The Ontario Agricultural College.

TENTH ANNUAL REPORT.

To the President, James Mills, Esq., M. A., our thanks are due for a copy of this valuable report, containing some 238 pages of useful matter that should be carefully read by every farmer in the Dominion, and we may here say that farmers wishing this report have only to apply to the college authorities, or to the Minister of Agriculture, when they will get a copy of it *free*.

The course of instruction in the college embraces two sessions, a winter and a summer one, the former extending from 1st October to 31st March, and the latter from 16th April to 31st August. And here we desire to draw the attention of the farmers to the advisability of sending their sons to take a course, during the winter season at least, at this useful Institution. It may do very well for other than Canadian farmers' sons to take the summer course, but the latter cannot always be spared during our transitory summers.

And here we venture the further remark that it is a great pity that political shades are allowed to have any bearing upon the attendance, which they undoubtedly have, as a very large number of the students in attendance are the sons of reformers.

Though there should be a change of government tomorrow, we cannot do without an agricultural college. The question, then, with every farmer is, where can I best get for my son such education as will put him on a higher plane during his entire life work, rather than which shade of politics holds the reins. As students, our sons must bury the hatchet in the lecture-room, whatever the fathers may do at the hustings.

THE STAFF

of the college for 1884 consisted of James Mills, M. A., President, teacher of English Literature and Political Economy; William Brown, C. E., P. L. S., Agriculture, Live-Stock, and Arboriculture; R. B. Hare, B. A., Ph.D., Inorganic, Organic, Agricultural, and Anylitical Chemistry, Geology, Physical Geography, Meteorology; J. Playfair McMurrich, M. A. (succeeded by Prof. H. H. Panton), Physiology, Zoology, Structural, Physiological, Systematic, and Economic Botany, Horticulture, lectures on English; Frederick Grenside, V. S., Veterinary Anatomy, Pathology, Materia Medica and Obstetrics, Practical Handling and judging of Horses; and E. L. Hunt, third year undergraduate University of Toronto, Arithmetic, Mensuration, Mechanics, Leveling, Surveying, Book-keeping, and lectures on English.

STUDENTS.

Of the 188 students in attendance during the year, the fair proportion of 120 came from Ontario, which number is far below what it should be when we consider that but one rural home in the Province out of every 1,666 homes, furnished a student. The Provinces, including Ontario, furnished 152 students; Stratford sent 11 students, the largest number from any one town or city in proportion to the population, which is accounted for, it may be, by the fact that in former years Stratford sent students who distinguished themselves, and in this way published the advantages of the college in the neighborhood. Simcoe, amongst the counties, for the last three years has sent the largest number of students from rural parts.

LECTURES AND LABOR.

The time spent by the students attending lectures is three hours a day except Saturdays, when there are none. Three-and-a-half to five hours are spent a day in manual labor outside, according to the season of the year. Two hours are spent in room study, and one hour a day for five days of every alternate week in drill and gymnastics. While the first year students are attending lectures in the college, the second year men are at work outside, and *vice versa*.

The special class, numbering twenty six, who wished to confine their attention exclusively to live stock and veterinary science in addition to their attending the regular lectures of Professors Brown and Dr. Grenside, had four additional lectures a week on the subjects of their course, and further received a course of practical lectures on stock, from J. P. Woods, Esq., the farm foreman.

FINANCE.

The total sum expended for college *maintenance* during the year was $24,759.02, from which if $8,717.71, the college revenue for the year, be deducted, $16,041.31 is left as the net expenditure under this head, and under the head of *repairs* of buildings, $6,490.86, so that the net expenditure upon the college for the year is $22,532.13, or $407.87 less than the sum voted in the estimates.

Of this sum, $4,234.98 was expended for student labor—a wise provision, as it is a premium on diligence, one of the mightiest factors in the world for bringing men to the front.

LITERATURE.

The library contains 4,220 volumes, and the reading-room is furnished with 46 papers and magazines, of which 12 are sent free.

PRESSING NEEDS.

Amongst those enumerated by Professor Mills we note,

(1) The removal of the old barns and stables and the erection of suitable new ones, and

(2) A good laboratory for practical work in the department of chemistry.

We trust that our Government will take steps at an early day to put up outbuildings worthy of the Institution and of the Province, and also to furnish a laboratory. It is only Pharaoh who would set Prof. Brown and Dr. Hare to work to make bricks without straw.

LIVE-STOCK.

The sum of $25,000 was expended in replenishing this department by Prof. Brown in Britain. We gave details regarding the purchase of these when in quarantine, also quoting the high estimate formed of them by competent authorities in the old country. We simply add here that Mr. Woods, in referring to them, says, "The selection now to be seen in the stables is probably the finest in America." And Dr. Grenside, in referring to their strength of constitution, remarks, "Taking our recently imported herd collectively, there is every reason to congratulate Prof. Brown on the selections he has made, and I see no cause to find fault with the physique in any individual instance as regards the healthy indications." Some annoyance has, however, been caused, along with the attendant loss, through abortion.

In addition to other valuable instruction imparted by Mr. Woods, when cutting up meat for the college he explains the different parts of beef, mutton, and pork, stating at the same time the market value of each part of the carcass.

This department of the report is illustrated by the five handsome sketches of individuals of as many different breeds, prepared by our artist, and which have already appeared in the JOURNAL. The most imperfect is that of the incomparable Shorthorn bull Rob Roy (45,484), which in its hasty preparation does not give full justice to this splendid animal. Rob is longer and lower than the picture shows him to be.

The catalogue of the animals imported may be had on application to Prof. Brown.

It is expected that 30 head of cattle and 60 head of sheep will be offered at the next sale to be held in September, and for catalogues of which farmers are requested to send about August 1st.

EXPERIMENTS IN CATTLE FEEDING.

These were carried on largely during the year, and important facts regarding this great industry were determined.

It was ascertained that in feeding Shorthorn grade steers the average weight of which was 1,122 pounds during the continuance of the experiment, the cost of adding one pound to the live weight with the mixture of grain as a basis (given below) was 8½ cents; this with oil cake added was 11½ cents, and with Thorley's food added, 11¼ cents; corn 8 cents; peas, 11¼ cents; oats, 10½ cents; white barley, 10½ cents, and black barley, 11¼ cents; hay, roots and bran, 9½ cents; uncooked and cooked food the same, 9 cents.

The mixture of feed referred to above, consisted of 9¼ pounds of corn, peas, oats, white barley and black barley in equal parts by weight daily. To this was added 9 1-10 pounds hay, 20¼ pounds turnips, 4¼ pounds bran and 37 pounds water.

For rapid production irrespective of cost in winter feeding, the test stood (1) uncooked food; (2) mixture of grain with Thorley; (3) corn; (4) the mixture of grain; (5) hay, roots and bran; (6) mixture of grain with oil cake; (7) white barley; (8) cooked food; (9) oats, peas and black barley equal.

It is certainly important to know that uncooked food gives better results than cooked, as labor is always costly in this country. In the use of Thorley's condiment it is well to notice that the amount fed was much larger than that stated in the directions. The manufacturers claim that equally good results would have been obtained at a much less cost, as their food is gently tonic and stimulant. These artificial foods, however, have never been so popular in America as in Britain.

The further fact, that results so excellent from "the mixture" were obtained, reminds us of the necessity of giving much attention to this matter. Where this cannot be done the needle certainly points in the direction of the advisability of frequently changing the diet. The various properties and different proportions of these grains when blended seem to make up the complements of a very perfect food.

The report says that for rapid and cheap production combined, corn is decidedly ahead, and yet corn is practically shut out of this country as a factor in feeding by the duty levied thereon.

EXPERIMENTS IN FEEDING SHEEP.

These experiments were made upon Oxford Down and Shropshire grade wether lambs. The following conclusions were arrived at:

(1) The rapid and cheap production of mutton in winter has been best attained by the use of oats and hay. Peas and hay come next in order. The average gain per day with these two forms of feed was one-third of a pound per head, and cost 10½ cents for the pound added in live weight.

(1) Beans are not so profitable to feed to sheep as either oats or peas.

(2) That poor feeding is "expense feeding," and that on the other hand high feeding is not equal in results to moderate feeding. Lambs can even be kept back by a high pressure process.

EXPERIMENTS WITH WOOL.

The result of Prof. McMurrich's experiments with wool confirmed the common opinion that liberal feed-