planting of millions of trees, and a complete system of forest management. In Prussia alone there are ten million acres of government forest regularly and systematically planted and divided into periods and blocks; as year after year certain periods end and the timber matures the blocks are cut off, the land then cultivated for a few years and then replanted, the government's forests bringing in an annual income of more than \$14,000,000, yielding a net profit to the government of \$7,500,000. This enormous income represents but a small part of the benefits that Prussia derives from her forests. The healthfulness of her climate, the productiveness of her soil, indeed her vast wealth, population and her political power depend as has been seen upon her artificial forests."

I think in Ontario forestry and arboriculture should be considered largely in their relations to agriculture and to the permanent fertility and productiveness of the soil, many regard this as a work of the government; laws will not be enacted in advance of the general sentiment of the people. What must be done? Educate the people. Impress them with the great importance of the subject. The time has come when the people must be awakened to the importance of preserving their forests and of planting trees, or our country must suffer the terrible consequences of their neglect. The youth of our country especially should be instructed in the value and utility of forests, their influence on climate, soil, productions, etc., correct sentiments in regard to trees should be implanted in them if the best interests of our country in regard to forests are to be promoted. There is nothing truer than the old German proverb: "What you would have appear in a nation's life you must first introduce into the public schools." This brings to mind the many bleak, barren, desolate school grounds throughout the country, having the appearance of places in which to herd stock rather than forming the minds and characters of those who will largely assist in swaying the destinies of this province.

Question—What kind of tree would you prefer for planting around a farm.

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Mr. Pettit—That would depend to some extent on the soil. Merely for a wind-break I would recommend Norway Spruce. The maple is a very fine tree, but in winter it does not afford the same protection as spruce.

Question—How close together would you plant them?

Mr. Pettit—My idea would be to plant them quite close with a view to thinning out. Plant a double or triple row three or four feet apart and in a very few years you would have very good fencing material by thinning out and it would not destroy your wind-break. I would prepare the land for planting the previous season much the same as summer fallow; ridge it in the fall in narrow ridges and cultivate them down in the spring and open a trough with the plow where your row is going to be. This will save a great amount of digging.

The President—I know a man who has 300 acres surrounded with a wind-break of poplar, and for the last 10 years he has had a succession of first-class crops when his neighbors' crops are often failures and I believe that is a direct result of the effect of having a wind-break around the farm. It is true he loses a little land next to his wind-break but a man might better lose a rod all around his farm than lose the crop on the whole farm. Any of you can see the effect of these wind-breaks by sowing a field of wheat next to or near a bush, you are almost sure of a crop, because it is sheltered from dry, cold winds. And I believe if every farm were sheltered by a wind-break it would add thousands, I believe millions, to the revenues of the farmers of this province. If it were not for the bush we have we would have just as violent wind storms and blizzards as they have in the North-West and Dakota; and just because we are clearing it off we have twice the violent storms now that we had 25 years ago.

Mr. Ronnie—I daresay I have one of the finest spruce wind-breaks that can be found in the country, but I have come to the conclusion that unless for the protection of fruit trees, grass, or fall wheat a wind-break is injurious to agriculture. All kinds of spring grains and roots need all the circulation of air it is possible to give them. The snow lodges beside them in the spring and delays seeding considerably. However, for beautifying a farm I would advocate tree planting, but for the growing of spring grain and roots I would certainly say no.

Mr. Gilbert—I am working a farm of 150 acres and I think I have about four miles of wind-break. I have white willow, pine, cedar and osage orange. We cut them back and use them for wood. Off about 60 rods of fence we get enough wood to last a year, and we can cut it about every five years.

Mr. Gardner spoke of a farm which was surrounded on three sides with a natural forest and which did not produce as good crops as farms in the neighborhood which were not so situated.

Mr. Whelihan and Mr. Pearson also spoke on the subject, advocating the more general planting of trees as wind-break.

Moved by Mr. Raynor, seconded by Mr. McIntyre, that the thanks of the meeting be tendered to Mr. Pettit for his paper on wind-breaks. Carried.

Mr. McNaughton read the following paper prepared by Mr. McPherson :

"IS THE EXPORTATION OF FAT CATTLE MORE PROFITABLE TO
THE FARMERS OF ONTARIO THAN THAT OF LEAN OR STORE
CATTLE?"

The export of beef cattle in fattened condition is of a recent date and the increase from the first venture—not much over fifteen years ago—has developed rapidly into wonderful magnitude.

The shipment of lean or store cattle has only within the past five years commenced, and the season just ended has shown marked increase over the previous years.

The total live stock shipments for the year 1890 are 123,738 head, and good judges state that of this number about 50,000 were lean cattle, which were taken to England and Scotland for the purpose of being fed and fattened.

In view of the fact then, that nearly one-half of all the cattle that were exported this past year were unfinished beef, the question of vital interest to the farmers of Ontario is, to know and find out which pays the best to sell and export, fat or lean cattle.

To make this plain I fear I have undertaken a most difficult task and one that cannot be definitely figured out, on account of the many calculations and changed conditions which come into play in order that a fair estimate of the cost of production may be made, such as the breed, the feed and the market value of all things concerned.

One farmer may breed better growing and fattening stocks than another, another may feed better and cheaper, another may buy feed cheaper and still take more to fatten; and as it is with individuals so it is with sections; one section may have cheap feed and cheap cattle while another may have just the reverse, and so the number of conditions are almost legion.

However, to approximately arrive at a standard basis of figuring, I shall strive to confine myself to a basis of figuring on conditions as we have them in the eastern part of Ontario, this present year.

The prices of feed, stocks, etc., are as follows: Hay per ton, \$7; bran, \$16; shorts, \$18; oil cake, \$26; grain provender, \$24; corn ensilage, \$1.50; straw, \$3; steers, 2½ years old, 3½ cents; and 1½ years old, 3 cents per pound; calves, one month old, \$4; labor, \$25 per month.

To determine the relative cost of producing fat and lean cattle for export, it is necessary to find out the cost of, first, the raising of cattle to 2 or 3 years old in fattened condition; second, the raising of store cattle to 1½ and 2½ years old; third, the fattening of such store cattle suitable for export; and lastly, the value of the animal produced in each of the three conditions, as well as the value of the manure.

The cost of raising and fattening an animal from calf to 2 or 3 years old varies considerably with the kind of breed, the feed and the intelligence of the feeder along with the cost of the feed.

The managers of "The Chicago Fat Stock Show," some few years ago, instituted a condition, that all fat stocks exhibited at their fairs should have a full figuring up of the cost of each animal, accompanying each exhibit and from this source the only reliable figures I could get at present, and even these reports are deficient in details as to kind and amount as well as cost of feed, the following is given from an average of 9 head of well bred steers:

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The first year at 12 months old these steers weighed on the average 900 lbs. and cost 3 4-10 cents per pound live weight, or \$30.60 each.

The second year at 24 months, the average of 5 out of these 9, weighed 1,600 pounds, and cost up to 24 months $5\frac{1}{2}$ cents per pound live weight, or \$85.33 each. The cost of grain the second year was $8\frac{1}{2}$ cents per pound increase.

The third year 2 of the same animals were fed to 36 months and weighed 2,250 pounds each, and cost up to that time \$166.58, or 8 cents per pound live weight. The average cost of the grain made the third year was $12\frac{1}{2}$ cents per lb.

The estimated value of these animals was as follows: the first year, 5c per pound, \$45; the second year, $5\frac{1}{2}$ c per pound, \$86; the third year, 6c per pound, \$135. The estimated value of fertilizing produced was as follows: the first year \$12, second \$32, third \$60.

The account then for each year stands thus: 1st year—beef value \$45, manure \$12, total \$57; cost of producing this \$30.60, balance to profit \$26.40.

2nd year—Beef value \$88, manure \$32, total \$120; cost of feeding for 24 months \$85.33, balance to profit \$34.67.

3rd year—Beef value \$135, manure \$60, total \$195; cost of feeding for 36 months \$166.58, balance to profit \$28.42.

The profits then on feeding animals up to 3 years old is respectively: 1st year to 12 months, \$26.40; 2nd year to 24 months, \$34.67; 3rd year to 36 months, \$28.42.

The cost of producing store or lean cattle is very difficult to estimate, as no reliable data can be found to fix a basis of calculation upon.

Fair, good store steers should weigh at one year and a half or 18 months, say from 800 to 900 pounds and at 30 months from 1,100 to 1,200 pounds.

The estimated cost of producing store condition is usually nearly $\frac{1}{3}$ more than that of fattened condition, so that if a fattened animal cost the first year 3 4-10c. per pound, a lean animal would cost about $4\frac{1}{2}$ c. at say 18 months old, and at 30 months 7c. per pound.

The cost then of the animal at 18 months would be 900 pounds at $4\frac{1}{2}$ c., \$40.50.

The cost of the animal at 30 months would be, at 7c., 1,200 pounds, \$84.

The fertilizers or manure produced to 18 months would be \$15, and to 30 months about \$30.

The account would stand thus: store steer 18 months old, 900 pounds at 3c., \$27, value of fertilizers produced \$15, total \$42; cost of store steer at 18 months, 900 pounds at $4\frac{1}{2}$ c., \$40.50, balance to profit \$1.50.

Store steer 30 months old, 1,200 pounds at $3\frac{3}{4}$ c., \$45, manure produced \$30, total \$75; cost of raising store steer to 30 months, 1,200 pounds at 7c., \$84, balance to loss \$9.

The results of the calculation show that there is \$1.50 profit raising steers to 18 months old, and a loss of \$9 at 30 months old.

The cost of fattening a lean animal suitable for export will be based on the improved methods in practise and will be figured for a period of 6 months.

A good fattening ration can be made from ensilage, corn, hay, bran, shorts and oil cake, with a finishing up of grain, which takes the place of bran and shorts for one month.

A well balanced ration for feeding 1,000 pounds live weight can be made up of these articles for 13 to 14c. per day, or the average for 180 days of about 15c. per head, for a $1\frac{1}{2}$ year old steer, or 18c. per day for a $2\frac{1}{2}$ year old steer.

The first cost of a store steer at $1\frac{1}{2}$ years old is, as above reckoned, 3c. per pound for 900 lbs. live weight, and at $2\frac{1}{2}$ years old $3\frac{3}{4}$ c. for 1,100 lbs., and the increase made for the average of 180 days would be $2\frac{1}{2}$ lbs. per day, and the value of beef for one year old steer 5c. and for $2\frac{1}{2}$ years old $5\frac{1}{2}$ c.

The account reckoned on this basis would stand as follows: cost store animal at $1\frac{1}{2}$ years old, 900 pounds at 3c., \$27, cost feeding for 180 days \$27, labor and insurance, average 100 head, \$3, total \$57; by increase for 180 days, $2\frac{1}{2}$ pounds

per day, 495 pounds at 5c., \$22.77, value of original weight, 900 pounds at 5c. \$45, value of manure, 10c. per day, \$18, total \$85.77, balance to profit \$38.77.

Cost of store animal 2½ years, 1100 pounds at 3½c., \$41.25, cost of feeding 180 days at 18c. per day \$32.40, labor and insurance \$3, total \$76.65; increase of 540 pounds at 5½c. for 180 days \$29.70, value of original weight, 1100 pounds at 5½c., \$60.50; value of manure \$20, total \$110.20, balance to profit \$35.55.

In summing up from the three accounts we have the following results: profit of raising and fattening to 2 years old \$34.67, do 3 years old \$28.42; profit of feeding store cattle to 2 years old \$28.77, do 3 years old \$33.55; profit of raising store cattle to 1½ years old \$1.50, loss in raising store cattle to 2½ years old, \$9.

A glance at the above figures clearly demonstrates that the greatest profits are in feeding aged store cattle and the raising and fattening of young cattle—conditions, which the present cost of feed and market value of fat and lean cattle fully bears out. It also shows that while a profit of \$34.67 was made on a well raised and fattened steer to the age of 2 years, a direct loss of \$6.25 was incurred by continuing the feeding one year longer, or only \$28.42 was realized as a profit.

This statement also shows just the reverse of this condition in fattening aged store steers compared with those of 2 years old—a profit of \$28.77 per head and at 3 years old a profit of \$33.55, a difference in favor of feeding aged store cattle of \$4.78.

This demonstrates that the feeder of aged store cattle makes his profit from the loss of the breeder of those same store cattle and it also shows that store cattle are selling for less than they are worth or than they cost to produce.

I may be challenged to prove the correctness of these wonderful results, to which I may say—the figures or basis of calculation are the same in all the three accounts, and the results would not vary for the purpose of comparison even should the basis of calculation be too high or too low.

In arriving at a decision from the above accounts, there is but one answer to the question of shipping store cattle out of this country—it is an irreparable loss to the people and the country to do so, at any rate at prices at which they sell.

Counting that 50,000 store cattle were exported the past season and reckoning at \$30 per head on the average, a loss to Canada, and principally Ontario, of \$1,500,000 is incurred.

In view of the loss of fertility to the soil in not feeding these cattle and also in view of the low fertility of the older farming lands of this country by the selling of hay, grain, dairy produce as well as live stock, the importance of stopping this terrible leak in farming cannot be expressed in terms too severely.

Farmers should stop and think what they are doing, instead of robbing the plant food from the soil year after year. I beg of you to change front and put back in some form or other more phosphate, potash and nitrogen than you take from the soil in this way.

The value of these elements in a ton of hay is \$6; in a bushel of wheat 20c; bushel of oats 20c; of barley 19c; of Indian corn 18c; a lean animal of 1,000 lbs. \$15.

Where an animal or a bushel of grain is sold just as much of these valuable elements is removed, and to maintain the richness of the soil, the same amount of these elements of plant food must be returned in some form or other; for the sure marks of poor farming are crops getting less on the average each year, and the same proves true in the reverse, for in good farming the crops increase on the average each succeeding year.

There are only two ways of doing this; that is either adding more plant food each year than the crops take up in growing, or better systems of drainage. To accomplish the first of these two very important requirements it is necessary to raise and feed cattle and make use of large quantities of oil cake and bran, for in these two articles you get the surplus of nitrogen, phosphate and potash, and at the same time the cheapest and best feed to fatten cattle.

You will see every farmer get out of the country fat cattle on a number, which will raise all when every prosperity, grandeur and

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You will pardon me when I continue to emphasize the great importance to every farmer in this glorious Dominion of ours, to never let one lean animal go out of the country and instead of raising and shipping annually 60,000 heads of fat cattle out of the country, let us hope to see the export swell to ten times that number, when the export of lean cattle ceases to be known, when every farmer will raise all his calves and have them fat for market at from 1 to 1½ years old, when every farmer will liberally feed oil cake and bran, then shall dawn an era of prosperity, the extent of which none of us can measure through its magnitude, grandeur and importance.

Mr. A. F. Jury, speaking for a delegation from the Trades and Labor Union which waited on the Institute, referred to an article in the Kingston News, in which it was reported that at a Farmers' Institute meeting in the neighborhood of Kingston, the principle of assisted immigration was approved of as a means of improving the condition of the farmer by cheapening the labor he has to employ. This he characterised as an injustice to the working men already in the country and an altogether artificial means of improving the condition of the farmer. By lowering the taxes on what he has to buy and removing the restrictions on what he has to sell he could gain \$10 for every \$1 he would gain by cheapening farm labor by assisted immigration. The interests of all producers, farmers and trade men, were the same, and he asked the farmers to co-operate with them in opposition to any further expenditure by the Government in assisting immigrants to come over and compete with the laboring men of the country.

After some discussion, in which it was stated that one-third of all the inmates of our asylums and charitable institutions were assisted immigrants, it was moved by A. P. McDougald, seconded by G. E. Moberly, that this meeting disapproves of the principle of assisted immigration. Carried

The meeting adjourned at 6 p. m.

EVENING SESSION.

The following report of the Committee on Legislation was read and taken up clause by clause :

Your Committee on Legislation beg to report as follows :

1. We recommend that this Institute pass a resolution, unanimously if possible, urging the Dominion Government of whatever composition it may be after the approaching election, to promptly take all proper and possible steps to secure absolute free trade with the United States and England, believing that this would be of immense benefit to the Canadian farmer.

(One page of this report has been mislaid, containing

clauses 2, 3, 4 and 5.)

6. As to the subject of railway and ocean freights presented by Mr. Clarkson, we beg to recommend the matter for discussion to follow Mr. McEwing's paper on the subject.

7. We recommend that no action be taken on Mr. Breen's communication in reference to legislation in reference to lien notes.

8. We recommend that Messrs. Sproule and Breen's paper (clause 2) be discussed.

9. We recommend that Mr. McDougall's communication re Railway Act and Drainage Act be read and that Mr. McDougall be heard.

10. We recommend that as the points raised in the East Lambton Institute's communication are embodied in the 1st clause of our report separate consideration is unnecessary.

11. We recommend that the communication from Messrs. Whelihan & Wood, re farm lands inside corporations, be read and that the meeting consider the matter which we regard as important.

(Signed)

ALLEN PRINGLE.

Moved by Thomas A. Good, seconded by Wm. Wood, that clause 1 of the report be adopted.

A number of the members spoke on the subject, the majority advocating the removal of all trade restrictions.

The following was then moved by Allen Pringle, seconded by James Ewing, in addition to the first clause of the report, that, as absolute free trade with England and the United States would in the opinion of this Institute be a great benefit and relief to the farmers of Ontario and the Dominion in their present serious straits, this Institute would strongly urge every constituency here represented and every other in Canada, to return if possible at the approaching Dominion election members in favor of and pledged to support such trade relations irrespective of their political or party proclivities.

And resolved further that this Institute shall through its Executive memorialize the new government to take all proper and possible steps to secure such unrestricted trade with England and the United States.

About twenty of the members took part in the discussion.

The following amendment was moved by Mr. Redmond, seconded by Mr. Legge, that the first clause be amended, that instead of approving of free trade with the United States and England we approve of free trade relations with the United States in natural products and lines of manufactured goods of prime necessity to the consumers.*

It was moved in amendment to the amendment by H. P. Crosby, seconded by Mr. Riddell, that this Institute desires the largest possible reciprocal free trade with the United States consistent with our connection with the mother country and the financial obligations of our country.

On taking a vote the first clause with Mr. Pringle's resolution was carried by a large majority.

Clauses 2 to 8 inclusive were adopted.

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Moved by A. P. McDougald, seconded by C. M. Simmons, that the following be substituted for clause 9: That the Executive memorialize the House of Commons of Canada in Parliament assembled to amend the said General Railways Act, in such manner as shall place all railway lands under the jurisdiction of the several drainage laws of the different provinces. Carried.

The 10th and 11th clauses were adopted.

Moved by Mr. Gardiner, seconded by Mr. Whelihan that the following form part of the report of the committee on legislation: That whereas many farmers at the present time find that the lands wholly used for farming purposes lying within cities, towns and villages have become much depreciated in value and unprofitable by reason of the taxes in such urban municipalities and the continuance of such a condition of things would be unjust; be it therefore resolved that this grievance of a large number of farmers throughout this province be referred to the Legislative Committee of this Central Farmers' Institute, and respectfully requesting said committee to use their influence at the next session of the Provincial Legislature in promoting the passage of a Bill as a remedy for such grievance.

Moved by W. J. McNaughton, seconded by T. Lloyd Jones, that a vote of thanks be tendered, and is hereby tendered, to President Mills, of the Guelph College, for his invitation to this Institute to visit the College tomorrow, but decline the invitation as a body owing to the pressure of business. Carried.

Moved by J. B. Ewing, seconded by Daniel Black, that whereas the present Minister of Agriculture, the Hon. John Dryden, has established a new and improved system for distributing agricultural literature to the members of Farmers' Institutes, we desire to place on record our appreciation of Mr. Dryden's efforts in this matter. We also wish to tender a hearty vote of thanks to the Hon. John Carling for his promise to establish dairy schools in Ontario. Carried.

The following report of the Committee on the President's address was read:

To the members of the Central Farmers' Institute:

Gentlemen,—Your Committee on the President's address would recommend, that the same be published in the minutes. We commend the consideration of the several questions treated of therein the farmers of Ontario, more especially the sentiments contained in the following language: "We are now a power behind the throne, as we vote the fate of governments hangs on the balance, and just as we express ourselves at the polls the executives must yield to our demands. Intelligence has increased amongst the farmers, and to-day they feel that their power is being recognized in the land." We join with him in the hope that the farmers will declare at the ballot box that they will no longer tolerate combines, and that we will succeed in making Ontario one of the happiest and most prosperous countries under the sun.

Respectfully submitted,

JAMES COCHRANE,

Chairman.

On motion the report was adopted.

Moved by A. Gardiner, seconded by J. Douglas, that it is the opinion of this meeting that no man shall be appointed to act on more than one committee. Carried.

The following resolution was carried: Whereas it is generally acknowledged that the prohibition of the manufacture, importation and sale of wines, spirituous and malt liquors would greatly advance the morality, wealth and productive ability of the people of Canada; And whereas certain branches of the Christian Church are circulating petitions praying the Dominion Government that such a law be enacted; Be it resolved that we, the members of the Central Farmers' Institute in session, express our sympathy with and desire to encourage such legislation.

Adjourned at 10 p. m.

THURSDAY MORNING.

Business resumed at 9:30, the Vice-President in the chair.

Moved by Major Walker, seconded by Jas. Dixon, that the thanks of this Central Farmers' Institute meeting be tendered to the Mayor and Council of the City of Toronto for their courtesy in giving the free use of this hall for the Institute's annual meeting of 1891. Carried.

Moved by Major Walker, seconded by Samuel Hunter, that the thanks of this Central Farmers' Institute meeting be tendered to the Officials of the Railways which have extended their courtesy in giving cheap rates to the delegates attending this Institute. Carried.

Moved by James Dixon, seconded by A. P. McDougald, that we, the Central Farmers' Institute, approve of the action of the Dominion Government in issuing an order in council abolishing the small grain tester. Carried.

The following communication was read:

(CANADA LAND LAW AMENDMENT ASSOCIATION
TORONTO, FEB. 4, 1891.

NICHOLAS AWREY, Esq., M. L. A.,

President Central Farmers' Institute,

Victoria Hall, 53 Queen St. E., Toronto:

Dear Sir,—Permit me to call your attention, and that of the influential body over which you preside, to the importance of a speedy introduction of a more satisfactory system of land transfer than now exists in this province.

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It is believed that the Torren's system, which is now in operation in a portion of the province, accomplishes that purpose and provides a safe, speedy and inexpensive mode of transferring land.

So far as I am aware, there is nothing to prevent the application of that system to the province, provided the people demand it.

I take the liberty of enclosing herewith fifty copies of a pamphlet issued by this association for distribution among the members of your Institute; and respectfully suggest that the subject is one which will be well worth your consideration and active support.

I am, dear sir, yours truly,

J. HERBERT MASON, President.

Moved by W. McCrae, seconded by A. P. McDougald, that the communication re land transfer be referred to the Executive Committee to report at next meeting, and that the secretary obtain a sufficient number of circulars on the subject, one copy of such to be sent to the secretary of each local institute. Carried.

The question of the toll, which can be legally charged in roller mills, coming up it was moved by C. M. Simmons, seconded by W. McCrae, that the question laid on the table, re millers' toll, be referred to the Executive Committee to enquire as to the law with reference to the tolling of grists.

Moved in amendment by Robert Findlay, seconded by Jonathan Cross, that the Executive memorialize the Government to submit an Act regulating millers' exchange on the basis of the old gristing law. Carried.

Moved by J. F. Breen, seconded by William Irvine, that the thanks of the Institute be tendered to Dr. Smith, of the Ontario Veterinary College, Toronto, for his kindness in extending an invitation to the members of the Central Farmers' Institute to inspect the different courses of treatment pursued in the College; also for the agreeable manner in which the Dr. and students gave any information sought for; and a vote of thanks is tendered to them by this meeting to that effect. Carried.

Mr. Clarkson, not being prepared to go into the question of Railway Freight Rates, on motion the matter was referred to the Executive Committee.

The President, having arrived, took the chair.

Moved by Mr. Redmond, seconded by W. J. McNaughton, that whereas the cheese industry is one of great importance to the farmers of Ontario it is desirable to make more satisfactory arrangements between buyers and sellers. As most of the cheese in Eastern Ontario is sent by the way of Montreal, there to be inspected and weighed, in the opinion of this Institute the Dominion Government should appoint a competent person as inspector to whom all matters of dispute should be referred and whose decision should be final. Carried.

The following amendment, moved by Mr. Good, seconded by Mr. Clarkson, being lost: That whereas the Dairymen's Association have taken no action in the matter of the change in method of cheese inspection, this Institute does not deem it advisable to do so.

The Hon. John Dryden, Minister of Agriculture for Ontario, then addressed the meeting as follows:

Mr. President and Gentlemen,—I am very grateful to you for the kind and hearty reception you have given me. It is another indication of the sympathy extended to me in the work of my department by the farmers all over the country. I cannot but express the pleasure I feel in seeing so large a number of delegates present. I notice that with one or two exceptions every locality in the province is represented, and the deliberations of a body so representative as the present must receive attention, while their conclusions must be of great weight in the country. To one who observes the progress and development of the agricultural interest of this country, it must be pleasing indeed to notice the increasing interest manifested in our Farmers' Institutes. During the past year the membership in most districts has been multiplied. The attendance at the meetings has been larger than ever before, and this applies not to a few of the institutes only,—it has been general through all. In many parts of the country an unbounded enthusiasm has been manifested in these meetings during the season just closed. This is the report from all the delegates, and to my mind it indicates the dawn of better days for the farmer. It indicates that the farmers are largely becoming dissatisfied with the present results, and to some extent with the present methods. This is the first step towards progress, and will unquestionably be followed by a desire to learn how better results may be achieved. But this increasing interest in the institutes indicates further that the farmers are beginning more than ever before to display an interest in each other's welfare, and this is being followed by a desire to help one another. Farmers of every class should realize this. The farmers are unlike the manufacturers—their business relations are more closely connected with each other. The manufacturer, when he discovers some new process or invents some new article, is able to close the doors against others—there is positively no admittance to others—but the farmer has to work in the open field and in the light of the mid-day sun. Another thing, the farmer is obliged largely to pool his receipts; for instance, the wheat which he produces is not sent across the ocean in a vessel by itself but is thrown together in the elevator with that produced by the farmers of his district, and therefore the receipts he obtains for his product must be fixed by the average quality of the whole. I notice from the reports of the meetings published in the newspapers that Professor Saunders has been present and has urged the growth of two-rowed barley for the English market. It would not be enough for Mr. Rennie, Mr. Annis and Mr. Douglas to raise on their farms barley weighing 5½ lbs. to the bushel. Their grain has to be mixed with that produced by others, and what should be aimed at is to bring the average product up to the highest standard if we are to obtain the success we desire.

Then, again, the increasing interest taken in our institutes indicates that the farmers are beginning more than ever to respect themselves, or to put it in another way, to assert themselves and demand that their rights should be respected. This interest in one another is the first step which will lead, not only to uniform methods and uniform products, but also to greater unity of action. Through this unity they will be able to claim their rights in this perverse and crooked generation.

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All the world over great advancement is being made in agricultural pursuits at the present day. The man who denies this advancement is simply blind to obvious facts. If we mean to maintain our present position, it will not do for us to sit down and say that we have achieved all that is necessary: we must be prepared to move forward too, and keep pace with our competitors in all parts of the world. This age in which we live demands that there shall be, especially among our farmers, men who are prepared to put their best brains, their best thought and best judgment into their business. We heard in the early days that this was not necessary—that muscle only was needed—and that a man by mere strength and stupidity could do work in clearing off the original forest; but I venture to assert that this was not true even in those days, for the enterprising, thoughtful man would seldom chop down trees promiscuously, but in such a way as to form what are called wind-rows. The men who put thought into their business in those days succeeded infinitely better than those who undertook to do their work simply by muscular force—just as they do to-day; and if there was need for thought then, how much greater is the need for it now. The age demands not merely that men should think, but that they should have originality in their thought—in other words, that they should devise methods peculiarly suited to their special circumstances. They should not be mere copyists but diligent students of their surroundings. They should be men possessed of a large degree of common sense; men thoroughly trained and educated for their calling. I do not mean such education as floated men's minds in the air away above the ordinary things of this world and made them consider the every day affairs of this life too mean and low to be touched with their dainty fingers—that is not the kind of education needed by the farmer. They need an education which will fit them to make the most of themselves and the most of their chosen calling. Then they should be willing to conduct their farms on business principles and to adapt themselves to the various changes which were taking place around them. Every other class in the community was obliged to do this. The merchant does not conduct his business to-day in the manner he conducted it thirty years ago. He did not find it necessary then, for example, to put out a large and elaborate sign. No money, to speak of, was spent in advertising. It was sufficient for him to place outside his door a web of cotton, a broom, or a little codfish to show that it was a place where merchandise was sold. But the men who succeed in that line of business at the present day have to devise new methods and new plans for bringing their goods to the notice of the public.

Some enterprising merchants in this city thought they could not succeed unless they put the whole of the occupants of a farmyard into their front window—ducks, geese, turkeys, sucking pigs, etc. All ideas and methods that are no longer in accord with the times must be set aside. For instance, in the old times farmers were all desirous of keeping their pork and beef until the animals assumed elephantine proportions, but all that is now changed and we would have difficulty in disposing of such animals at all at present—a different animal is needed. Therefore we must change our products to suit the public taste if we are to be successful. The better qualities of mutton are now demanded, and the wise business farmer will seek to supply that demand. The Danes are now assuming a commanding position in the English market with butter because they have adopted better methods in its manufacture than other countries.

They were willing to prepare their article in such a matter as suited their customers. I hope to see the day when our friends over in England will not have to go to Denmark for their butter but when the farmers of Canada will be able to produce butter of such a standard as to command as good a price as any other country.

It seems to me that the times also demand men who are willing to act upon the teaching laid down by Dr. Franklin—that "honesty is the best policy." If we mean to retain our trade with Great Britain, for example, all kinds of sharp tricks and practices must be scouted. I don't believe our fruitgrowers are doing the best thing for themselves if they pack their apples so that the inferior ones all go to the centre of the barrel, while at the top and bottom is an article of superior quality. We ought to unite to frown down the man who practices dishonest methods—who palms off three pecks for a bushel, or seeks to pay a just debt of a dollar with seventy-five cents. The man who stoops to such things as these is hurting you and me as well as himself.

I think, too, the times demands more men as farmers who cultivate their own land. In some sections the practice of renting farms is a great curse to agriculture. The landlord who is not himself wealthy demands the last dollar of rent, and the tenant, who is frequently a man without capital or great skill, leases a farm for a number of years, and says to himself "I will get all I can out of the land in the time." Both these men with their clutches on the land soon bring it to a condition in which neither receives his proper portion of the returns. I shall hail with great delight the day when more farms are cultivated by their owners. With the land passing from father to son continued advancement would be the result.

Then, we need men who believe in their own business. There are too many who are disgusted with being farmers—who are always complaining and calling farming the meanest business on earth, and who would get out of it if they only could. I wish I could find some way of sending all these men off to Dakota, or some other out-of-the-way place, and let the vacancies be filled by men who really believe in the business and whose heart is in it. I believe in it myself, and I don't propose to hang my head because I follow it either. There is no necessity why I should. We need men who regard their calling as among the best on earth and who are not ashamed to hold up their heads among their fellow men.

It is because I believe that all these qualities are encouraged, either directly or indirectly, by the Institute that I hail with such delight the fact that they are increasing in influence, and as head of the Department of Agriculture for this Province, I am anxious to do all that can be done to help forward the movement. I am very grateful for the resolution passed yesterday in reference to the departure I have taken in furnishing the members of the Institutes directly with whatever literature it was possible to give them. I believe that this is one of the legitimate ways by which the government may assist the farmer, and I am glad to know that it meets with your entire approbation. As representatives of the different local Institutes, I want you to take back with you to your homes my fraternal greeting, and I would like you to say that we expect they will not stop when merely fifty members have been secured—just enough to lay

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claim to the grants given by the government and the county council—but that they will continually strive to make their Institute as efficient as possible, and as far reaching as possible in its beneficial results to the farmers in its vicinity. Your intention should be to cover your whole territory with meetings and to interest every farmer in institute work.

In conclusion let me say that whether you are fruit growers or dairy men, whether you are specially interested in the production of wheat or barley, peas or beef, mutton or pork, I want you to take with you to the Farmers' Institutes all over the province this motto: 'The best quality in the greatest quantity and at the lowest possible cost.' When you master this problem, when you are able to say, 'We produce as good a quality as is produced anywhere else and in as large quantities and with as small an outlay,' no person will have the right to maintain that you shall not market your produce wherever the greatest demand for it exists and wherever the highest price may be obtained. (Applause).

A unanimous vote of thanks was then tendered to Hon. Mr. Dryden for his address.

The following report of the committee on school text books was then read:

To the President and Members of the Central Farmers' Institute:

Gentlemen,—Your special committee, to whom was referred the question of the use of agricultural text books in the rural schools, beg leave to report:

Believing that the time has come when the study of the elementary principles of good farming should constitute a part of the training of every pupil educated in our rural public schools, we, the members of the Central Farmers' Institute, recommend to the Honorable the Minister of Education and the Honorable the Minister of Agriculture that the elementary principles of agriculture be made a subject of compulsory study in all public schools of Ontario in rural sections, and that agriculture be made a necessary subject of examination for all teachers desiring to have certificates qualifying them to teach in public schools.

All of which is respectfully submitted.

THOS. LLOYD JONES,

Chairman

Moved by Mr. Kells, seconded by Mr. Pringle, that the report be adopted. Carried.

The president, in referring to a proposition by the fruit growers to request the Dominion Government to appoint an inspector, whose duty it shall be to inspect all fruit before being sent to the Old Country markets, said: I would like this Institute to appoint two or three men to go with the members of the Fruit Growers' Association to Ottawa to press upon the Dominion Government the necessity of appointing such an inspector. It means an important addition to our revenue if we can establish as high a character for our apples as we have for our cheese in the Old Country market.

Mr. Pringle and Mr. Wilson spoke briefly advocating the appointment of an inspector.

Mr. A. H. Pettit, in speaking of the matter and the position of the fruit grower here, said: If the fruit grower wishes to make a contract for 1000, what is his position? He makes a bargain that the fruit shall be first class, but when it arrives prices have dropped and the dealer says they are not first class, and, by not having them inspected and branded before leaving, the fruit grower is placed at a great disadvantage. Our aim and object should be to raise the standard of our products. The consumer is willing to pay for first class goods if he can get them. Every grower knows how to pack apples and he knows what is a first class apple; he knows it is an apple of medium size of the kind, clean, free from scabs, worm holes and all that kind of thing. I say let the growers pack their fruit and let us have it branded so that Canadian apples will be known as Canadian apples wherever they go, and then the grower will receive the value of his goods.

A number of the members spoke advocating the appointment of an inspector and the advisability of securing uniformity and the highest possible quality of Canadian fruit shipped to Great Britain.

Moved by W. McNaughton, seconded by D. Black, that this institute appoint the president, Mr. N. Awrey, M. P. P., and the secretary, Mr. Pettit, as delegates from the Central Farmers' Institute to accompany the delegates of the Fruit Growers Association to wait upon the Dominion Government with regard to the appointment of an Inspector of Fruit. Carried.

The meeting adjourned at 12:20.

AFTERNOON SESSION.

Business resumed at 2:30, the vice-president in the chair.

The following was allowed to stand as a notice of motion for next meeting:

Moved by Wm. Irvine, seconded by John Douglas, that this institute is of the opinion that in the annual election of officers of the Central Farmers' Institute the nominations be made on the first day of meeting, and that the election be held on the forenoon of the last day.

Moved by Mr. Legge, seconded by Mr. Fair, that the Provincial Government for a great many years past has given a liberal amount of money to assist in giving provincial prizes to be competed for at the Provincial Exhibition, amounting to about \$5,000, but, owing to no fair of that nature now being held, that amount has not been drawn.

Be it resolved, that the delegates of this Central Farmers' Institute assembled here respectfully request that the Honorable Minister of Agri-

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culture have that amount (\$5,000), formerly given to the Agricultural and Arts Association, be distributed among the county and large central exhibitions, so that prizes of a provincial nature, either medals or as may be directed, may be given on live stock as the directors of the different associations may direct; and that a copy of this resolution be forwarded to the Hon. Mr. Dryden, the Minister of Agriculture for the province, for his consideration.

Moved in amendment by Wm. Irvine, seconded by Thos. Brown, that as this matter requires serious consideration it be laid on the table for discussion at the next meeting of the Central Farmers' Institute. Carried.

The following report of the committee on the vice-president's report was read:

Your committee beg leave to report as follows: That it appears the deputation sent to Ottawa to support Mr. Clark Wallace's Anti-Combines Bill, faithfully performed their duty, and as it would appear from the report of the deputation that the Bill, having passed the House of Commons, went before the senate and that body effectively destroyed its usefulness by inserting the words "unduly and unreasonably." Your committee would recommend to your consideration the necessity of having an obstructive body such as the senate has proved itself to be removed from the path of progressive legislation.

Your committee would also beg leave to direct your attention to the fact that this Institute one year ago passed a resolution asking the Dominion Government to place upon the free list any article upon which there is reasonably fair evidence obtained that there is a combine or trust formed with the object of enhancing its price. And we would recommend that this Institute re-affirm its confidence in that proposal as being an effectual means for the prevention of trusts and combines.

All of which is respectfully submitted.

JAMES McEWING,

Chairman.

On motion the report was adopted as read.

Moved by Wm. Haycock, seconded by J. P. Redmond, that it is the opinion of this Central Farmers' Institute that the Dominion Government should place an export duty on ashes, bones and bone dust, to prevent valuable fertilizers from leaving the country.

Mr. Haycock—In trying to purchase ashes to use as fertilizers I have often been unable to do so. Though I would be willing to give as much for them as the Americans give, I would be told that the contract was made and so I could not have them. Ashes, in my opinion, should not be taken out of the country at all. A great many people are not aware of their value, and I think it would be no more than right to ask the Government to put an export duty on them that would prohibit their leaving the country.

Several members spoke regarding the matter, some advocating the export duty, and others claiming that the proper way was to educate the farmers up to a knowledge of the value of wood ashes as fertilizers, when there would be no necessity for the export duty.

On putting it to a vote the motion was lost.

Moved by Mr. McNaughton, seconded by Mr. Black, that Messrs. J. K. McMichael and G. C. Caston be added to the fruit delegation. Carried.

Moved by Thos. A. Good, seconded by W. McCrae, that the thanks of this Institute be tendered to the representatives of the Toronto papers for the faithful and full reports given of our proceedings, and the attention shown by them to our meetings. Carried.

Mr. D. E. Smith read the following paper on :

WINTER DAIRYING.

Mr. Chairman and Gentlemen,—It was with feelings of regret that I heard of the absence of Mr. T. Ballantyne, M. P. P., Stratford, and Mr. H. Nixon, St. George, who were to give papers on this very important subject. When I was requested this forenoon to make some remarks on it I felt that I could not do justice to it without a much more thorough preparation than was possible in the short time allotted to me, so that, gentlemen, you will take this into consideration and add words of wisdom and intelligence to the few remarks that I am about to make. Thus we may get a clearer, a more practical, and a more intelligent idea of an industry that bids fair to become a strong factor in our nation's prosperity.

I am heartily in sympathy with any and every movement that will encourage winter dairying, and I firmly believe that it is one of the pillars upon which must rest the future wealth and prosperity of Ontario, and, in fact, of our whole Dominion. There are many industries of vital importance to our country's welfare, and we have plenty of room for them all and I have no word of discouragement for any of them, but would be pleased to see them all encouraged and advanced, however, I am free to say that in our Province of Ontario, where our lands have been depleted of their richness by grain growing for so many years, it becomes us, as farmers, to consider how our lands may regain that fertility which they in years gone by so fully possessed, and which they so bountifully gave up to the thoughtless tiller of the soil.

My experience and observation bear me out in saying that winter dairying will do more to restore the fertility of the soil than any or all other agencies within our reach. Let us consider this question of winter dairying for a few minutes and first let me say, it does not impoverish the land. Grain growing, stock raising for sale, and most other produce from the farm take away an amount of richness and fertility of the soil that must be replaced if good results are desired, but this is not the case with butter. It makes no difference how much is taken away there still remains an endless supply and it is simply impossible to exhaust the material which goes to make butter, so that in this respect we have a gain without any loss. It is a means of enriching our soil. All the energy that the plant derives from the sun, all the strength it gets from the atmosphere and all the material it takes from the soil are consumed on the farm, together with some grains or other material that in many cases is bought to increase the butter production. These all in the form of manure are put on the land and so enrich it that better results are obtained, and our farms are put in a better condition.

It is done when farmers have most spare time. During the winter season farmers as a rule, have more spare time and thus without additional expense can spend a few hours in giving better attention to their milch cows and the result will be that their stock will do better and it will bring in some ready cash at a time that it is often badly needed.

It pays well if a good article is made. Without considering the advantages derived from enriching the land and giving the farmers employment that betters the condition of his stock, it is useful to know that money is and can be made out of butter making in winter, but there is one point that has been a great hindrance and that is that an inferior article is made by so many farmers. The quality of

butter in Canada there is also a fall in the price and general markets. England it, but they will buy butter, hence the price for it, we and I am glad of this product, a great impetus.

Cheaper production of butter with the silo and best feeds for dairy and the result of superior quality.

I will endeavoring \$1, seed load (½ value of \$7.50, total \$2 actual cost of an acre, so that a page would be free per day. This ration and the it would run from and clover hay.

Then in condition, can obtain a sufficient and add to the cost.

Moved by of this meeting on the subject

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Mr. Smith—

butter in Canada has been so uneven that whilst we have much good butter made there is also a large quantity of inferior quality and that in a great degree fixes the price and gives us a bad reputation not only at home but also in the British markets. England wants our good butter and is willing to pay a good price for it, but they will not buy it and run the risk of getting also some of our bad butter, hence the low price there of Canadian butter. Denmark, on the other hand is sending a large quantity of excellent butter to England and getting a good price for it, we have a good market there but we must send only a superior article and I am glad to know that our governments are taking steps to better the quality of this product, and in the near future we can hope that this industry will receive a great impetus and thus add to our wealth and prosperity.

Cheaper production necessary. The raising of corn and silo have come at a very opportune time and will add materially to the profit derived from the production of butter during the winter season. We have had three year's experience with the silo and consider corn ensilage the cheapest, healthiest and one of the best feeds for dairy cattle. Dairy cattle can be fed at almost half the expense on it and the results with us have been a large quantity of good milk and the butter of superior quality.

I will endeavor to count the cost of one acre of corn. Ploughing \$1.50, harrowing \$1, seed 34c., scuffling and hoeing \$4, rent \$3, manure (20 loads) at 50c. a load ($\frac{2}{3}$ value of manure on first crop) \$6.66, harvesting and putting into silo \$7.50, total \$24. Value of manure from this acre of corn \$5, thus leaving the actual cost of an acre \$19. The average crop of corn is from 16 to 20 tons per acre, so that a price per ton would be from \$1 to \$1.25, a day's feed of this ensilage would be from 40 to 50 pounds and the cost would thus be from $2\frac{1}{2}$ to 3 cents per day. This mixed with bran, pea meal and clover hay gives an evenly balanced ration and the cost per day would be from 10 to 14 cents whilst on ordinary feed it would run from 18 to 22 cents per day. Our young stock grew well on ensilage and clover hay and the cost is only about 4 to 6 cents per day.

Then in conclusion, I would say that with corn ensilage we can make a good profit out of winter dairying, can keep our stock in a more healthy and vigorous condition, can enrich our farms, and in addition to these advantages we can obtain a sufficient income to make our homes more cheerful, our families happier, and add to the country's prosperity.

Moved by A. P. McDougald, seconded by W. McCrae, that the thanks of this meeting be tendered to Mr. Smith for his able and instructive paper on the subject of winter dairying. Carried.

Question—In sowing the corn from which you got 20 tons to the acre, how much seed per acre did you sow?

Mr. Smith—We find 10 quarts plenty. We tried Yellow Southern, but found it not satisfactory; we tried Red Cob Ensilage, but found it also unsatisfactory. The Giant Prolific we found satisfactory for one year but not since. Since that we used Compton's Early.

Mr. Pringle—When you refer to our Canadian variety you say you find them best. Are there any Canadian varieties that would not mature?

Mr. Smith—I use that word Canadian for varieties that are raised in Canada for the corn.

Question—What distance apart have you this corn in the rows?

Mr. Smith—35 inches and from 5 to 6 inches apart in the row.

Moved by Major Walker, seconded by E. Lee, that this Central Farmers' Institute meeting petition the Provincial Government that they think it would be to the advantage of the province at large if the government would send out seed grain for the purpose of testing to the different institutes throughout this province so that different parts of the province could have a chance to procure a change of seed; the farmers who receive such grain from the institute to keep a report of the mode of soil, cultivation and so forth, the quantity to be sent to each institute to be not less than two bushels. Carried.

Moved by H. P. Crosby, seconded by Wm. Riddell, that a vote of thanks is deservedly due and is hereby tendered to the President of this Institute for the able and courteous manner of conducting the meetings of this association during the present session. (Carried unanimously.)

A resolution advocating the consolidation of the three voters' lists now in use in the province into one was withdrawn by the mover; a number of the members having left it was not considered advisable to go into the matter. It was consequently laid over for next year.

After singing the national anthem the meeting adjourned at 4:15.

LIST OF FARMERS' INSTITUTES IN ONTARIO, WITH SECRETARIES FOR THE YEAR 1891.

ELECTORAL DISTRICT.	SECRETARY'S NAME.	P. O. ADDRESS.
Addington	J B Aylesworth	Newburgh.
Brant N	Henry R Nixon	St. George.
Brant S	Thos A Good	Brantford.
Brockville	Bethuel Loverin	Athens.
Bruce C	Wm Bowes	Pinkerton.
Bruce N	John Douglas	Tara.
Bruce S	Jas A Lamb	Walkerton.
Carleton	R H Grant	Hazeldean.
Dufferin	George Island	Orangeville.
Durham E	W H McCallum	Dale.
Durham W	Benjamin Werry	Bowmanville.
Elgin E	J C Dance	Kingsmill.
Elgin W	Daniel Black	Iona Station.
Essex S	D W Canfield	Kingsville.
Essex N	N J Clinton	Windsor.
Frontenac	Alexander Ritchie	Inverary.
Glengary	W J McNaughton	Lancaster.
Greenville S	W H Thompson	Pittston.
Grey C	J L Graham	Vandeleur.
Grey N	Thos Gordon	Owen Sound.
Grey S	George Binnie	Bunessan.
Haldimand	Charles Walker	Cayuga.
Halton	A. W. Peart	Freeman.

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Lambton E.
Lanark N.
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Leeds S.
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Lincoln.
Middlesex N.
Middlesex W.
Middlesex E.
Monck.
Norfolk N.
Norfolk S.
Northumberland
Northumberland
Ontario N.
Ontario S.
Oxford N.
Oxford S.
Peel.
Peterboro E.
Peterboro W.
Prince Edward.
Perth S.
Perth N.
Renfrew S.
Russell.
Simcoe S.
Simcoe W.
Simcoe C.
Storont.
Victoria E.
Victoria S.
Waterloo S.
Waterloo N.
Welland.
Wellington C.
Wellington S.
Wellington W.
Wellington E.
Wentworth N.
Wentworth S.
York E.
York N.
York W.

Huron E.	William Bishop	Brussels.
Huron S.	John Hannah	Seaforth.
Huron W.	C. J. S. Naftel	Goderich.
Hastings E.	John Stokes	Thomasburg.
Kent E.	A. J. Campbell	Thamesville.
Kent W.	Albert Dyke	North Buxton.
Lambton E.	Joseph Osborne	Wyoming.
Lanark N.	John Steele	Bennie's Corners.
Lanark S.	George Oliver	Perth.
Leeds S.	Freeman Britton	Gananoque.
Lennox	Marshall Bogart	Napanee.
Lincoln	Rolland W Gregory	St. Catharines.
Middlesex N.	Archibald Campbell	Parkhill.
Middlesex W.	Angus McTaggart	Appin.
Middlesex E.	Thomas Baty	Wilton Grove.
Monck	Dilly C Holmes	Wellandport.
Norfolk N.	Frank L Culver	Waterford.
Norfolk S.	H Glazebrook	Simcoe.
Northumberland E.	J B Ewing	Dartford.
Northumberland W.	R Cullis	Camborne.
Ontario N.	James Anderson	Strathallen.
Ontario S.	Ellesworth Annis	Oshawa.
Oxford N.	F S Malcolm	Innerkip.
Oxford S.	M S Schell	Woodstock.
Peel	D E Smith	Churchville.
Peterboro E.	J W Clark	Norwood.
Peterboro W.	John A Davidson	Peterboro.
Prince Edward	Benjamin Storey	Picton.
Perth S.	P S Armstrong	St Mary's.
Perth N.	William Keith	Listowel.
Renfrew S.	John Park	Renfrew.
Russell	W R Craig	Russell.
Simcoe S.	H Beverley Jeffs	Bondhead.
Simcoe W.	W A Fullong	Nottawa.
Simcoe C.	G C Caston	Craighurst.
Stormont	C W Young	Cornwall.
Victoria E.	William Thurston	Bobcaygeon.
Victoria S.	James Keith	Lindsay.
Waterloo S.	William Cowan	Galt.
Waterloo N.	Allen Shantz	Waterloo.
Welland	E Morden	Niagara Falls South.
Wellington C.	George Wright	Elora.
Wellington S.	W J Cockburn	Aberfoyle.
Wellington W.	James McEwing	Drayton.
Wellington E.	Dr H P Yeomans	Mt Forest.
Wentworth N.	Joseph Stephenson	Freelton.
Wentworth S.	Erland Lee	Stoney Creek.
York E.	T M Whitesides	Ellestmere.
York N.	R W Phillips	Newmarket.
York W.	R L Crawford	Richview.