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The Cost and Work of an Agricultural College.

The "Farmer's Advocate" of March 5th gave a lucid and comprehensive plan for a School of Agriculture for Manitoba farmers' sons, which was practical in its outline and suited to the needs of the country. Many requests have been made that the plan as outlined be again published, which is done, for the benefit of our large number of new subscribers and those in whom the project of an agricultural college is awakening enthusiasm.

LAND AND BUILDINGS NEEDED FOR EFFECTIVE WORK.

The outlay at the start will undoubtedly be the largest, and considerably greater than what will be needed annually. The necessities would be a farm, which would cost from \$10,000 to \$16,000, depending on its size and location, neither of which, if within reason, would have much to do with the success of the institution. A common error which exists in the minds of many people is, that in order for agricultural college education to be practical, the students should do farm work, plowing, cleaning out stables, threshing, etc. Right here we unhesitatingly state that every student should be proficient in the ordinary farm work before coming to such an institution. Life is too short and the student's time too valuable when at the College to be spent at the lowest grade of farm work, the purely manual labor.

A building in which to give lectures, having offices for the teaching staff, library, reading room and gymnasium, would cost about \$25,000, for which money a building of three stories and basement could be supplied, somewhat similar in design to some school building. Farm buildings, sheep sheds, hogpens, poultry and implement houses would necessitate an expenditure of about \$3,500 to \$4,000. Elaborate buildings are not needed, neither would they be desirable in a Province whose income is comparatively small. The College should not attempt to board or room students, such necessitating big expense for dormitory, furniture, female helps to provide meals and clean the rooms. In addition, discipline is difficult to maintain in a residence.

THE COST OF THE NECESSARY LIVE STOCK.

For teaching purposes, representative animals of breeds suited to Western conditions would be needed. Two teams of Clydesdale mares, costing about \$800, and one team of lighter horses, at \$250, would be ample for the farm work and useful for instructional purposes. An expenditure of \$2,500 to \$3,000 would be needed to provide the College with a bull and three cows of four or five of the pure breeds suited to our conditions. Sheep, \$250 would be ample to obtain good specimens of the long-wooled and medium-wooled breeds, a ram and ten ewes being sufficient in one case. Swine, of three leading breeds, of which a boar and two sows, could be got for about \$150. In addition, \$100 invested in the best breeds of poultry would be ample. If

valuable pure-breeds of varieties not at the College were available in the neighborhood, they might be utilized for instructional purposes by permission of their owners or on payment of a small rent. Farm implements, incubators and brooders, a few skips of bees and miscellaneous articles would call for \$1,500 to \$2,000. Separators and other dairy utensils would doubtless be loaned by the manufacturers for the work in the dairy department, as is done in similar institutions. The total initial expenditure can be put at \$50,000 to \$60,000.

THE TEACHERS REQUIRED, THEIR WORK AND COST.

The essentials to be observed in manning such an institution is, provide men thoroughly trained and experienced in the work they have to teach, men with energy and lots of enthusiasm for the future of agriculture. While the old-established colleges have large staffs, such will not be necessary or advisable at the start. Four professors and three instructors, would be ample until the attendance became very large, one of the professors also acting as head of the institution, with the work of administration in addition to his teaching duties. The staff might be constituted as follows:

1. Professor of Agriculture, whose duties would be to give instruction in the principles of soil cultivation, the growing of farm crops, cereals and grasses, drainage, silos, etc., together with such instruction as is deemed necessary in the construction and draft of implements, the application of chemistry to farm conditions, the judging of grains, roadmaking, and weather forecasts.

2. Professor of Horticulture, who would take up the teaching of plant life, small-fruit culture, gardening, forestry, the suppression of weeds, the prevention of rust, smut and other fungous diseases of plants, judging of roots and vegetables. He might, in addition, supervise Provincial weed inspection.

3. The Professor of Animal Husbandry would teach the principles of breeding, instruct the students in the characteristics of the different breeds of live stock, besides drilling them in the judging of animals for draft purposes, the block, or the dairy. The feeding of animals, elementary bacteriology and veterinary science would fill out his College work. In addition, the experiments with live stock would be under his control.

4. The Professor of Dairying would take up that science in all its branches, give the necessary lectures and practical work, instructing the students in testing with the Babcock, oil and acid tests, churning, and the handling of cream separators, together with elementary dairy chemistry and bacteriology, conduct experiments, and look after the travelling dairy and supervise factory inspection.

The services of the professors would be available for institute work. The salaries for such men would be about \$1,500 each a year to start with. Cheap men or men lacking in training or energy would be dear at any price. The three instructors needed would be: One to give instruction in farm bookkeeping, the principles of political economy, and parliamentary practice, in addition to teaching the drawing of plans of farm buildings. Such a man could also act as bookkeeper and secretary of the College, and could be got for \$800 to \$1,000 a year. A carpenter and blacksmith would be needed to give instruction during the school term. Each could be got for \$75 a month, say \$750 for the course

Three men would be necessary to attend to the live stock, each at \$10 a month. Wear and tear, incidentals, printing and advertising, would mean a yearly outlay of \$15,000 for running expenses.

As the Agricultural College is an educational institution similar to other professional institutions, it would not be expected to pay any dividends in cash for the money invested. The benefit to the agricultural interests, and therefore to the country at large, would, however, be incalculable. The course for which such an outlay and staff are described should be one of 14 to 16 weeks, running during December, January, February and March, thus not interfering with the farm work, and permitting the farm laborer who desires to render himself more accomplished, and therefore more valuable to his employer, the maximum period in which to earn wages.

Far Away Pastures Look Greenest.

When the wheat-grower is in "hard luck," produced by any of the many vicissitudes that may overtake his crop or from such a fearfully disastrous spell of weather as has prevailed this harvest, eyes of envy are frequently turned away toward the ranches where the cattle range the thousand hills, growing in stature and waxing fat without reference to stacking or stook threshing, half-manned threshing gangs or leaky engines, without paying the least heed to whether the grade is one hard or rejected, tough and sprouted.

But it ought to be remembered that the other fellow has his "spells of hard luck," too, and this fall has brought disappointments to the cattle rancher as well as to the grain-grower. The cattle did not fatten as early as usual, owing to the washy nature of the grass on account of so much rain during the early part of the season. Then, just as the cattle were in readiness for shipping, some hitch took place in the car supply. The shippers complained that they could not get cars enough and that the cattle trains were being run on very slow time, which was detrimental to the stock and also to exporters who have ocean-boat space to fill. The railroad men claimed they were not to blame, as shippers frequently ordered more cars than they really needed, thus delaying the distribution, and also that the cattle shipments had been lunched at the tail-end of the season, coming all at once, instead of extending over several months. After a very vigorous kick on the part of the exporters, everything was reported to be running satisfactorily again. The Medicine Hat News, reiterating the complaints of the exporters, says that while the Old Country markets are good buyers, they had not been taking the stock, and that two-thirds of the export cattle were still on the ranges unsold. (This under date of Oct. 19th.) The News further says: "Under the circumstances, the stockmen cannot be blamed for casting their eyes south, and watching the advent of Jim Hill's road into the stock country, through the broad gauging of the A. R. & C. Ry., with the prospect of a competing line to Chicago, or for the handling of export stuff, in bond, over a competing road."

The system of selling by weight, instead of by the head, is gradually being adopted, the cattle being weighed off cars in Winnipeg. The yards in Winnipeg have been greatly improved of late. Instead of the old bog holes that the cattle used to wallow in, most of the pens are now floored, and many of them are roofed, so that the stock is kept dry and comfortable while being rested and fed.