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THE O. A. C. REVIEW.

The Dignity of a Calling is its Utility.

VOL. I.

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THE O. A. C. REVIEW,

PUBLISHED MONTHLY, DURING THE COLLEGE YEAR, BY THE LITERARY SOCIETY OF THE ONTARIO AGRICULTURAL COLLEGE, GUELPH.

EDITORS.

H. H. DEAN,	MANAGING
C. F. WHITLEY,	LOCAL
C. A. ZAVITZ, B. S. A.,	AGRICULTURAL
S. N. MONTEITH,	CORRESPONDENCE AND PERSONAL
J. A. GELLING,	EXCHANGE.

BUSINESS MANAGERS.

J. HARCOURT, J. A. B. SLEIGHTHOLM

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The O. A. C. REVIEW will send free of charge to our subscribers news and information to those interested in farming operations.

Ex-students will confer a great favor on the Editors of this Journal by sending news, particularly expressions of practical value.

EDITORIAL.

The last number of the REVIEW was late in reaching our subscribers owing to our printer having begun to move into a new building at the time when the February number should have been printed, and we were thus delayed; but we crave their indulgence this time, and hope that in future all those who are in the Province will receive each issue before the month is out. Those receiving their paper will be conferring a favor by communicating with the Business Managers or Editor, who will attend to the matter at once.

* * *

an eminence about one-and-a-half miles from the City of Guelph, and over-looking it, in the very heart of an excellent farming district, within a short distance of several fine farms, in the midst of an environment conducive to the development of the methods of agriculture, is situated the Ontario Agricultural College and Experimental Farm. Near the Farm is the celebrated

herd of Hereford cattle, owned by F. W. Stone, Esq., Guelph. Not far away a splendid herd of Devons is to be seen, owned by Mr. Rudd. If students wish to see Galloways of first-class qualities a ten minutes walk will bring them to Mr. McCrae's farm. Continuing the walk for about three miles the noted stud of Clydesdales, owned by Messrs. D. & O. Sobhy, may be seen. Not to mention other noted breeders of pure-bred stock such as Messrs. Arkell, Laidlaw, Whitelaw and others, including the stock on the Farm, it is seen that the surroundings of students while here are such as will develop a taste for live stock and stock of a good quality. This is no small matter when a farmer is considering where he will educate his son for the farm.

We are all more or less creatures of habit and influenced to a large extent by our environments. The tendency of Ontario farming is to develop the live stock industry, and we consider farmers' sons would be well repaid if they received nothing more from a year's attendance here, than what they would learn by a close examination of the different stock farms which are in the immediate neighborhood, and from good attention to the stock and management of the same on the Farm. The more we ponder the matter, the more we wonder why a greater number of farmers' sons do not take advantage of the splendid opportunities which are afforded them for receiving a training, which, as valued by some, is equal to the gift of a 100-acre farm, and this is considered by average young farmers as no mean gift.

Then why are there not more students of the right class here? It cannot be the fault of the surroundings, for, as we have pointed out they are helpful; it cannot be the fault of the terms, as none are more liberal; it cannot be the fault of the buildings as they are substantial and serviceable in every way, (although they may not be quite as fanciful as some); it cannot be the fault of the Professors, because we are sure that a more faithful, hard-working, obliging, competent, unselfish staff cannot be found in any College—a staff whom everyone who has come in contact with them respects and for whom the farmers of the Province are willing to do anything within reason. Where, then, lies the difficulty? Hoping to be pardoned if we should give offence, we are inclined to think that it is owing to indifference on the part of farmers and a lack of knowledge in regard to the work that is being done here. Remove these by showing them that it will be of material advantage to them and to their sons and we believe that the difficulty will be solved to a great extent. No class of persons wish more to advance their position than farmers, and if it can be demonstrated to them that satisfactory results will follow a particular course of action the matter will in a great measure be settled. There are several influences at work seeking to remove these difficulties in the way of a larger attendance and it is to be hoped that they will be successful, and that before five years shall have come and gone the O. A. C. will be compelled to enlarge the building to accommodate students.

P—and Its Supporters U-S-H.

How many of us have noticed on the doors of banks and business firms the word, PUSH, and have seen a deeper meaning than is commonly thought to be expressed by the word? What better motto could be adopted by any firm or any person than PUSH? Without this a firm, a bank, a business man, or any man is like an engine that is in perfect working order but without the steam to drive the piston.

The students who hope that he will come through his examinations all right, yet idles away the greater part of his time is always a failure. "How many men would fain go to bed dunces and wake up Solomons. You reap what you have sown. Those who sow dunce seed, vice seed, laziness seed, usually get a good crop." Reader, what kind of seed are you sowing? Have you been planting any of these seeds before mentioned? If so, we advise you to stop the horses, clean out the drill, give the feeder two or three turns to make sure that all these noxious seeds are removed; then fill it with industry seed, patience seed, knowledge seed, and begin to sow; at the same time apply a good dressing of Push fertilizer.

The farmer who looks upon a bushel of wheat and imagines he sees beautiful green stalks arising out of the seeds, and afterwards the golden heads waving in autumnal sunlight, yet has not PUSH enough to prepare a suitable seed bed, sow the seed and take care of it after it is sown, will never realize his day-dream. A great many farms are dirty with foul weeds; fences and buildings are out of repair; stock are in poor condition and crops also—all these point to *involence*, and where they abound laziness does much more abound.

The business man who carries on his business in a hap-hazard manner depending upon others to look after his interests and who does not throw his energies into whatever he may be engaged in will not succeed. Eternal vigilance is the price of success and one reason why a great many fail is, that they do not possess the Push and go-ahead which are necessary.

The lecturer who appears before his audience with a sleepy look, yawns three or four times every half-hour, looks at his watch frequently to see if the time is not nearly up, which he considers necessary that he should appear in person before his listeners, who talks in a hum-drum tone which necessitates the straining of the ear to catch his mutterings, who hasn't anything new, but has a knack of rehashing things like a careful cook—such a lecturer is not very acceptable to his hearers, and to him we would say, wake up! put a little PUSH in your porridge in the morning and if this does not have the desired effect, season your potatoes at dinner with some of the same ingredient—take this regularly every day for six months and if it does not help the trouble call and see us. No matter how much genius a person may have if it never manifests itself or renders the possessor any service, it is of no use—he might as well have none. "A man of mere capacity undeveloped is only an organized day-dream with a skin on it. A flint and a genius that will not strike are no better than wet junkwood."

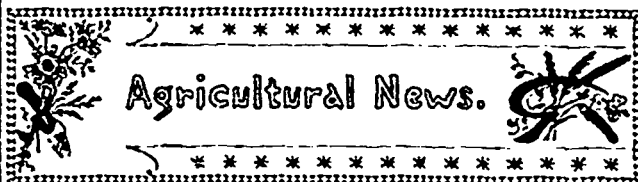
Has the physique any influence on this particular quality, which is of so much importance to make a success of life? We say, yes. Will the fat man whose presence is felt and seen by all those who come in contact with him, have this element in any marked degree? No, not likely. Will the thin man who can boast of his length without breadth—who is, in fact, "but the continuation of

a point?" More probably so, than the other. But, doubtless, even here there is a limit where too much thinness of body will produce a thinness of mind. Alexander, Caesar, Napoleon III, Nelson and the Duke of Wellington, were all spare men who had plenty of Push and courage and made their mark in the world. Pope (that was of Twickenham) is a marvellous example of what a small, dwarfed, diseased body (a body so crooked that he was called the Interrogation Point) can do when controlled by an indomitable spirit. Granting that he was eccentric, vain, fretful and demanding, yet we cannot help admiring his polished verses, onomatopoeic diction, and the large amount of English literature which he has bequeathed to us—and all this under circumstances so unfavorable. Doubtless, it would never have been done had he not been possessed of vim and go, thus becoming a benefactor to himself while living and to others after his death.

For a living illustration we have only to mention the name of Gladstone, who, in spite of age, discouragements and a task that resembles "numbering sands and drinking oceans dry," is forwarding his scheme to benefit Ireland with an unconquerable purpose, an alacrity of spirit and Push which are seldom found in a far younger man, and which are much more admirable in a man who is nearing "the sere, the yellow leaf." May his life be preserved until his heart's work is accomplished, and then may "Heaven, admiring earth's good hap, add to him an immortal crown." May we all, as young men, profit by the examples set before us, remembering that,

"The lives of great men all remind us,
We can make our lives sublime."

and in them we shall see, if we examine closely, that the element of success in all great men is untiring industry with Push as the great motive power.



Promising Varieties of Grain.

In the winter of 1888-9, two hundred and forty varieties of grain were imported from eighteen different countries of Europe and Asia. The spring varieties, along with some of the best known Canadian cereals, were grown upon the experimental plots of this Institution during the past year. From among ninety varieties of oats, ninety of spring wheat, fifty-six of barley and sixteen of peas, a few stand out as being very promising for Canadian cultivation. While it is unsafe to draw very definite conclusions from the first year's conduct of a new cereal, still we feel justified in mentioning those varieties which have given the best returns during the past season, and it will be with much interest that we shall look forward to their conduct during another year.

Oats—The majority of the ninety varieties of oats tested were from Germany, Russia, Scotland, England, France and Ontario, and the average yield of all the varieties was at the rate of 47.8 bushels of grain per acre. Those heading the list for quantity were two varieties of black oats from France, called Goanette and Chenailles, each yielding at the rate of 80.9 bushels of grain per

acre. The two varieties are much alike in appearance, but the former possessed a stiffer straw which was almost entirely free from rust, while the latter was troubled with rust to a considerable extent. The berry of each variety is long and large, having a plump kernel covered by a thin hull. The Oderbrucker from Germany, yielding at the rate of 75 bushels per acre, is one of the most promising of all the oats tested. The average length of the straw including head, was upwards of five feet, but the crop stood up well and was almost entirely free from rust. The berry is white, long, and has a thin hull, and one which we consider will be well adapted to meet the various needs both of the farmer and of the oatmeal miller. The Danebrog, another German variety, also gave a yield of twenty-five bushels per acre, but the straw was much weaker than that of the Oderbrucker, and was also considerably troubled with rust. The Siberian, from Russia, yielding at the rate of 73.5 bushels per acre, possesses many excellent qualities, and is also well adapted to meet the oatmeal millers' bill. Among the other new varieties which stand high in both yield of grain and general qualities, may be mentioned the Probitier, Germany; Waterloo, Germany; Improved Besthour, Germany; Legona, Russia; White Tartarian, Russia, and Poland White, from France. Of the nineteen Canadian varieties tested, the Bavarian oats took the lead, yielding at the rate of 72.5 bushels per acre. It has a spreading head, strong straw, and white berry. This oat was brought from Bavaria to New York State, and from there was introduced into Western Ontario, where it has been grown with much success for a few years.

Spring Wheat Farmers in this section of Ontario, as well as in many others, have ceased almost entirely the growing of spring wheat as the yields from this crop during the past few years have been so unremunerative. Upwards of eighty varieties were imported for the purpose of obtaining a few which might be profitably grown over the Province. Of those tested the Herison Bearded, from France, took the lead, and while only yielding at the rate of about 19 bushels per acre, still gave a yield of 30 per cent. above the best Canadian variety, save the Wild Goose. This French variety has many promising features. The straw is strong and may be said to be free from rust, the head is of a compact, club-like nature, the red berry, although rather small, is very plump and even in form. This grain may do well in many parts of Ontario. The March wheats from France are also promising and compare very favorably with the best Canadian varieties. The Wild Goose, well known in most parts of the Province, took the lead, giving about 26.5 bushels per acre. This is a very coarse wheat, and always brings less on the market than other varieties, but even at the low price, it is a question if there is not more made by growing this wheat than by most of the other Canadian varieties. The Red Fern gave a yield at the rate of a little over thirteen bushels per acre.

Barleys—The forty-eight varieties of imported barley varied in rate of yield from 7.5 bushels to 47.9 bushels per acre. There were eight kinds of foreign barley which gave a yield of upwards of 40 bushels per acre and out of those eight, five were two-rowed and three six-rowed. The Cheyne, from Germany, a two-rowed barley, and a strong grower, took the lead in point of yield, giving at the rate of 48.9 bushels per acre, and this was closely followed by the Pheonix, 46.9 bushels per acre, and the Italian Rice, 45.8 bushels per acre. The latter two are also two-rowed varieties from Germany, and possess straw of a better quality than the Cheyne. Of the six-rowed varieties the Oderbrucker from Germany, yielding 44.3 bushels per acre, and the Mandshuri from

Russia, 42.7 bushels per acre, came at the top of the list in point of yield. Taking the average of the entire lot of imported varieties, the two-rowed gave a slightly higher yield than the six-rowed. The common six-rowed variety of Ontario gave an average yield at the rate of 46.9 bushels per acre.

Peas There were sixteen varieties of peas tested, ten of which were imported, the remaining six being selected from among those fairly well known in Canada. The varieties introduced were all obtained from England, and the Glory yielding at the rate of 37.1, and the Early Racehorse at the rate of 36.2 bushels per acre, made the highest yields of the new grains. The former is a large blue pea, and the latter is much smaller and of a yellowish white appearance. Of the six Canadian sorts, five gave a higher yield than the best foreigner, the Prussian Blue even reaching to 45 bushels per acre, and the White-eyed Marrowfat following closely after with a yield of 43.9 bushels per acre.

These grains are to be grown again during 1890, and more conclusive results may be obtained regarding the respective merits of the several varieties.

Method of Ascertaining the Weight of Live Cattle.

This is of the utmost utility for those who are not experienced judges by the eye; and by the following direction the weight can be ascertained within a mere trifle:—"Take a string, put it round the beast, standing square, just behind the shoulder-blade; measure on a foot rule the feet and inches the animal is in circumference; this is called the girth; then, with a string, measure from the bone of the tail which plumbs the line with the hinder part of the bulldock; direct the line along the back to the fore part of the shoulder-blade; take the dimensions on the foot-rule as before, which is the length, and work the figures in the following manner:—Girth of the bullock, 6 feet 4 inches; length, 5 feet 3 inches; which multiplied together, make 31 square superficial feet; that again multiplied by 23 (the number of pounds allowed to each superficial foot of cattle measuring less than 7 and more than 5 in girth) makes 713 pounds. Where the animal measures less than 9 and more than 7 feet in girth, 31 is the number of pounds to each superficial foot.

Again, suppose a pig or any small beast should measure 2 feet in girth, and 2 feet along the back, which multiplied together, make 4 square feet; that multiplied by 11, the number of pounds allowed for each square foot of cattle measuring less than 3 feet in girth, makes 44 pounds. Again, suppose a calf, a sheep, etc., should measure 4 feet 6 inches in girth, and 3 feet 9 inches in length, which, multiplied together make, 16½ square feet; that multiplied by 16, the number of pounds allowed to all cattle measuring less than 5 feet and more than 3 feet in girth, makes 264 pounds.

The dimensions of the girth and length of cattle, sheep, calves, or hogs, may be as exactly taken in this way as is at all necessary for any computation or valuation of stock, and will answer exactly to the four quarters, sinking the offal, and which every man, who can get a bit of chalk, can easily perform. A deduction must be made for a half-fatted beast of 1 stone (14 lbs.) in 20, from that of a fat one; and for a cow that has had calves, 1 stone (14 lbs.) must be allowed, and another for not being properly fat.

*The above article, taken from a leading periodical, was sent to us by Mr. C. Hornsby, Associate of 1888.—[Ed.]

Co-operative Experiments.

During the past few years some very interesting and valuable experiments have been conducted over the Province by members of the Ontario Agricultural and Experimental Union and other leading agriculturists. The object has been to obtain a better practical knowledge of some of the most easily procured Canadian fertilizers. The Union has forwarded material for the tests free of charge to those desirous of undertaking the experiments, and the very enthusiastic manner in which this work has been taken hold of by College Associates, and others has almost surpassed our expectations. The number of experiments has become greater each season, and the number of those carrying on the tests has increased about eight fold during the last three years.

It would be impossible to give a detailed account of the work in the limited space of the REVIEW, but this will all occur in the Annual Report of the Association. A summary of the results of the past three years may be here given with advantage, as it will show in a general way the most economical use of some of the forms of plant food available to the Ontario farmer.

Table showing the yield of grain from each fertilizer for three consecutive years:—

FERTILIZERS.	GRAIN PER ACRE IN POUNDS.		
	1887.	1888.	1889.
Salt.....	1348.4	1393.2	1140.8
Superphosphate.....	1408.8	1432.0	1073.8
Ground Apatite.....	1271.6	1307.6	1099.0
Fresh wood ashes.....	not used.	1274.4	1068.0
Farm yard manure.....	1384.8	1412.8	1235.0
No manure.....	1252.8	1221.6	1028.0

The averages given are those of oat, spring wheat and barley crops taken together. Those given for 1887 are from plots fertilized in the spring of the same year. Those of 1888 from plots fertilized in spring of 1888, but those for 1889 are from plots, nearly all of which were fertilized in 1888, and show the effects of the fertilizers the second year.

From the above table we observe that during the two years (1887 and 1888), when the fertilizers had been applied each spring, the results came out relatively the same, while for 1889, being the second crop after the application of the fertilizers, the order is somewhat changed. The farm yard manure now takes the lead and the superphosphate, which, during the first years of its application, gave the largest returns, at present occupies the third place. The plot without being fertilized comes the lowest in every instance.

Taking the average of the three we get the following results, being the average of eighty sets of the experiment:

	Pounds of Grain Per Acre.
(1) Farm yard manure.....	1344.2
(2) Superphosphate.....	1304.9
(3) Salt.....	1294.1
(4) Ground Apatite.....	1266.4
(6) Fresh wood ashes.....	1171.2
(6) No manure.....	1107.5

An average of about 14 tons of farm yard manure was applied per acre, and the other fertilizers were sown at the rate of 400 lbs. per acre. The superphosphate cost \$26, and the Ground Apatite \$12 per ton. Farm yard manure is usually valued at \$1 per ton in making calculations. Fresh wood ashes and salt vary much in price owing to locality in which they are to be used.

For a more detailed account of the experiments the readers of the REVIEW are referred to the Union Reports of 1888 and 1889, and to the one of 1890 when published.

Ontario Agricultural and Experimental Union.

The Agricultural Committee of the Experimental Union has arranged the work of 1890, and instructions along with blank forms are now being sent to those desirous of carrying on the tests. Should any of the readers of the REVIEW, who have not yet received the circular on the experimental work, wish to join the members of the Union in the experiments for 1890, kindly let us know by an early date. The following introductory to the circular will give the reader an idea of the line of investigation:—

GUELPH, MARCH 15th, 1890.

DEAR SIR, Experiments carefully carried on have done much towards improving the methods of farming. With this fact in view the Ontario Agricultural and Experimental Union has been carrying on co-operative experiments from year to year, which have been gradually growing in importance and value. Those proposed for this year's work should be appreciated by every farmer. If you can give the small amount of time and careful attention required to carry on one or more of these tests, you will be amply repaid for the trouble taken by yourself by the conclusions arrived at on your own farm. You will also have the benefit of the results of similar experiments conducted in different parts of the Province, all of which, when carefully carried out, will be presented at the annual meeting of the Association, and afterwards entered in The Annual Report of the Union, a copy of which will be sent to each experimenter.

The experiments for this year are as follows:—

(1) A continuation of the test with Superphosphate, Dried Blood and Scrap, Farmyard Manure, and no manure, with oats, applied without additional fertilizer.

(2) New plots with Superphosphate, Dried Blood and Scrap, Farmyard Manure, and no manure with oats.

(3) Application of Sodium Nitrate to either Spring wheat or Fall wheat, to be applied in the Spring at the rate of 200 lbs. per acre.

(4) Testing new varieties of cereals.

(5) Different modes of cultivating corn, similar to 1889.

(6) The growing of Lucerne.

Full particulars for carrying out the above experiments will be sent on application.

Fertilizers and seeds required for the tests will be sent free of charge to your nearest Express Office.

The materials for Nos. II, III, V, and VI, being expensive, only a limited number of these can be sent out. Those applying first will of course have the preference.

If you are in a position to carry on one or more of these experiments, kindly let us know as early as possible which test or tests you prefer, mentioning your nearest Express Office, so that the materials shall reach you in time.

Kindly forward all communications regarding experiments to C. A. Zavitz, O. A. College, Guelph, and return the results of the tests by Oct. 20th, 1890.

Yours sincerely, AGRICULTURAL COMMITTEE.

The Scientific Principles Underlying the Making and Feeding of Corn Ensilage.

By C. C. James, M. A., Professor of Chemistry, O. A. College.

(Conclusion of Paper read at the last Annual Meeting of the Union.)

COMPOSITION OF CORN ENSILAGE.

The most extensive tables of analyses of American fodders are those compiled by Dr. Jenkins, of Connecticut. The table below gives his average of 59 samples of ensilage and the maximum and minimum amounts of the various constituents. To his table I have added 41 analyses, gathered lately from a wide range of reliable sources, and give the average of 100 samples that I thus obtained:

	Water.	Crude Protein.	Fat.	Soluble Carbohydrates.	Crude Fibre.	Ash.
Maximum	87.00	2.80	0.80	22.20	10.00	
Minimum	64.40	0.70	0.20	3.30	3.00	
Average, 59 samples	70.28	1.52	0.70	10.40	4.70	0.40
" 100 "	70.84	1.50	0.73	10.72	5.04	0.20

Water. The water varies from 64.4 to 87.0 per cent. From our investigations it appears that the best, the sweetest, and the greatest amount of ensilage will be produced when the amount of water lies near 75 per cent, between that and 80 per cent.

Crude Protein. - In food analyses, this of course includes the less valuable amides, which are not flesh and muscle formers, but heat producers. The following table gives a few analyses separating the true protein from the amides or non protein. I have said before that in the silo true protein will be changed to amides to a certain extent; this, in addition to the amides always existing in young growing plants, will give us a high per cent. of non protein:

	Total crude protein.	True Protein.	Amides or Non-Protein.	Per cent. of True Protein.	Per cent. of Non Protein.
New York, 1886	0.87	0.30	0.57	33.81	66.17
" "	0.85	0.45	0.40	52.94	47.05
" "	1.08	0.73	0.35	67.45	32.55
" "	1.17	0.74	0.43	63.25	36.75
Wisconsin, 1886	1.02	0.60	0.42	58.82	41.17
Dr. Vochler, 1884	1.12	0.68	0.44	60.71	39.28
Pennsylvania, 1886	2.13	1.44	0.69	67.60	32.40
" "	2.35	1.75	0.60	74.47	25.52
" "	2.43	1.58	0.85	64.61	35.38
" "	2.31	1.50	0.81	64.93	35.06
Michigan, 11 analyses, 1886	1.32	0.82	0.50	61.36	38.63
Average				61.96	38.03

German investigators have found non protein in considerable quantities in roots, potatoes, malt sprouts, and fodder plants of all kinds, the average in the last case being about 30 per cent. In four analyses of malt sprouts Kellner found an average of 27.40 per cent. (Armshy). The average so far found in corn ensilage is in excess of that usually found in the freshly gathered plants and this large quantity of non protein, to a certain extent, takes from the value of the ensilage and demands a liberal addition of nitrogenous foods to it to make complete rations.

Fat. There is little or no true fat in corn ensilage, unless it be made from corn well matured. The fat represented in our tables is ether extract more properly and consists largely of chlorophyll, waxy matters, and acids. The amount of fat, therefore, may be considered as of little or no value.

DIGESTIBILITY OF ENSILAGE.

Much difficulty meets us here; there are few determinations with wide differences. I give the digestion coefficients available:

	MOSK (Germany)	ARMSTRONG (Pennsylvania)	WOLF (Wisconsin)	STEELEMAN (New York)
Protein	71	41	75	40
Fat	75	86	53	60
Carbohydrates	67	66	80	67
Fibre	72	60	71	60

Reference to the reports of work done at some U. S. Stations, especially at Wisconsin and Pennsylvania during the past two years, clearly shews that there is good work to be done in determining the exact feeding value of corn ensilage in comparison with corn fodder. Some contend that ensilage lowers the digestibility of some portions of the food, fibre for instance. The variability of results arising from variety of methods adopted to determine this leaves the question as yet to be settled.

ENSILAGE AND NATURE'S FOODS.

	Water.	Protein.	Fat.	Soluble Carbohydrates.	Fibre.	Ash.	Nutritive Ratio.
Colostrum	71.7	20.7	3.1	2.5		1.8	1.05
Whole milk	87.0	4.0	3.7	1.0		0.7	1.33
Grass	75.0	4.0	0.8	13.1	6.0	2.1	1.70
Corn Ensilage	70.8	1.0	0.7	10.0	5.0	1.3	1.11.0

Nature's feeding is from colostrum to whole milk to green grass. By consulting our table we see that corn ensilage is alone not sufficient to take the place of either whole milk or good pasture grass, that the great lack is in nitrogenous constituents, flesh and muscle formers, and that the use of ensilage in a ration demands the addition of foods containing protein and fat, such as good hay, grains, bran, cake, in such proportions as must be regulated by the circumstances of the feeder and market prices. Let us now contrast the ensilage with the German feeding standard for milk production, which is the best established of the standards. Though

these standards cannot be closely followed in this country, they will serve to shew the great lack in the ensilage for milk production which must be supplied as above stated. I take the highest digestible co-efficients (Moser's).

	Organic Substance.	DIGESTIBLE SUBSTANCES.			Total.	Nutritive Ratio.
		Protein.	Carbohydrates.	Fat.		
German Standard for milk	24.0	2.5	12.5	0.1	15.1	1.54
120 lb. of Corn Ensilage...	24.2	5.1	13.7	0.5	15.9	1.10

Thus it would require 120 lb. of ensilage per 1,000 lb. live weight, daily, to give organic substance equal to that demanded by the German standard. The two noticeable features are the lack of protein and the great mass of ensilage. The general conclusion of the American experiments is that in profitable feeding the daily allowance will not exceed 50 lb.

In conclusion, let me state requirements met by the ensilage: - 1st. It is succulent and palatable. 2nd. It gives bulk for ruminants. 3rd. It contains heat and force producing constituents. 4th. It may contribute somewhat towards fat production. 5th. It should, pound for pound, a little more than take the place of roots. 6th. It is regulating and tonic in its effect upon the animal system.

The Farmers Son Before and After a Two Year's Course at the O. A. C., Guelph.

By J. B. Muir, North Bruce, Ontario, Associate of 1885.

(A Paper read at the meeting of the Ont. Agr'l. and Exp'l. Union.)

MR. CHAIRMAN AND GENTLEMEN, The title of our essay is one in which the most of us have a personal interest; as the great majority of those present are farmers' sons with or without the advantage of a two year course at the O. A. C. But that use of the term, farmer's son, is too comprehensive for our purpose, and we must limit it to the particular sons who are making agriculture their profession. If we acquaint ourselves with the early history and training of the average farmer's son of to-day, we shall generally find a moral, careful, and hard-working young man. One, who in common with his parents is striving to the best of his ability to raise remunerative crops and earn an honest living.

To do this he has for his principal guides, past experience and observation, interspersed with hints from agricultural papers and journals. These, when properly mixed with good common sense, are no mean guides, and in the past have carried many of our farmers in safety to comparative ease and plenty. But in this age of competition, exhausted soils, and uncertain seasons, the guides mentioned are often insufficient and we find many farmers, young as well as old, straying gradually and surely into bankruptcy. Sometimes this is the result of bad management; at others it is produced by unforeseen circumstances; but more frequently it is due to ignorance pure and simple, as to the nature and treatment of the soil, stock, and crops with which we have to deal.

Hence we find that the intelligent, thinking class amongst the farmers are availing themselves of every opportunity for

increasing their knowledge both theoretically and practically in agricultural lines. In like manner also, the sons of quite a number of the better class of farmers are taking the two year course at the O. A. C. to prepare themselves for meeting the difficulties incident to farm life. In all this, experience is teaching us that in order to be successful we must have more knowledge, more of other men's ideas stored up within us ready for us when required. To be an intelligent man, or a graduate of the O. A. C., does not necessarily make use successful. It is only when the knowledge we possess is rightly applied and persevered in that success will crown our efforts.

We have already stated that knowledge is not success; it is rather that by which the road to success is made easy. The farmer's son, before taking the O. A. C. course of study, finds the road uneven and hard to follow; but after taking the full course, he finds it graded and carefully marked out. He has now for his guides the experience and practice of the ablest men in his profession, while the leading truths and principles in Agricultural Science are at his disposal. He has, as it were, a part of nature's laws revealed to him; while his duty to nature has been more clearly defined. Instead of following on blindly in the practice of his ancestors, he is able to press forward intelligently into the front ranks and take agriculture a success.

Instead of being a slave and a drudge in his profession he rises above this, and takes his chief pleasure and delight in subduing nature and her difficulties, under his control. Instead of grinding out every trace of natural fertility in the soil, his aim is to keep it constantly renewed and increasing from year to year. Instead of simply keeping and half starving the poorest class of stock he strives to keep the most and best of any in the neighborhood. Instead of sending off the best of the manure to grow sea-weed in the Atlantic Ocean, it is carefully saved at home and set at growing corn and other cereals.

These are a few of the distinguishing features between the farmer's son before and after a two year course at the O. A. C. But these are not all, we find a great improvement in the social position of the farmer's son after graduating successfully. His is now a position of honor in the farmers' councils, institutes, agricultural societies and the like, and even in church and state affairs his influence is greatly advanced. His mode of farming is carefully watched and if successful copied more or less by his neighbors. His advice is also frequently asked for, and in this way we find our sphere of usefulness greatly increased.

But there is yet another aspect of this question, of even greater importance than any we have yet mentioned. The course of training prescribed and followed at the O. A. C. is one specially fitted for developing the mind. It embraces many subjects, and ranges through so many fields in nature, that an appetite for knowledge must be stimulated in the minds of the most indifferent. To satisfy this there is a great variety of choice literature over which the cultivated mind delights to roam. This desire to read and improve the mind is one of the few pleasures of which we never grow weary, and one in which the O. A. C. graduate has the advantage. The life of the average farmer's son is one of physical labor in which there is little time to cultivate a taste for reading or other intellectual improvement. His education, though it may be the best the public school can supply, is not broad enough, nor advanced enough, to stimulate a desire for knowledge; especially agricultural knowledge, of which he stands most in need.

Much of his early training is lost from not being able to connect the ideas conveyed in the lessons with future usefulness. The foundation of his early training is not broad enough to enable him to understand even the simplest works on agricultural science, which all require more or less knowledge in chemistry. This branch of science, so mysterious and yet so simple, is the key to agricultural knowledge, and the average farmer's son is almost ignorant of its existence. The science course at the O. A. C. opens up an entirely new field to the student of nature and an intelligent farmer must study her closely, both for pleasure and profit to be successful. Consequently, the O. A. C. graduate has a great advantage in this respect over those whose education is limited to a public school. But it may be maintained by some that a careful course of reading would supply all the pleasures obtainable from having an educated mind. But this is not the case, we must come in contact with well trained men that the truths read may be impressed and retained, and no amount of reading will compensate for a deficiency of practical proof and experience. Truths read and lessons taught are fully appreciated only when taught and explained by practical men.

But the question which interests us as graduates and ex-students is not, what are the advantages of the O. A. C. course of study, but are we rightly employing and improving the advantages we feel we have gained by our two years of practical study? Are we doing what we should to build up and maintain the reputation of our College, that others may be induced to go there and be benefitted? Are we, as individuals, striving to do the best for ourselves and our country according to the instructions given us? Our position is evidently in the front ranks, leading the agricultural thought and practice of our fair Province: let us, therefore, be alive to the position we hold, and show by practical proof, that we and our College are able and fitted to lead ourselves, and farmers generally, to success, in this age of agricultural depression. Much good work has been already done, but there is yet a great deal of progressive, intellectual labor required before the science of agriculture is understood by the vast majority of those who cultivate the soil. At present they are uncertain whether the training given at the O. A. C. is practical or not, let it be the aim of each one of us to show by practical proof and experiment, that it is practical, and that we are better, wiser and more successful farmers after taking the two year course of study at the O. A. C.



Correspondence *

* and Contributed.

The Maritime Ex-Students of the O. A. C.

The second annual meeting of this society was held in Fredericton N. B., on Thursday, Jan. 30, during the convention of the Provincial Farmers' Association. The attendance, though fairly large, was not so full as was expected, the prevalent malady, La Grippe, having prevented many from coming. After the reading of the minutes and several letters of regret from members who were unavoidably absent, the President, Mr. P. C. Black, A. O. A. C., addressed the meeting. He said it gave him great pleasure to meet again his fellow students after a year's work, and to recall

those pleasant days spent at the Alma Mater, which ever remained green in one's memory. Unfortunately, sickness had kept many from attending who would otherwise have attended, yet the tone of the letters of regret showed their hearts were with the meeting, although they were absent in person. An Agricultural College student in the Maritime Provinces has many difficulties to overcome in the practice of his profession that his Ontario cousin never experience. In the latter Province the students live closer together than in the East. They are in a better position to consult one with another and to receive mutual improvement from frequent intercourse. In New Brunswick and Nova Scotia it is entirely different. A graduate going into a section here, and putting into practice the experience gained either in the class-room or on the farm is the subject for the jibes and localized yarns of every know all and oracle the place contains. He is held as a terrible example of what "book larnin'" will do, no matter whether his fields look better or neater than those of his taunting neigh'ors, or his cattle or sheep pay better for the extra care bestowed upon them. Many of the farmers were the victims of barbaric superstition. They acted upon ideas transmitted to them through a long line of ancestry to which they most religiously adhere. As an example of this the President pointed to the common idea that the horns of our animals were the seat of all its maladies. If the stock was wintered upon straw and water and was too weak to eat grass in the spring, a diagnosis usually gave the animal the "horn ail," or still more technically "horn-distemper," and the district torturer would bore holes in the horns and pour in something supposed to have a bearing on the case. This something may be mud, coal oil, salt or tar, or perhaps nothing is put in. It is optional. Mr. Black closed his address by referring to the rapid strides the Eastern Provinces were taking in horse raising, dairying, fruit growing and grain culture, and predicted a glowing future if more enlightened and advanced agriculture was followed.

The President was followed by a short speech from the Secretary, B. Eaton Paterson, B. S. A. of '88, who remarked upon the interest taken by the students of the O. A. C., who were then in the Maritime Province. He felt that papers of a more scientific nature than those usually upon Institute or Grange programmes would not only prove directly instructive but would also help keep up the study of those sciences which found their practical application upon the farm. The ordinary course at the O. A. C. would not admit of the student going into the minutest details of the various subjects touched upon, and it was expected that after leaving the College the study would be kept up. The annual gathering exerted a benefit by increasing the interest in the sciences and by the natural exchange of thought and experience much profit would be secured. He hoped that next year those who were prevented by sickness would attend. A holiday, though directly a loss, yet, indirectly, was spent profitably by giving the body a needed rest and the mind vacation.

Mr. P. C. Powys, A. O. A. C., was glad the students were taking an interest in the society's work, and hoped that the future meetings would be still better attended. Several who had not yet fallen into line, he advised to join at once and help along the work of the society. As an active farmer he realized truly the force of the statements made by the President in reference to the criticisms to which the graduates were submitted.

Mr. A. B. Wilton, A. O. A. C. '88, spoke of the immense practical benefit to be derived from a course at Guelph. The

society was to be congratulated upon its present healthy and satisfactory state, and hoped the members would meet annually and strengthen the bonds of union between them and their Alma Mater. He was pleased to see that the various farmers' societies endeavored to get as many papers as possible from the ex-students; this fact points to the good work that is done at Guelph.

Mr. W. W. Hubbard dwelt upon the importance of extending the operations of the society and promoting in the members a taste for agricultural science. We were too apt after leaving College to neglect the instructive subjects appertaining to the scientific part of the profession. While the theory may not produce any direct financial return, yet the thorough knowledge of it places its possessor above the plane of the ordinary plowder.

Speeches were made upon interesting topics by others present and the election of officers proceed with. President Black was unanimously re-elected. The election of Secretary was by ballot, and B. Eaton Paterson was re-elected by a large majority. At the conclusion of the meeting a supper was held in the Queen's Hotel.

FARMERS' INSTITUTES OF THE EASTERN CENTRAL DIVISION

Comprising the Counties of Ontario, Victoria, Peterborough, Northumberland and Durham

To the Editor of the O. A. C. Review:

Our deputation consisting of Jno. I. Hobson, of Mosboro'; Jno. Croil, of Aultsville, and the writer met at Uxbridge where we held our first meeting on Jan. 3rd. Uxbridge is a small town, well built and situated just north of what is known as the sand ridges, which are covered for the most part with scrubby pine. Just now Uxbridge is not in a very prosperous condition; due largely to agricultural depression.

The Institute meeting was fairly well attended, and Mr. Gould, M.P.P., took a very active part in the discussions. The deputation, however, furnished the programme. Next day we took the train for Brechin, some 50 or 60 miles north of Uxbridge, and situated about a mile from the north-east part of Lake Simcoe. The railroad is laid out through almost one continuous tamarack swamp for about 40 miles of the way. Emerging from it, near Lake Simcoe, we saw some farming land unexcelled in the Province. We had a rousing meeting at Brechin; Mr. Gould, M.P.P., and Mr. Madill, M.P., helping to make it a great success. Among other things chess and wild oats were discussed. We learned that some farmers here were ridding themselves of the latter pest by leaving their meadow lands seeded for four or five years. Great complaint was made against the millers taking so much toll—as high as $\frac{1}{4}$ and 1-5 in some instances.

The evening meeting was crowded with ladies and gentlemen, and Mr. Croil and the writer were left to entertain them. A good programme of music was interspered, and the farmers seemed to be favorably impressed as some 20 or 25 members were added to the Institute.

Being invited to spend Sunday by a sturdy Scotchman we accepted his kindness, preferring his hospitality to the hotel, and we were treated most royally. Through a pelting rain, over a rough road in a lumber wagon, and in a hurry to catch the train, we left our hospitable friend, and I am thankful to say we got there in time. A few hours ride brought us to Lindsay, a thriving town

of some six or seven thousand inhabitants. Here we spent election day quietly, and the following day, being rejoined by Mr. Hobson, we opened fire at the Lindsay Institute. There was a large attendance of the leading farmers from the vicinity, and among them we saw our friend Tim, looking hale and hearty. Mr. Hopkins made a fine President and aided much in making this one of the most successful of our meetings. To give you some idea of his tact, in calling upon Dr. Harriner (for there were present doctor farmers, lawyer farmers and editor farmers) to read his paper on swine industry, he remarked, "You know, doctor, you are sometimes pretty long winded just make it as short as possible." Didn't the doctor wade in though! His paper suggested some valuable hints, such as feeding swine on clover and using the Yorkshire breed to improve our common herds, in order to get the stamp of animal required for the present market, Mr. Matthews, a large pork dealer, stated that the best weights were from 180 to 200 lbs., and having as much lean on the back as on the belly puts. Several other interesting papers were read and discussed.

Next day we had the long drive of 22 miles to Bobcaygeon. We had not gone very far when our driver ran into a vehicle ahead of us, upsetting it and emptying its occupants, a young man and his sister, out on the frozen ground. The "big man," Mr. Hobson; the "old man," Mr. Croil, and the "young fellow," all vied with one another to get there first. After extricating the unfortunates and setting them right again we resumed our journey and the "big man," being in extra spirits, made the rough way "sweet and delectable." All the while he was revolving in his mind how he might make use of that incident to ridicule me at some meeting. The opportunity soon afforded itself. Our route lay through a more or less rolling country and very picturesque. Here and there beautiful fresh water lakes came on our view, and gave the country a very romantic aspect, which seemed to culminate in Bobcaygeon itself. On the way we noticed some 50 acre barn-yards, and on the whole it didn't strike me as being a very attractive place for agricultural pursuits, although there are sections of good land in the vicinity. We noticed the farms of Mr. Fairburn, the Leicester sheep breeder, and Mr. Boyd, a lumber king and breeder of Aberdeen Angus Polls. He is going out of the latter and is now devoting more attention to the breeding of Clydesdale horses. On entering Bobcaygeon, a town of 1200 inhabitants, and a considerable summer resort, we saw massive lumber piles and plenty of bare rock, which furnished the "big man" and myself with some jokes on the gardener as to how he was going to interest these people. He smiled, for he had been there before. The weather turning quite rough the institute wasn't very largely attended. However, we had some interesting addresses, papers and discussions. Mr. Nailor, of Fenelon Falls, was greatly pleased with his ensilage. The evening meeting passed off pleasantly. The "big man" preface his address by submitting to the audience what a ladies' man the writer was, backing his statement by a reference to the recent incident where he claimed that he and the "old man" had to lift the heavy carriage while I paid every attention to the young lady. The writer, in defending himself, had the sympathy of the meeting in doing what he did, and in addition revealed something left out by the former speaker. The monotony of the second day was relieved by a practical joke now and then. A Welshman, addressing the meeting on sheep husbandry, dwelt at great length on his personal qualities, etc., and was describing how he selected his first sheep in Wales, when the "old man" whispers to the "big man," "he hasn't caught that

sheep yet." To the utter disgust of the "old man," Mr. H. interrupted the speaker by saying, "Mr. Croil thinks you are a long time catching that sheep."

Our ride of 26 miles to Peterboro' the next day was quite eventful. During the night considerable snow had fallen and there was good sleighing in Bobcaygeon. Our driver, misled by this, hitched to a pleasure sleigh to carry five of us to P. We hadn't gone far when the "big man" proved to mean for the frail sleigh and bad roads. It gave way and we were elected for a walk of some 3 or 4 miles until a farmers' carriage could be obtained, after which but for the chilly easterly winds which we had to face across two floating bridges, each a mile in length, we might have ridden to P. quite comfortably. It is better to read about than experience. However, some music (ycan) from our large friend relieved the monotony. At Peterboro' a flourishing town large enough to be incorporated into a city, we had a very small attendance at the Institute meeting. Of course it guppe was very much blamed. Mr. McIntosh gave some pointers on amateur butter making. He claims that the butter ought to come with 15' churning, by keeping the cream sweet until the churning is ready, when all should be soured together beside a stove for a day and one-half. Salt should be mixed with the butter on a cloth by working the corners of this cloth. That butter packed away under bri : will keep a long time and may be shipped long distances without injury.

T. RAYNOR, B.S.A.

Mr. P. C. Black, '84, is one of Nova Scotia's most enterprising farmers. His farm at Falmouth is one of the best in that section, and he takes great pride in its management. He has been secretary to the N. S. Dairyman's Association for some years, and was sent as a delegate to the convention at Ottawa. He rejoices in being part of the ancestry of a small little girl.

B. Eaton Patterson, B. S. A. '88, has sold his interest in the *Maritime Agriculturalist* of Sackville, N. B., and is filling the editor's chair on the *Chicoutimi Post* in that town. "Pat" still has a warm spot in his heart for the O. A. C., and wishes to be remembered to all the students. He sympathises with the ex-students who joined the benedicts in the recent matrimonial epidemic. Perhaps "Pat" thinks he'll require like sympathy 'ere long.

The following is from the *Alamonte Gazette*: Farmers in this community are taking more interest in their profession of late years. Some time ago silos were not heard of; but now we have three or four in this district. Your correspondent had the pleasure of an interview with Mr. W. E. Serson respecting his silo. Mr. Serson informs us that his ensilage is in first-class condition. From the appearance of his stock we are inclined to believe they are fed on something more than ordinary farmer's cattle. Mr. Serson is an Associate of the Ontario Agricultural College, and a farmer in the true sense of the word.



PERSONAL.

T. Raynor, B. S. A., was lately elected President of the Farmers' Institute in his Riding. We have no doubt but that he will make the Institute a success.

J. A. Douglas Scott and R. S. C. Harrison of '88 class are farming at Beautiful Plains, Man. F. N. Donaldson, A. O. A. C. of '87, is farming in the same locality.

P. S. McLaren, A. O. A. C. of '98, of McGarry, Ont., is one of the leading agriculturalists of Lennox County, and is counted one of the best judges of live stock in the district.

J. W. Robson, of '88, who was unable to complete his course on account of ill health, writes us from Postage la Prairie, expressing his intention of returning and completing his second year.

J. J. Sinclair, A. O. A. C. of '88, is farming at Ridgeway, Ont. J. J. is an enthusiastic horticulturalist and horse breeder. He is also a regular attendant at our Experimental Union, and is ever ready to enliven the discussions.

Mr. A. B. Wilnot, '88, farms at Belmont, N. B., with Short-horns as a speciality. He recently lost a fine young bull which he imported from Ontario some time ago. Although professing a farmer yet he is still an authority on the Bacon-Shakespeare question.

H. B. Hall, of '84 is farming at Gagetown, N. B. He is an authority on the silo, being the first to introduce the system in his locality. He is still in a state of celibacy, but Dame Rumor says he is shortly to make a Hall out of the abundance of provincial fair ones.



Local News.

In deference to the advice of the authorities at Toronto the *Conversazione* will not be held this term. The dance was distinctly forbidden.

BUSINESS Managers wish to acknowledge subscriptions from the following: W. W. Hubbard, H. B. Jeffs, P. C. Powys, J. W. Robson, Jas. A. D. Scott, Miss Maggie E. Hudson.

OUR Doctor still lives; yet it is a marvel, for among other casualties he got a tumble off the bridge into the barn last week, rolling down the bank and taking the cart and cutting-box with him.

We had a nice cold snap the beginning of March. Of course just at that time something must go wrong with the boiler, so that we had the pleasure of being without hot water for 2 days. This is hard on young and old shavers.

MR. LINTFIELD has recovered from his injuries caused by a nasty fall on to the wagon while teaming ice. Before the mattress was put under the bar Mr. Carlyle got a bad shaking from a tumble, but soon was all right again.

THOSE who keep a sharp look out on the "Dailies" will have seen that this Institution occupied the attention of the Provincial Parliament the other day. One hon. member was much annoyed at seeing that a porcupine was among the recent additions to the live stock here. The Minister of Agriculture endeavored to pacify the gentleman, and according to the *Mail* explained that it was a "reprint for pitchfork"--(sic)

OBSERVE the utility of the READER. We noticed the 2nd-year boys tramping into the lecture-room the other day each armed with a copy. Boys, subscribe for it; it must be worth reading if a Professor uses it as the basis of his remarks.

SHEEP-SHEARING started on Feb. 27th. We noticed our experienced shepherd, W. E. Holford, flitting lightly about the wool room and sheep pens armed with a pair of formidable shears. The Dorsets are coming well to the front as regards number and strength of lambs.

We are being treated to fish for dinner, and eggs for tea on Fridays. One would think, the other night, that all the roosters in Guelph were in the dining hall. Two hens at our table kept up a continuous cackle but the English table caused the most laughter by a concerted "Cock-a-doodle-doo."

THE horizontal bar once more is erected and affords ample opportunity for the "Model Ducks" to exercise themselves upon. It is greatly patronized, and passing through the locker room it is a common thing to see a pair of yellow (stocking) webbed feet gripping the bar while body and wings sway gracefully below. Oh, for a gymnasium proper!

THE first missionary meeting in connection with the Y. M. C. A. was held on the 27th, ult. Mr. Whitley led, reading extracts from letters of men hard at work on the mighty Congo, thus giving a good insight into the manners and customs of our African brothers, and some idea of the encouragements and difficulties of missionaries on that field.

AN oft-quoted line from a song in the entertainment noticed in our last issue runs, "They say Mr. Storey is going to be wed, — later on." We have been thinking that in this case the adage "there is many a true word spoken in jest" might be fulfilled, for our worthy farm foreman has been away such a time buying a team of horses, and then he came back without them looking particularly radiant, while he skittily parroted all quizzing allusions to the wife.

We trust that students' wages will improve shortly. With all due respect to the teaching of Political Economy we contend that boys deserve fair wages for a fair morning's work on cattle. It is undoubtedly policy to hustle a boy out of his nice warm bed at 5.40 to clean out cow stables and then pay him 7 cents for an hour and-a-quarter's work. Boys who work honestly all afternoon packing ice, threshing, or picking over rotten oats are worth more than 7 cents, and why do they not get it?

AT the Literary Society's meeting on Feb. 21st, the programme opened with a song from Mr. Whitley. Mr. Wood followed with a maiden speech, taking for the subject of his remarks "Cornish." Mr. J. H. Cowan then spoke on "Shortness," giving a pretty minute account of the early history of the breed. Mr. G. A. Brudie then opened the evening's discussion, urging that heavy horses are more suitable for the ordinary farmer's use than light ones. Mr. R. E. Cowan opposed him making out a very good case. The subject was then handled in a lively fashion by several members, and proved to be one of the most interesting discussions we have had for a long while. Mr. Carlyle continued in the same strain for his five minutes' speech, and Mr. H. C. Thomson put us all in good humor to go visiting by a comic reading.

ON the 24th, Feb. we had the pleasure of a visit from Capt. W. D. Andrews, R.H.S. He related in a very modest way the his-

tory of the many medals that adorn his breast, causing us to reflect as he did so that the age of heroes has by no means passed. The valiant Captain, a member of the Toronto Harbor Life-saving crew, has rescued no fewer than 69 people from drowning, in many cases at most imminent peril of his own life. We all most heartily cheered the brave fellow as he stood before us, and greatly sympathized with him at the loss of his eyesight, which has been caused by exposure to weather and water while a member of different life-saving services. The Captain gave us several recitations of his own composition in a stirring manner, and as he departed cheered us by saying he hoped to pay us another visit "later on."

FIRE drill has now been instituted. Professor Angell has delivered lectures on the science and instructed us in the practical handling of hose and wrenches. We trust it will be long before a fire visits any of the buildings, but if one should come, no matter in what obscurity its origin may be involved, we fully believe, other things being equal, that the O. A. C. Fire Brigade will be able to successfully cope with it. The first practice was great fun. It had been arranged that a trial of speed should take place at 4 p.m., but according to authentic records the alarm was given at 3.30. (Ex-students will doubtless remember the old trick of ringing the bell from the smoking room.) Out rushed the boys from stox and in a very few seconds were sending a fine stream of water over the laboratory. One boy, a little late, yet anxious to do his best at rescuing imaginary persons from the roof, could hardly descend the ladder against the strong volume of water. "We're all unlucky passers-by! The pressure was strong, and many an unwary traveller got a good soaking. Much to the annoyance of the Commander-in-chief the new hose was used and naturally got delightfully muddy; however, it soon dries in the live stock class room.

THE meeting of the Literary Society on the 14th, was of a purely agricultural nature. Owing to some misunderstanding the arranged programme fell through, and within 10 minutes the whole of the items, including the debate, were arranged for. The proceedings opened by Mr. Whitley singing "The Bugler." Mr. A. Thompson followed with one of his comical and always welcome recitations, the only possible objection that could be raised to it is that it was too short. Messrs. Buchanan and Morgan then gave a duet for violin and organ, which was enthusiastically enjoyed. The impromptu debate was the next item, the resolution being "That Side Shows be abolished at Agricultural Fairs." Messrs. Whitley and McCallum upheld the motion, while Messrs. Hadwen and Monroth spoke against it. Several arguments were brought forward, and a good discussion followed; the affirmative side won, gaining the favour of both the committee and the house. Mr. Zavitz, B. S. A., next recited in capital style, "Come with a Handhammer Man." Mr. White followed in an extempore speech, continuing the subject of debate. As the critic was speaking Mr. J. C. Harris took his place for the evening and gave many useful pointers to those taking part. The Society was favored then with a short but pithy address from the Honorary President, Professor Pantou. Some hints were given on speaking, and the great advantages to be obtained by attending the meetings: a few earnest and well chosen words followed on the building of character. The Professor's idea was that the building of one's character should be enclosed by the four walls, Sobriety, Honesty, Industry, and Purity, the whole to be roofed in with Religion.

WE have a large supply of ice on hand now. The two regular houses are filled and the old horse stable at the south barn has its quota.

WE regret to report sickness in the College. Six boys are down at present with measles, and are having rather a dull time of it. One more has had them and gone home.

FIRE escapes have been erected at the N. and E. ends of the building. We welcome them, and shall retire to our downy couches with a greater sense of security, feeling that locked doors do not now entrap us in case of fire.

THE students have all been presented with a copy of the *Farmers' Advocate* for March, which contains a good photo. of Professor Robertson, and a short sketch of his life. Unknown friend, accept our thanks.

TWO or three of our practical student carpenters were needed lately in the granary. Owing to a defect in the construction the front of the bins burst out, and three or four hundred bushels of grain quietly commingled and spread over the floor.

LISTEN with all your ears! Miss not this paragraph whatever you do! Summon your friends and neighbors, gather them round in an expectant circle, screw up their curiosity to the highest pitch, and relate in awestruck tones that new tea-pots have been purchased for use in the dining hall!

WE boys are getting full information from Prof. Shaw as to the feeding experiments with the steers and pigs. We all know how important it is to keep stock clean, so we were hardly surprised, but decidedly amused the other day while strolling round the buildings, at seeing a great long fellow in the piggery tenderly grooming the sweet little porkers.

THE Creamery is being utilized this winter, as under Mr. Harcourt's careful supervision the cows over in the new stables are doing well, churning being effected by means of a "Daisy," and delicious butter marketed at Toronto. Experiments are being conducted as to the respective values of silage and dry corn stalks for feeding; we hope to publish results as soon as they are known.

PROF. HUNT is giving a series of talks on elocution to the 1st. year. The instruction is very welcome to all, and we live in hopes that this subject will be thoroughly taught here as part of the curriculum ere long. "Meanwhile the tramp, tramp, tramp sounds on" as the future elocutionists and orators of our fair Dominion hurry to their exercises on breathing and explosive vowels.

MR. RENNIE led the Y. M. C. A. meeting on the 20th. Feb., Mr. Zavitz on March 6th., and Mr. Hunt on the 13th. The Sunday afternoon Bible Class has undergone a little change lately. The President, thinking it would be well to let boys gain experience here in conducting a class, put Mr. Dean in charge on the 2nd. inst., and Mr. Zavitz and Mr. Whitley on the two succeeding Sundays.

ANYONE paying a visit to the tower would hardly need to be told that the 2nd. year are studying Entomology. Pupae of various insects, as well as eggs, are to be seen tastefully decorating one room in particular. The Deacon will wake up one of these fine mornings to catch a *Chrysobothris femorata* trying experiments on his clubs, or gracefully skip out of bed onto the larvæ of some *Doryphora decem-lineatus*. We wish him joy when the "little kind of leese-like arrangements" get exploring his bureau and closet.

WE have had a delightful series of musical meals lately. Sweet strains have issued from small instruments brought in by boys with large developments of time, tune and mischief. Such melodious rounds are greatly conducive to an enjoyable meal and complete digestion, and as the Professor on duty one day expressed himself as so delighted with the harmony, it may be, that if the Government is petitioned, instead of a diminutive musical box, we shall in the glorious future have a complete string band in the musician's gallery.

LAST Saturday some experiments were carried on with a new principle rope drive. The engine was set away up at the carpenter's shop and a single thin rope running over a carrier transmitted the power to this new jack at the barn door, whence the belt ran in to the separator. It worked splendidly and the gentleman from Bell's factory, who has so neatly and efficiently carried out the design, was highly pleased with it. It is so constructed that the engine can be set at any angle with the barn thus entirely obviating any danger from sparks.

MOST of the boys were out on the 13th. owing to the strong attractions down town. The Knox Church Young People gave a first-rate Literary Evening, at which Professor Hunt took part in a debate, as well as one or two of the 3rd. year; there was also a Coffee Social at Norfolk St. But the chief attraction was a concert at the City Hall in aid of St. Andrew's. Many of the dear creatures to whom the O. A. C. boys have long ago lost their hearts were there, while an excellent programme, in which some special favorites took part, was presented.

MR. A. LEHMANN, Graduate of Class '89, is now back again working as assistant chemist. There is a nice savoury analysis being made now of waste fish from the canning factories of British Columbia. The object is to see if it will be profitable to extract the oil from the refuse, if so, for what it is best adapted; and further the value of the residue as a fertilizer. We trust Mr. Lehmann enjoys the delicious perfume as much as the lady students do, who so coyly seek refuge in the evaporating room when "those dreadful boys" of the 1st. and 2nd. years are passing in and out.

IT is rumoured that a question on the 1st. year arithmetic examination paper will be to calculate the amount of mud saved from being brought into the College by the laying of a few planks round the buildings. Extended into the book-keeping department we might credit Field No. 7 and debit Real Estate, or try it with Household Expense and Store Steers. In all seriousness, though, surely round an Institution of this nature, a Model Farm, a few dollars might be spent on a sidewalk, and thus save the fearful floundering through the deep mud that we have lately experienced.

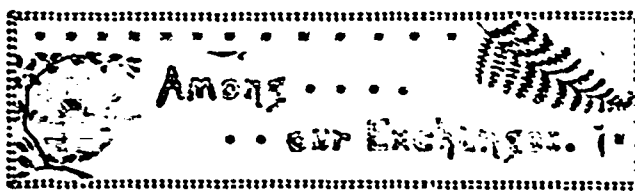
THE Literary Society's programme on Feb. 25th. opened with a violin and organ duet by Messrs. Buchanan and Morgan, which was well received and deservedly encored. Mr. Field read a very interesting account of a trip from Toronto to Winnipeg, shewing us that he possesses a great faculty of observation and good descriptive talent. The debate was "Soiling v. Pasturing" discussed in a thoughtful and amusing manner by Messrs. J. Harcourt and Gibson against Messrs. Watson and Haight. Mr. McCallum gave an extempore speech on "Pigs," and Mr. Wells concluded with a comic reading.

AN exciting pillow fight occurred on "Upper Hunt St." the other night. A party from the lower flat went up with pillows

and bolsters and commenced belaboring the occupants of the rooms, who after recovering from their surprise fought well and gradually drove back their opponents. A gallant stand was made though at the head of the stairs; the fight was waxing hot and furious when up marched Professor Hunt causing a speedy dispersion of the armed warriors. One youth was caught by the President brandishing his trusty blade on the staircase, reminding one of Umlapogaas' exploits as related in "Allan Quartermain."

At a recent meeting of the Literary Society it was resolved to give a prize of \$10 for the best essay on, "The Ontario Agricultural College as a Link in our Educational System." The length of the essay must not exceed 1500 words and is to be sent to the Secretary, Mr. Hunt, not later than May 31st. All students and ex-students will be allowed to compete, and we hope that a number of our best men will write that an excellent essay may be forthcoming. The object of having this essay written is, that it may be published in the REVIEW and in all the local, agricultural, and leading daily papers of the Province, so that the farmers may know what kind of work is being done at the Ontario Agricultural College, and thus induce a larger number of students to attend and thereby benefit both the agricultural interests and those of the College.

At the meeting of the Literary Society on March 7th, the programme opened with an interesting speech by Mr. Harris on the work of the ancient Druids. Mr. Hewitt's reading entitled "A Lost Youth," was nicely rendered and excellent appreciated. The subject of the debate was "That it would be better for the Advancement of Agriculture if the Graduates returned to the Farm." We had good, practical, and clever men to open the most important subject, as Mr. G. Harcourt, B. S. A., spoke on the affirmative side, and Mr. C. Zavitz, B. S. A., followed on the negative. Their colleagues were Messrs Conn and Mounts, both freshmen. The debate was well sustained and the discussion following animated, both house and committee decided in favor of the affirmative. Mr. A. Thompson, the College wit, testified in an amusing style "Uncle Ned's Defense."



We welcome to our table this month a copy of the *Young Friends Review*. The *Review*, although of no direct interest as a college paper, contains many articles that are worthy of careful perusal.

The faculty of Wooster University, O., recently issued an edict against dancing, whereupon a "stag" dance was organized by the students in which the faculty were formally invited. A most enjoyable evening was spent, but the number of professors who attended is not reported.

The *Owl* has at last come to occupy the place intended for it on our exchange table. After having read many favourable comments regarding it, we of course looked forward to its arrival with doubled interest, we were not disappointed, but on the contrary, our expectations were fully realized. The present number has an article on "The Transition Period in English Literature,"

in which the writer seems up in a few columns the course literature took during this period. Many of the writers endeavoured to fill their compositions with obscene allusions, merely to keep pace with the stage, which had become such that it has seldom been equalled and never surpassed in any age. It goes on to say that whilst the leading poets could scarcely earn their bread, the poorest play-wright could grow wealthy. From these and several other reasons the writers of this age were unfit to be handed down to posterity. Another article entitled "In the Land of the Arctics," gives us some idea of the advantages of living in such a country.

Among the new visitors to our table this month is the *Advocate* from the Wesleyan University, Kansas. The *Advocate* has now taken the place of the two papers, *Lane* and *Advocate*, previously issued by the students of this College. Judging from the initial number the editors will have no trouble in producing a paper capable of replacing the *Lane* and *Advocate*. The article on "College Journalism" sets forth in a few well chosen words the true object of a college paper, viz., "It gives to the world the real standing of the institution which it represents, and the kind of work that is being done. It provides for the students a medium through which they may express their sentiments, and hereby profit by each others opinions on the current topics of the day." The literary columns of the *Advocate*, containing such titles as "The Puritan and the Cavalier in our National Life," and "Shakespeare's King Richard III.," are especially attractive.

We are indebted to the *Maritime Agriculturist* for the following account of the life and untimely death of the late W. J. Gilbert, an Associate of '87:

"Yet once more, O ye laurels, and once more,
Ye mortals bowen, with ivy never sere,
I come to pluck your bitters harsh and crude
And with few odorous tingers rude
Shatter your leaves before the mellowing year"

—Milton

"It is with deepest regret that we have to announce to our readers the death of the editor of this journal. On the 7th inst., the late W. J. Gilbert bought out Mr. B. Eason Paterson's interest in the *Agriculturist* and assumed his duties as editor, entering into partnership at the same time with his brother, the present manager and proprietor. The new firm was to have done business under the name of "Gilbert Bros.," but before the change could be made known to the public, Mr. Gilbert was stricken down with congestion of the lungs, at his residence, Willow Farm, Dorchester, N. B., and died in a few days. He was a young man of very superior education, having attended the Collegiate School, Windsor, N. S.; Trinity College School, Port Hope, Ont., and the Ontario Agricultural College, at Guelph. The last mentioned institution he graduated from with high honors, and was a class mate of Mr. Paterson. He has farmed successfully at Dorchester for the last three years, and by his death this journal has lost the assistance of a scientific, practical and enthusiastic farmer. Our former editor, Mr. Paterson, will attend to the editorial work of the *Agriculturist* until definite arrangements can be made. All letters and manuscript intended for publication will be addressed to the "editor," and business communications will be directed to Robert Jarvis Gilbert, manager and proprietor."