

HOW THEY MAKE MONEY ON FARMING

Instructive Address Delivered by Prof. Hays Before Ontario Experimental Union

At a meeting of the Ontario Experimental Union held recently, Prof. Hays, assistant secretary for agriculture of the United States delivered an address a summary of which taken from the Toronto Globe, is as follows:

The feature at the Experimental Union was the illustrated lecture by Prof. W. M. Hays, assistant secretary of agriculture for the United States, on "The Improvement of Plants and Animals." His introductory remarks he noted that in the matter of exchanging ideas on the progress of agricultural science there was the fullest reciprocity, between Canada and the United States. The greatest work being achieved by the Ontario Agricultural Union was recognized by the Experimental Union as one of the brightest stars in the whole realm of agricultural organization throughout the world. Co-operation, and the labor of the individual in the matter of agriculture was an absolute necessity if the farm and the farm home were to be retained to the farmer, and the modern tendency to centralize all industries in the hands of the few.

SCIENTIFIC SELECTION

In the development of plant life and animal life the experience of the past few decades has shown that the most improvements could be achieved through scientific selection and breeding. New varieties and even new species were being continually evolved, and products were being produced of a higher quality and greater efficiency. Breeders of animals and breeders of plants were slowly learning that most supremely important fact, that among the choicest individuals of a species, breed or variety, there is an occasional animal or plant with very marked power to project his or her superior character into the generation of his or her progeny, and that such individuals, or a small group of such individuals, may thus be used as the progenitor of an improved breed or variety. Experiences and even new species arise as if by magic. This was the great basic principle underlying modern progress in the science of agriculture and its allied industries.

ILLUSTRATIVE WEALTH IN IMPROVEMENT

"The province of Ontario and the state of Minnesota," said Prof. Hays, "have each some ten million acres of crops, which may be improved by modern methods of breeding, not including wild rice and most forest crops. These breadable crops, at ten dollars per acre, are worth \$100,000,000 annually. Ontario and Minnesota have in point of time in developing state plant breeding establishments and in proving two facts of mighty import to these commonwealths and to the world. The first of these facts is that the wheat and corn crops can be so improved in their powers of heredity that they will yield twenty-five per cent more value per acre. The second of these facts is that the available land can be so completely developed at a cost of one-tenth of one per cent of the increased value of the crop." Prof. Hays proceeded to apply these statistics to the provinces of Ontario and Minnesota, twice the length of time the experimental station at Guelph had been at work, there would be a 25 per cent increase in the value of Ontario crops to \$25,000,000,000 annually. The cost of that increase, or a one thousandth part, would be \$25,000,000 annually, leaving a net profit to the province of \$24,750,000,000. If these figures were based on sound evidence they represented an economic enterprise of more concern to legislators than any other of the present time. It would be a matter of producing only one-tenth of the increased production. And such a proposition would be set upon with the utmost avidity by any great transportation or manufacturing enterprise.

PROFITS IN PLANTS

In proof of this thesis Professor Hays gave facts and figures to demonstrate the enormous profits arising from scientific plant-breeding. Twenty years ago the Ontario Experimental Union began the work of improving the field crops of the province. Nearly the whole range of the staple field crops was attacked, the workers devising their own methods. At the Ontario Agricultural College experimental farm about 2,000 varieties of field crops had been raised. The greatest improvement followed by the persistent improvement of seed selection of those varieties proving best, and by the yearly distribution through the union of the latest and best improved stocks. Taking only a few instances of the results the following figures were cited. By the introduction of Siberian wheat the average yield had been increased from 71 to 85 bushels per acre, an increase of 20 per cent. By the introduction of the Manchurian barley the increase over the average yield from the former best variety was 10 per cent. The production of Dawson golden chaff winter wheat meant an increased yield of 11 per cent. The experiments with potatoes and the evolution of the Empire State variety gave an increased average yield of 10 per cent. Government returns showed that for the ten-year period from 1887-96 the average yield of winter wheat in Ontario was 19.2 bushels per acre; for the next decade the average yield was 21.7 bushels per acre. In barley during the same two periods the average yields were 24.8 bushels per acre during the first decade and 30.6 bushels per acre during the last decade. It must be further recognized that not only have the yields been materially increased, but that the oft-mentioned gradual increase of yield of twenty to fifty years ago have been turned to a sharp increase in yields per acre. In Ontario winter wheat, barley and oats occupied about four million acres. By applying the tables showing the increased yields, as noted above, it would be seen that the aggregate increased value of annual crops was \$4,000,000 per annum. Assuming that half of this was due to the improved varieties distributed, and the other half to better farming, there remained \$4,000,000 per annum of \$40,000,000 for the ten-year period to represent the increased value from the work of the union. And this represented only a part of the work of experimental agriculture conducted. The cost during the past decade of all the work on all kinds of crops which might prop-

erly be charged to the improvement of field crops had been under \$40,000, well within one-tenth of one per cent of the improvements perfected.

Work Pays Fabulously Prof. Hays also took up the case of Minnesota, showing by government returns that similar splendid results had been achieved. "The prominent fact that stands out for the new century to deal with," he said, "is that this work pays fabulously. The experimental stations and departments of agriculture, which see clearly this rising proof of the immense profit to all the people from the expenditure of public money should be economists enough to rapidly broaden out their plans to meet the situation in its largeness. When legislative bodies see clearly that those most experienced in plant-breeding under public expenditure now see, they will be ready and eager to finance their work."

For the better carrying out of this work Prof. Hays urged greater co-operation between the government and individual experimenters, greater organization and co-operation in the exchange of ideas, and in the sub-division of labor among the different bodies undertaking the work, and more perfect methods of procedure.

ANNUAL BREEDING

In regard to the evolution of animal breeding, he urged that it must be done on a broader basis, or it could not keep up with the creative work already assured in plant-breeding. Since the world was no longer satisfied to be content with the products of the province or provincial way, those interested in problems of breeding animals rightly looked to larger units than the present local book associations and the individual breeders in their efforts at creation.

ENDEAVORS TO AROUSE DOMANT PUBLIC SENSE

Dr. Darlington Talks of Ravages of Tuberculosis in United States

Boston, Dec. 19.—At a conference of the Twentieth Century Club tonight, under the auspices of the Boston Association for the Relief and Control of Tuberculosis, Dr. Thomas Darlington, commissioner of health of New York city, delivered an address on "The Duty of the Municipality and State in the Prevention of Tuberculosis."

Dr. Darlington said in part: "It has been estimated that 400 people die every day in the United States from this disease. Were we in the midst of a devastating war, a battle every day leaving the field strewn with 400 men of the type of our daily papers would prove inadequate in size to emphasize the horrors of the calamity. The country would rise in its might and demand that the carriage disease, this cancer is premeditated, for the disease is preventable and could be entirely eradicated. A dormant public sense can be no excuse for evading our individual responsibility."

BRANDON MAN LEASES THE IMPERIAL HOTEL

Will Remodel Interior and Fit Up a First Class House

The advent of 1907 will witness the opening of the Imperial hotel, a lease of which was secured yesterday by Duncan McKinnon, formerly of Brandon. It will be entirely refurnished and generally all the furniture required is being purchased in this city, a large amount being provided by the B. C. Furniture company. The new proprietor, who has long been engaged with the public and will bring expert methods into play in his new investment. Among other enterprises of a similar character in which he has engaged, he is now remodeling the Imperial hotel in Brandon and several others in the prairie provinces. He expects to be ready for business by Jan. 1, and will for the time being conduct the hotel on the European plan. He stated yesterday that the number of people from the prairie coming here was so great that he anticipated keeping the hotel reasonably full all the time with this class of visitors alone.

REMODELING VERNON BLOCK

Under the direction of W. Ridgeway Wilson a large number of mechanics are remodeling the ground floor of the Vernon block. The alterations have been completed and a new arrival in the city, and two other stores have been rented. One will be occupied by W. H. Adams, the sporting goods dealer, who is contemplating leaving his present location in the Adelphi block, and the other by a new real estate firm. Nothing will be done towards adding an additional story to the Vernon block, as the figure previously mentioned in the Victoria Standard on the vacant View street lot for a month at least, but when the work is commenced both the present upper storeys will be entirely remodelled.

SEALER SAILS

The sealing schooner Victoria, Captain A. B. Whidden, the first of the vessels of the Victoria Sealing Company to get to sea sailed Wednesday from James Bay, where the vessel had been anchored for some days. The Victoria has a full complement of white hunters, and has been outfitted for a nine months' cruise. She will proceed to the southern coast to follow the seal herds north, and will then proceed, at the close of the coast season, to the Copper Island grounds, and, in August next, to Behring Sea.

IN SOUTHERN SEAS

Steamer Arangi brought news of the loss of the French bark Montello, on Kangaroo island, the crew having a narrow escape. The men remained huddled on the wreck while the masts came down until daylight. At daylight sailors carried a line ashore with difficulty and all were rescued by a breeches buoy. Louis Yrebot acted heroically. After falling twice the backwash lifted him, cut and bleeding, on a rock and he managed to make fast a small line with which a larger was brought ashore. A settler found the survivors camped in an abandoned hut, without food and suffering, and he secured wagons and took them to the nearest village, where they were successfully rescued.

Gossip of the Market

In addition to a number of smaller sales the B. C. Land and Investment Agency yesterday sold 1.2 acres in the Fairfield block and a house and lot on Pandora street. The latter was purchased by a local man. Extensive alterations will be made by Pemberton & Son in the ground floor of the Sehl building immediately after the

MUMM'S CHAMPAGNE PITHER & LEISER Sole Agents 280

NOTICE RAYMOND & SONS 7 PANDORA STREET

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NOTICE is hereby give that 30 days after date I intend to apply to the Honorable Chief Commissioner of Lands and Works for special license to cut away timber from the following described lands, situated in Uchuckest Harbor, Chayooon District.

WOMEN'S CHRISTMAS SLIPPERS WOMEN'S DONGOLA TWO-STRAP AND BOW SLIPPER, turn sole, per pair \$1.75

WOMEN'S CHRISTMAS SLIPPERS MISSES' PATENT COLT PUMP SLIPPERS, with ankle strap, turn sole and bow, the latest cut, per pair \$2.50

DAVID SPENCER, LTD. THE GREAT EMPORIUM OF THE GREAT WEST

Do Not Be Confused! Avoid unnecessary rush and hurry in the selection of your Xmas Gifts? Complete them Today! Only 4 Shopping Days Remain!

Dainty and Serviceable Gifts for the Gentler Sex

- Gloves for Ladies LADIES' EVENING GLOVES, glace and suede, white and pastel, per pair, from \$1.75 to \$1.75 LADIES' EVENING GLOVES, silk, cream and white, per pair, \$1.50, \$1.35 and \$1.00

Choice Silk Waists for Evening Wear Special Consignment for the Xmas Trade

- PEARL GREY SILK WAISTS—Three large tucks on either side of front, with two rows of buttons to finish pleats, yoke forming V-front, made of rose print lace, elbow sleeves finished with fancy cuff of silk and lace. Price, \$17.50

Slippers—Dainty and Serviceable

- WOMEN'S CHRISTMAS SLIPPERS WOMEN'S DONGOLA TWO-STRAP AND BOW SLIPPER, turn sole, per pair \$1.75 WOMEN'S DONGOLA KID COMMON-SENSE ONE-STRAP SLIPPERS, per pair \$1.50

Gifts That Are Fragrant Please!

- In perfumes generally we possess a good stock of all reputable manufacturers, such as Grossmith, etc. In good glass bottles, daintily completed with fancy ribbon and packed in fancy boxes. Prices range from \$4.50 down to 50c.

No Department Can Appeal More to a Man's Heart than our Gents' Furnishings Department

- Here there are Serviceable Gifts that must of necessity please the sterner sex Men's and Boys' Sox SILK SOX for evening wear, at per pair, \$1.75, \$1.50, \$1.25 and \$1.00

Be Sure To Refresh Yourself Amidst the abundance of pleasures, in our Oriental Tea Room, 3rd floor. Whist there it will profit you to spend much time in our Bazaar and Fancy Goods Fair. Keep before you "Our" Calendars and Xmas Cards.

VOL. XLVII R. P. RITHEH SA... AS TO VICTOR... FUTURE... Notes General Improv... His Return From... Francisco... TALKS OF LAND CLEARING... Will Prove a Boon in... the Interests of Van... Island as a Wh... "The establishment of... on the west coast of Vancouver... will in no way interfere with... special advancement of the... marked E. P. Ritheh, one... prominent pioneer merchant... yesterday. For the past se... Mr. Ritheh has been in Sa... During his absence, he s... have been many improvem... conditions prevailing thro... ish Columbia. Naturally... much interested in the de... the island, and it was i... question as to his opinio... of the projected C. E. R... point in the vicinity of Se... across to the neighborhood... that he made the statement... ed. He supplemented his p... that if local business m... capable of sufficient enterpr... and his own possible... standing once such a rail... operation on the Island, "t... ter go out of existence." "Thinks Ferris Will B... "Why, of course we mu... every communication with... land," he said, "if thoug... very short time there wou... modernly-equipped ferry... waters which separate th... the other sections of the... though he did not believe... try has yet been sufficient... to warrant the construction... at the narrows, be thoug... and his own possible... means of a complete satisfact... regards the freight and tra... illustrating the point of... ment, he pointed to the de... ed by the railways of Call... eral of them crossed the... means of ferries. These... the line as for the pass... experience had been that t... the change, being able to... and take pleasure from th... service for a few hours... if the narrows were ferried... the service would give eq... tion. It would amount, in... to practically the same... bridge. Recalls British Pacific... Mr. Ritheh recalled that... or eight years ago he and... strongly advocated what... known as the British Pac... scheme. It provided for... the British Pacific, and... inlet, thence by means of... Island, and the continuance... road to Victoria and the... had that project, he conten... the support of the provin... titled it, the province wou... ahead of its present sta... ment. Apparently the C... decided to build over the... and he believes that it was... on their part. Such a lin... would open up an immense... mineral and agricultural res... Providing his own particu... ports and the general ind... correct, there could be no... C. P. R. intended construct... way by way of the Yellow... outlet to the United States... not pay to allow the coun... the south of the 49th paral... millions and millions of pe... neglected. There will be fo... for large quantities of... of this part of the West... grounds Mr. Ritheh claimed... situation of Victoria was su... make it impossible for her... looked in the future growth... ince. In his own words, p... Island was given railways... up so that capital might ta... the development of its most... the capital city of the... could be dependent upon to... become a commercial cen... which would be received a la... of the Oriental and Oth... silk-spun toe and heel, at... increasing trade with the... would have to pass. The Land Clearing So... Respecting the important... ment made recently by J... land commissioner of the C... the effect of the \$10,000,000... spent in clearing different... Vancouver Island's agricul... the near future, he thought... every way feasible. When... of the provincial legislature... ago, he had advocated that... meet procure a number of stu...