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A Plan for a Provincial School of Agriculture.

In the issue of February 5th, a School of Agriculture was mentioned as a pressing need of this Province, and reasons why advanced, the statement being made that the education given by such an institution should be of a practical nature, something that would be of everyday use to the progressive agriculturist, whether old or young. While the need is evident, judged by the thirst for agricultural knowledge evinced by so many of our best farmers, witness the motions in favor of such an institution by the various agricultural societies, Farmers' Institutes, municipal councils, and even boards of trade.

The question of ways and means is of vital importance, and one that needs careful consideration, because the scheme for establishing such a school must be as practical as the school itself before any government can be expected to take it up. In drafting the scheme herewith submitted, we have endeavored to make a careful study of the various Agricultural College courses of the continent, and to keep in mind the conditions of this Province, and while necessarily imperfect, the general outline will, we believe, commend itself to the Government and to the up-to-date farmers of the Province. We may at once assume that the initial outlay will be considerably larger than that needed annually; in fact, it can be stated broadly that whereas an agricultural school with say 320 acres of land can be put into operation for about $50,000 to $60,000, the necessary annual expenditure will only amount to $15,000. The initial outlay would be somewhat as follows: 320 acres of land, costing from $10,000 to $16,000, depending on the location; a building three stories and basement, containing lecture rooms and offices, laboratories and gymnasium, library, reading room, and fittings, would cost about $25,000; farm barns for horses and cattle would cost $3,000; for sheep and swine, poultry and farm implements, $750 each. It must be kept in mind that the Province cannot afford elaborate buildings, neither would it be wise to erect such. In addition, the farm would need to be stocked with representatives of some of the breeds of cattle suited to the Province, say a bull and three cows of four or five breeds, which would cost in the aggregate about $2,500, all of which would be used for teaching purposes. Horses would be required for the farm work and for instruction, say two teams of Clydesdales, $800; one team of lighter horses, $250; sheep representatives of one of the long and of the medium wooled breeds, of each one ram and ten ewes, which could be got for about $250; while the breeds of swine, one boar and two sows of reasonable quality, of say three leading breeds, could be got for $150. One hundred dollars invested in utility breeds of poultry would be ample for a start. Good specimens of other breeds of live stock could be rented for breeding and instruction purposes. Implements, harness, etc., would call for another $1,000, making a total cost of somewhere in the neighborhood of $50,000.

Given such an equipment, what would be taught, what teaching force would be required, and what would be the cost? In the first place, the course should be one of two years, of 16 to 18 weeks each, starting, say, November and ending in March, thus allowing students to be home during the busy season, and permit the college force to do some experimental and outside work during the summer vacation. While other institutions have a large teaching personnel, at the start the force could consist of four professors and three instructors, one of the professors being appointed Controller of the Institution: First, a Professor of Agriculture, to teach the principles of soil cultivation, the growing of farm crops, cereals and grasses, drainage, silos, and the principles of agricultural physics, such as draft of implements, roadmaking, meteorology, construction of implements, applied agricultural chemistry, showing its relation to the preservation of soil fertility; judging of cereals, etc. A Professor of Horticulture and Botany, taking up the teaching of plant life, small-fruit culture, gardening, forestry, the identification and destruction of weeds, prevention of smut, rust and other fungus, diseases of plants, and the judging of roots and vegetables; he could, during the summer, have full charge of the tests belonging to his department and supervise provincial weed inspection. A Professor of Animal Husbandry would be necessary to teach the principles of breeding and breeds of live stock, feeding of animals, elements of veterinary science and bacteriology, and to have charge of the live stock of the farm. A Professor of Dairying, to teach farm dairying, factory work in butter and cheese, and attend to inspection during the summer. Men who would be thoroughly posted in their work and energetic could be secured for $1,500 per year. An instructor in farm economics, farm bookkeeping, drawing and parliamentary practice could be got for $1,000 a year, being also bookkeeper and secretary of the College. A carpenter and blacksmith would also be needed during the school term, to give instruction; each could be got for $75 a month, say $750 for the two men for the course. The stock would need attention by skilled men, a horseman, cattleman, and a man to look after sheep, swine and poultry, each at $40 a month. Wear and tear, incidentals, printing and advertising would bring the total to $15,000 yearly.

It may be stated that the College need not be expected to pay its way; no school, college or university is expected to; neither would it be fair to expect an agricultural school to do so. The following schedule will suffice to show how the students' time might be occupied during the winter term: A first-year man, Monday morning at 8 o'clock would meet the Professor of Animal Husbandry for a lecture on breeding; at 9 a. m., the Professor of Agriculture, to be instructed in the physics of agriculture; at 10 a. m., the Horticulturist, for instruction in plant life (applied botany, seed germination and testing combined); 11 a. m. to 1 p. m., laboratory work in agricultural physics and plant life; 2 to 4 p. m., stock judging, blacksmithing, carpentering or farm dairying. In the second half of the term, the day would be divided up similarly: In the morning, lectures on feeding of animals, agricultural physics, veterinary science, plant life, dairying, farm bookkeeping; the afternoons again being spent in stock judging, farm dairying, shop work, etc. The second-year man would take more advanced work, such as lectures on feeding, veterinary science, farm economics, stock judging, from 8 a. m. until 1 p. m. daily; and from 2 until 4 agricultural physics and horticulture; from 4 to 5.30 p. m. being spent at stable management, including practical feeding, etc., nursing animals, farm mechanics (running farm engines, windmills, grinders, applying the brake tests, etc.), fitting horses, cattle, sheep and hogs for the show-ring and showing them, making rope halters, etc. The student would in the second half of the term have lectures on bacteriology, parliamentary practice (organizing school meetings, etc.), breeds of live stock, applied agricultural chemistry, and have two hours' stock judging every morning, the first four days of each week.

Any young man of average ability could take such a course as above outlined if he gave strict attention to business. It will be noticed that no provision is made for instruction in grammar, arithmetic, and composition, as the present public-school system should be ample to meet the requirements along these lines.

At the present time over $6,000 goes annually to Government work in dairying, and $2,000 to weed inspection, which money could be diverted to the College, the work being done more effectively by the College staff.

Tuition should be free, minimum charges being made for laboratory material supplied to students.

At the College creamery during the summer, investigations could be conducted with the view of throwing light on the problems now confronting the butter and cheese makers of the Province.

While the question of agricultural education has been discussed for several years, the above is, we believe, the first attempt to formulate a plan in anything like detail, suited to western conditions. We shall, however, be pleased to receive criticisms with a view to getting a fuller expression of the opinions of the people most interested.

Grass and Grass Seeding.

Timothy, so far, has proved itself a good all-round grass in this section, and after trying other grasses we have concluded to stay with it. For putting fiber into land that is liable to drift it is all right. We can get a good catch with any grass we have tried. We have never gone to the expense of a grass seeder, just using the ordinary drill. Our method has been to sow the grass seed with wheat or oats, mixing it thoroughly with grain, and not allowing it to settle in the drill hopper. It is a little trouble to mix it up every round, but for anyone who does not want to go to the expense of a grass seeder, this plan answers very well. Clean land is desirable for grass. A good catch can be had by sowing grass seed on fallow, the grass then gets a good start before frost.

About two crops of hay is as much as should be cut, if it is desired to plow for grain, breaking it as soon as the hay is off. Backsetting it after harvest leaves the land in good condition for wheat. When it is broken deep and not backset it requires so much harrowing that it is worked down fine and the surface is liable to drift, but when backset it acts like new land, and when harrowed presents a rougher surface so that the winds have not the same chance at it. Any cultivated-grass sod we have broken without backseting has not given a very good crop, so it is by far the best to backset and work same as new land.

Of course, the longer the land has been down to grass the tougher the sod. A piece that has been pastured for a number of years is better to be broken in June and backset when the sod is rotted. It is a good plan to have a field in grass: it makes good early and late pasture, if not needed for hay. If cattle are allowed to feed on it till the prairie grass is up, the hay will not be so good.

We have also sown Brome by mixing with oats and got a good catch. It is a hard grass to save for hay, as the slightest shower of rain turns it black, and if there is much rain during haying it is entirely spoiled; whereas with timothy it does not lie so close, and dries quicker, and so far as our experience has gone it does not seem to stand the drought much better than timothy. Another objection we have to it, is that it spreads all over the farm. We began to think that it was as bad as twitch grass. No doubt it may be good for a permanent pasture, as it is a stayer, but so far as we could judge, the stock perfer the timothy, and don't go onto the Brome until the timothy is eaten bare. Brome grass leaves a very hard, tough sod, requiring an extra horse to break and backset. If the weather is not hot and dry at the time of breaking, it seems to take on a new life and grow just the same as the twitch grass. We had a piece that we plowed three times to kill it. As for what the results will be on Brome sod, I cannot say, as the last season was the first time that we have broken any up. We would advise anyone thinking of sowing Brome, not to sow too big a piece at first till they see how they can get rid of it. Most farmers know how to handle timothy, but with new grasses we have to find out by experience.

We have about ten acres now seeded down; we seeded seventy-five acres, but owing to last year bejng so dry, turned the cattle on it, and it proved their salvation, as the prairie grass was dried up. When the time for fallowing came we plowed it up. We would like to keep about twenty-five acres in grass all the time.

Before sowing cultivated grasses, it is just as well to fence the farm, otherwise all the cattle for miles around will graze on it. A fence will pay for itself in a short time, because one is not bothered with stray cattle, and always know where to find your own.

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