

PAGES

MISSING

THE O. A. C. REVIEW

"THE PROFESSION WHICH I HAVE EMBRACED REQUIRES A KNOWLEDGE OF EVERYTHING."

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No. 1

Selection in Poultry

By G. R. WILSON, '18.

AT the present time the cry for "increased production" echoes louder and louder. Everybody is strenuously struggling to produce. Production is pre-eminent. Even with the present degree of earnestness and close application there are still a few processes unutilized, a few opportunities slipping past. Most dairymen have adopted the motto "breed, feed and weed." The adoption of that motto in poultrydom never was more urgently needed. Instead of becoming pessimistic and relaxing hold on the "old hen" we should cling tighter and tighter. It is true feed prices have advanced out of bounds in comparison with egg prices. In view of those facts you ask—"How is it possible to produce eggs at a profit? You say there is no money in hens be they good, bad or indifferent." As to the bad and indifferent hens we quite agree with you, but as to the good hens we must delay our answer until we have considered the situation.

Did you ever stop to analyze the present circumstances? Let us be white about it and give the hen a chance. Let us consider the situation taking the year 1913-14, previous to the war, and the past eleven months of 1916-17. From information gathered by the Poultry Department, O.A.C., Guelph, and presented in the accompanying table you will notice that seven pounds per month is the amount of grain taken as consumed by a hen,

that being the amount generally conceded to by poultrymen. The grain is figured as composed of oats, corn and wheat in equal parts and fifty pounds taken as the weight of a bushel. It should also be explained that the figures for August, 1917, were not available when the table was compiled so August is taken the same as July of the same year. You will also notice the overhead expense taking in those constituents of the ration other than grains, as green food, buttermilk, etc., and also the labor, which has advanced about twenty per cent. since the outbreak of the war, is allowed for by the addition of two eggs per month.

From the table, then, it is clear that for the hen to pay for her keep in September, 1913, she had to produce 6.42 eggs while in September, 1916, she had to produce 6.22 eggs. Again in May, 1914, with grain at 74c a bushel the hen had to produce 8.42 eggs while in May of 1917, when grain took a leap heavenward to \$1.86 per bushel, the hen found herself in a more complicated condition from which she could only emerge by the production of 9.78 eggs. But she does not have to produce according to the advance in grain prices which is explained by the fact that in May, 1914, eggs were only twenty cents per dozen as against forty-one cents a dozen in May, 1917.

It is also shown that the 84 pounds of grain consumed in the year 1913-14 at an average yearly price of 73c per

bushel cost approximately \$1.23 and the hen must produce 81.17 eggs to pay her keep. In 1916-17 the 84 pounds of grain at the yearly average price of \$1.37 per bushel cost approximately \$2.30 and the hen had to produce 94.47 eggs in order to pay her way through. That is to say she had to lay 13.3 eggs more in 1916-17 than in 1913-14.

Taking the average price of eggs for 1913-14 as 28.6 cents per dozen or 2.38 cents per egg and that of 1916-17 at the average price of 41.75 cents per dozen or 3.48 cents per egg, we find that an hundred egg hen in 1913-14 would make a profit of $(100-81.17) \times 2.38$ cents or 44.81 cents whereas in 1916-17 the same hen could only make a profit of $(100-94.47) \times 3.48$ cents or 19.24 cents. From that we can only conclude that the price of eggs has not kept pace in advancement with feed consumed by the fowls. We have less than half the profit on an hundred egg hen in 1916-17 than we had in 1913-14, or, if we turn it around and

put the same thing in other words we would say that a hen which laid only 89.25 eggs in 1913-14 would make us equally as high a profit as a hen which laid 100 eggs in 1916-17.

$(100-94.47) \times 3.48 = 19.24$ cents.

$(89.25-81.17) \times 2.38 = 19.23$ cents.

Thus an hundred egg hen was more profitable in 1913-14 than she was in 1916-17.

Now, then, for every egg layed in 1916-17 over and above the 94.47 eggs necessary to clear expenses we have a profit of 1.1 cents more than we had in 1913-14 for every egg layed over and above the necessary 81.17. On the hundred egg hen we had $(44.81-19.24)$ or 25.57 cents more profit in 1913-14 than in 1916-17. But for every egg the two hens lay above the 100 egg mark the 1916-17 hens has an increased profit of 1.1 cents. Thus when $(25.57-1.1)$ or 23.24 eggs have been layed above the hundred egg mark the two hens will be equal in profit. That is to say a 123.24 egg

MONTH.	Pounds of Grain per Month, 1913-14 and 1916-17.		Average Price per Month.		Cost of Grain per Month.		1916-17		Average Price per Month.		Cost of Grain per Month.		1913-14		Average Price of Eggs per Dozen.		No. of Eggs to Pay for Grain Consumed and Two Eggs Overhead Expenses.		1916-17		Average Price of Eggs per Dozen.		No. of Eggs to Pay for Grain Consumed and Two Eggs Overhead Expenses.						
	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17	1913-14	1916-17					
September.....	7	71	9.94	.93	13.02	27	6.42	37	6.22	7	70	9.8	1.05	14.7	31	5.78	40	6.41	7	70	9.8	1.11	15.55	40	4.94	50	5.72		
October.....	7	70	9.8	1.11	15.55	40	4.94	50	5.72	7	72	10.08	1.15	16.1	50	4.15	63	5.06	7	70	9.8	1.27	17.78	37	5.18	50	6.02		
November.....	7	70	9.8	1.11	15.55	40	4.94	50	5.72	7	72	10.08	1.15	16.1	50	4.15	63	5.06	7	70	9.8	1.27	17.78	37	5.18	50	6.02		
December.....	7	70	9.8	1.11	15.55	40	4.94	50	5.72	7	72	10.08	1.15	16.1	50	4.15	63	5.06	7	70	9.8	1.27	17.78	37	5.18	50	6.02		
January.....	7	70	9.8	1.11	15.55	40	4.94	50	5.72	7	72	10.08	1.15	16.1	50	4.15	63	5.06	7	70	9.8	1.27	17.78	37	5.18	50	6.02		
February.....	7	68	9.52	1.29	18.06	33	5.46	50	6.33	7	71	9.94	1.33	18.62	25	6.77	38	7.89	7	71	9.94	1.33	18.62	25	6.77	38	7.89		
March.....	7	71	9.94	1.33	18.62	25	6.77	38	7.89	7	73	10.22	1.50	21.0	20	8.15	36	9.00	7	73	10.22	1.50	21.0	20	8.15	36	9.00		
April.....	7	73	10.22	1.50	21.0	20	8.15	36	9.00	7	74	10.36	1.86	26.04	20	8.42	41	9.78	7	74	10.36	1.86	26.04	20	8.42	41	9.78		
May.....	7	74	10.36	1.86	26.04	20	8.42	41	9.78	7	77	10.78	1.74	24.36	18	9.18	36	10.12	7	77	10.78	1.74	24.36	18	9.18	36	10.12		
June.....	7	77	10.78	1.74	24.36	18	9.18	36	10.12	7	76	10.64	1.60	22.4	20	8.57	30	10.96	7	76	10.64	1.60	22.4	20	8.57	30	10.96		
July.....	7	76	10.64	1.60	22.4	20	8.57	30	10.96	7	84	11.76	1.60	22.4	23	8.15	30	10.96	7	84	11.76	1.60	22.4	23	8.15	30	10.96		
August.....	7	84	11.76	1.60	22.4	23	8.15	30	10.96	YFAR.....	84	73	122.64	1.37	230.03	28.6	81.17	41.75	94.47	YFAR.....	84	73	122.64	1.37	230.03	28.6	81.17	41.75	94.47

hen is as profitable to keep in 1916-17 as she was in 1913-14.

(123.24-94.47) x 3.48—100.11 cents.

(123.24-81.17) x 2.38—100.12 cents.

What about a 150 egg hen? Will she not be more profitable in 1916-17 than in 1913-14? In 1916-17 the profit on the 150 egg hen is (150-9.47) x 3.48—193.24 cents, whereas the profit on the same hen in 1913-14 would have been (150-81.17) x 2.38—164.61 cents. Thus with the 150 egg hen we have 28.63 cents more profit in 1916-17

than we would have had in 1913-14.

There you have the crux of the whole situation. You will plainly see that you keep a hen which lays less than 94.17 eggs in 1916-17 as a total failure. A hen which lays 100 eggs gives a small profit of 19.24 cents. A hen which produces 123.24 eggs gives a profit of \$1.00 and is equally as profitable in 1916-17 as she was in 1913-14 before the outbreak of the war. The 150 egg hen gives a profit of \$1.93, or an excess profit of 28.63 cents more in 1916-17 than in 1913-14.



“Interlude”

By A. SAILOR.

“MR. AMES, I’ll never ever forgive you.”

That sounded rather strange. In things official the officers must not incur the ill-will of any passengers in things appertaining to another viewpoint the threat of being “never ever forgiven” by a lady, young, dark and pretty when one happens to be on the sunny side of twenty-two is to say the least, most alarming. I swung round in my chair, expressed the deepest consternation and asked to know at least “the crime that brought the sentence.”

“On the boat deck just now you said to me: ‘Well Miss Scott I suppose you’re going to have another giddy time going out as you did when you came home, eh—or have you learned that wholesale heart-stealing is included in the 8th commandment.’ Now, I got married in London. The man sitting next to me when you spoke was my husband—he’ll want to know everything about everything and I don’t

think I’ll ever forgive you, really!”

It was then I saw light. Homeward bound in April we had had a very cheerful trip. Miss Scott had been the life and soul of the ship as well as the recipient of all kinds of admiration from the male passengers. While at home she had married an acquaintance of her youth with whom she was now going down to Rio Janeiro. “Now” was in August—my unpardonable crime was in not knowing of the happy event and of the consequent advisability that by-gones should be by-gones.

All is well that ends well—forgiveness was mine when it was ascertained that the gentleman in question had not caught the gist of my remark—a few discreet questions elicited that happy fact and I can point you to a very happy home in Rio, by-gones or not, but the point of my short reminiscence is just this that even in life’s comic interludes silence is sometimes most extremely golden.

Extensive Dairying as a Sideline

By J. C. McBEATH, '18.

WALKERSIDE Farm is an excellent example of intensive methods and proper management.

Whether large farms pay well or whether they do not has often been discussed and considerable diversity of opinion has arisen. From the writer's viewpoint the success of such operations depends largely upon successful management with the application of business principles.

DAIRYING A SPECIALTY.

The Walkerside Dairy, formerly the Essex Farm Dairy and now one of the largest and most up-to-date dairies in Canada or U. S. is one of the many enterprises owned and operated by Hiram Walker and Sons, Limited, of Walkerville. This firm operates the celebrated distilleries and breweries, a private bank, an insurance business and a lumber yard. Large quantities of tobacco and seed corn are also produced.

The new dairy farm is situated about $3\frac{1}{2}$ miles south of Walkerville and is reached by the Walker Road which is cemented for the entire distance. This plant was started only two years ago. It is planned to spend \$350,000 on it so it is far from being completed but the main buildings have been built and others will be constructed as time goes on.

BUILDINGS AND STABLES.

The arrangement of the buildings is very unique and picturesque. Immediately in front of the buildings is a field of about 20 acres around which runs a semi-circular cement road with a row of young maple trees on each side. Near the centre of this semi-circle are built 15 double houses for

the married employees. These houses are very conveniently planned and are supplied with running water and electric light.

The dairy building is large and spacious. It is equipped with the most modern and up-to-date machinery necessary for the handling of pure milk. Bottling machines, bottle washers, coolers, pasteurizers are all made use of. An ice-making machine which is kept running day and night provides means of cold storage.

The cow barns, four in number, are situated at the rear of the dairy building. In the near future two more similar barns will be built. They are of the much recommended one-storey type, each planned to stable two rows of 50 cows. The cattle all stand facing the light. At the end of each barn are two high silos which stand out rather conspicuously in contrast with the bungalow type of barn. The ventilation is a sort of compromise of several systems but unfortunately is not very satisfactory.

The calf and bull barns are of different type, these being two-storey and hip-roofed. The former accommodates from 150 to 200 calves while in the latter is kept 10 bulls and those cows which may be sick or due to freshen. These barns are heated by steam which comes from the grain elevator close by.

Then there are the large barns where the crops are stored. The basements are used as exercise paddocks and shelter for the dry cows and young stock.

Nearby stands a grain elevator with a capacity of 35,000 bushels. This is being fitted with the very best machinery possible.

MANAGEMENT OF THE STOCK.

The stock on this farm is handled on business principles with the idea of making it pay. The milch cows are never turned out from the time they are put in the barn after freshening until they dry up.

The cows are fed twice a day, in the morning after milking and again about three o'clock in the afternoon. Corn silage, meal and hay are fed after the men return from breakfast and the same in the afternoon except that the hay is not fed until after milking or about six o'clock. Plenty of good water is always available.

The young stock and dry cows run on pasture in the summer and in winter are fed almost entirely on silage and hay. Never a day passes that the herdsman does not inspect the entire herd.

CITY MILK TRADE.

This trade demands a milk of high quality and to supply for neighboring towns requires a large quantity. This demand is met by keeping at the present time 200 Holsteins and 100 Jerseys and Guernseys. Cleanliness is one of the features of the Walkerside dairy. The milk is not produced as certified milk but when compared with certified milk from other dairies might easily be called such. The milkers are supplied with soap and towels to be used before milking. The udders and flanks of the cows are also thoroughly

cleansed. Narrow topped pails are used. The milk is put in covered cans and taken to the dairy where it is strained through six thicknesses of cheese cloth, then cooled to 50 degrees F., bottled, and placed in refrigerators at 32 degrees F. The wagons are on their way to town at six o'clock in the morning where the clean, cool milk with a deep cream line is delivered before breakfast.

Customers realize the quality of the milk and are satisfied to pay well. During the summer months 12 cents per qt. for milk and 60 cents for cream were the prevailing prices.

TESTING THE HERD.

A monthly test has been started so by this only safe and satisfactory method the boarders may be weeded out.

The majority of the cows are high grades but there is also some registered stock. Last spring 80 head of Guernseys, registered or eligible for registration were brought from Wisconsin thus forming a valuable addition to the herd.

CROP ROTATION ON THE FARM.

A three year rotation is followed, corn, followed by grain (barley or mixed grain) which is seeded down to clovers. Very little timothy is grown. A small quantity of peas is sown as a soiling crop. This year there are nearly 400 acres of corn, about the same of hay and about 500 acres of grain.



The Outlook For and The Improvement of Dairy Cattle

R. FINKELSTEIN, Ontario Agricultural College, Guelph, Canada.

IT has become an established fact within recent years that the future prosperity and happiness of this country depends on the development and conservation of our agricultural resources, and that no line of agriculture favors so much the conservation of soil fertility as does dairying. Consequently, too, the breeding of dairy cattle assumes great importance.

Additional importance is now attached to the breeding of dairy cattle on account of the turn of international political affairs. There is a pronounced shortage of breeding and milking stock, so the demand for dairy cattle will last for years to come. Then, too, the increasing population of this country, through the land and the appreciation of the food value and economy of dairy products on the part of the consuming public, all tend to increase the demand for dairy products. Higher prices will be the result. The future of dairying, and the breeding of dairy cattle which is intimately related to it, certainly looks bright.

A man intending to breed dairy cattle for profit must have a notion of the type of cattle he wishes to produce. He must have an idea of the forces such as heredity, variation, etc., he has to contend with, and finally how to utilize the laws of nature to his best advantage.

Statistics indicate that only about one per cent. of the total number of dairy cattle is pure-bred. Uniformity of type, fixed characters and the certainty of their transmission is evident. The pure-bred cattle are the best

producers and serve to maintain a standard of development for the same and for inferior animals; they set a mark to be attained by the common types of cattle and thus bring about a general improvement. But to go into the business of breeding pure-bred stock one needs abundant capital, skill and knowledge of improved stock. Then, too, the cheapest and most economical production is not found in the pure-bred stock.

It is safer, when the capital is limited, for a breeder to start out with graded stock and improve it. High grade animals are far more useful than pure-breds; they are comparatively cheap; their production is valued, though they cannot be relied upon to transmit their characters.

A word about the common or the scrub class of dairy cattle. This is the most abundant class of those mentioned here. The animals are bred carelessly and in a haphazard fashion. No regard to ancestry is made in mating. No attention is paid except to the fact of the reproductive act. This class should be eliminated or improved.

Assuming, then, that a breeder starts out with graded stock, he should by all means use pure-bred males and as good females as can be obtained. The sire should have the prepotent characters of the breed and not of the individual. Vigor, typical size and external characters of the breed are useful indications of race prepotency. But the most reliable test of prepotency is to see the well-developed progeny of that sire.

If his offsprings are from different females, but still resemble him uniformly, his prepotency is insured. The sire should be mature, and the proper age should be about 4 years.

Sometimes it is necessary to buy bulls that are about a year old. If the young stock in the herd in question are fairly uniform, the calves uniform, and the bull more or less prepotent, any sire selected from such a herd is going to make good in building up particularly graded stock. Price should not be considered in such a case.

Now with reference to the cows. By weighing and testing the milk it is possible to weed out the unproductive ones, that is those that cannot produce at least 5,000 pounds of milk in a year. A greater proportion of cows must be more productive than is now the case, and they are susceptible to improvement. To become really successful the breeder must himself raise a number of heifers which should be selected from the best cows. It does not follow from this that the largest milk-producing cow is necessarily the best cow to select the calves from. The reason is that we are not attempting to perpetuate the characters of a grade cow, but of the sire that is pure-bred. The calves that have at birth the typical characters of the sire's breed are the ones to be selected, and the best character used as an indicator at that time is the color markings. The calves resembling the sire most in this respect are chosen.

In a mixed unproductive herd there is a great variability that the individuals will show on changing the environment. Scantly-fed cows put upon liberal rations will show a varying response according to their nature. The dams that show improvement in production under better feeding con-

ditions are plastic and should be selected for breeding, because a pure-bred bull will exercise greater prepotency over such females.

The pure-bred sire is successful if the cows improve 50 per cent. in butter-fat production. If the dams give 150 pounds of butter fat per year, the offspring when two years old should give 225 pounds or more. If the bull cannot bring about this improvement, he should be discarded. By raising calves the herd can be maintained. The offspring mature while the sire is still useful, and should be bred to him, if they are all alike, vigorous and resemble him.

Half-blood females of uniform type are found in the first generation, even in a mixed breed. The three-quarter bloods do not show improvement equal to that of the half-pure blood and reversion takes place to the type of the original mixed dams. This cannot be controlled, but can be overcome by selection. In-breeding is perhaps the best method to minimize reversion.

In three-quarter bloods the qualities of dams and sires should be considered in selecting individuals for mating. The three-quarter reverted pure-breds should not be used to breed from. Only the continually improving dams should be used for this purpose. Progress in third and fourth generation should be measured by maintaining the production of about 225 pounds of butter-fat. More than this can be produced, and the individuals responsible for it should be retained as the more valuable ones.

When the original sire becomes aged or deteriorated, it is necessary to select his successor. It is necessary then to see that there is a strong resemblance between the old and the new sire, and that they should be "line-bred," that is they should come from the same

herd. Too close relationship should not be feared.

Continued improvement of a herd thus established depends on the care taken in weeding out the unproductive animals and in the liberal feeding of the remaining ones.

Four generations would elapse before a permanent improvement can be reached. Then practically a pure breed is established. This is a point at which the breeder should sell out and begin breeding pure stock.

Drainage Retrospect and Prospect

THOS. COOPER, '18.

THE work of an agricultural college must necessarily be two-fold if it would live up to its greatest opportunities and possibilities—namely—educational and extensional. It must be educational in nature to train the young farmers who are constantly asking to be taught the why and wherefore of natural phenomena, and extensional in scope that many of the mysteries of nature may become unravelled and new data secured regarding the various agricultural problems of the twentieth (20th) century. Needless to say, the O.A.C. is strenuously pushing this extensional work and the Drainage Branch of the Department of Physics is not the least backward in this respect.

The work being carried on by this department is of a three-fold character—namely—(1) Surveying Work; (2) Demonstration Work; (3) Investigational Work. I will confine myself to the first mentioned—that of Survey Work.

This work was begun in 1906 by Professor W. H. Day and has been increasing yearly ever since. During that year fifteen (15) applications were received which totalled five hundred (500) acres. These were all surveyed and assistance given. In 1910, the number of applications received were 518 and of this number 383 were surveyed.

This great increase in survey work

entailed considerable outlay. To meet this expense, the Ontario Department of Agriculture voted one thousand dollars each year of 1908 and 1909. In 1910 this grant was increased to four thousand dollars yearly.

In the autumn of 1916, the drainage work was taken over by Mr. J. R. Spry who still has charge.

All farmers desiring help fill out an application form and send it to the Department of Physics. In due course, a surveyor is sent out to make the survey. Up to the end of last year, the farmer paid the travelling expenses of the surveyor. The Department endeavoured to have a number of applications along the same railway line so that the expenses would be divided up among the farmers and also to avoid waste of surveyors' time. This could not always be done and consequently some farmers were obliged to pay considerable for their assistance. During 1917, the surveyors are sent out to the various District Representatives, who receive a large number of applications also. In this case, the surveyor hands in his expenses to the Representative. These expenses are turned in to the government and the farmer has his work done free of charge. Should there be no District Representative, then a maximum charge of two dollars (\$2) is made.

The popularity of the work is best shown by the following table:

Year	Applica- tion	Sur- veys Made	Applica- tions Held Over	Acreage Survey- ed	Miles of Dra- ins
1906	15	15		500	45
1907	126	70	56	3500	350
1908	166	100	66	5000	510
1909	302	179	121	5157	613
1910	518	383	135	14672	1800
1911	414	327	87	15211	1864
1912	430	293	137	17212	2278
1913	290	247	43	13705	1713
1914	296	250	46	13386	1673
1915	291	263	28	15336	1917
1916	367	318	49	14694	1731

At the present time five undergraduates are engaged surveying. These men will work till college opens in the autumn when they will resume their studies. Up to time of writing (Aug 15) approximately 300 applications have been received of which 100 will be held over owing to the dearth in number of surveyors. They range in acreage from 900 down to 10 acres per application.

What of the future? It has its problems assuredly, but obstacles forecast advancement. The first I will speak of is that of shallow outlets. The open ditches are filled or filling up and therefore no satisfactory outlet can be found. It is impossible to clean these ditches out by means of hand labor. It is scarce, expensive slow and out-of-date. Therefore, there is only one solution to this difficulty—the government or county councils must purchase an open ditching machine. With these, new ditches could be constructed and the old watercourses could be deepened and straightened. The benefit would be two-fold—first—a good outlet, and lastly many acres of the best land which are now bogs, due to the water seeping through it, would be dried up by the ditch. The acreage thus reclaimed along any

ditch would pay for a machine of the largest capacity at least five times. One watercourse near Elora, in a distance of two miles, keeps at least 300 acres in a saturated state due wholly to a shallow natural waterway. If this was deepened at least 90 per cent. of that land could be and would be cultivated.

Another problem deserves mention. It is due entirely to a short-sighted policy on the part of our Highway Commissioners. Ontario is constructing miles and miles of stone road. It is a known fact that where natural watercourses exist that that course cannot be obstructed by public or private enterprise, yet, in the face of this we find highway officials putting in culverts which are only deep enough to carry the surface water. The farmer cannot drain his land unless he crosses the road. The culvert, being so shallow, has not depth enough to give an outlet and as the farmer does not wish to undertake the task of digging through the road—sometimes he is forbidden to do so—his farm remains undrained. He loses his crops; the road is undrained, excepting the surface water, and soon it begins to sink due to the saturated, yielding clay beneath the road. These monuments to a short-sighted policy are to be seen in every county in Ontario to-day.

One more problem is that of tile making. With the increase in demand and the consequent lack of supply some manufacturers are not turning out a first-class article. Clay tile frequently are not burned sufficiently or the clay is not carefully enough selected and many limestones are found in the tile. Cement tile are a comparatively new thing on the market and to a certain extent are as yet in the experimental stage. No standardized method of manufacture and

curing has been made, consequently many different methods of curing are being followed with indifferent results, lack of uniformity in quality being specially marked.

The problems of a private nature are numerous and only need enumeration. The use of larger tile of A 1 quality, greater care in installing drains and last, but of most importance, the proper care of the outlet must be impressed upon the farmers. These are matters of education solely.

The above are a few of the difficulties

presenting themselves. There are none that are not being grappled with. There are none that will not eventually be solved. Altogether everything on the horizon, as far as drainage is concerned, is hopeful. In the near future, organization of drainage districts over which drainage experts will superintend the surveying, planning and installing of modern and efficient systems of open and closed ditches will give the drainage work a greater impetus than it has hitherto received great though that has been.

Craighleigh Hath Charms

(Craighleigh is the home of Sir Edmund Osler, Rosedale, Toronto.)

By MRS. R. B. POTTS, Hamilton, Ont.

"Take thy plastic spade,
It is thy pencil;
Take thy seeds, thy plants,
They are thy colours."

SO wrote Mason, and as the painter with brush, palette, and tubes produces pictures on canvas, just so surely does a work of art result when a gardener who loves nature works intelligently with his tools. "Craigh-

leigh" proves this. Here Nature has the lead and no stiff or unloveable spots are to be found.

What a picture, or rather series of pictures are revealed on entering the grounds of "Craighleigh." Turning immediately toward the right of the entrance gate the perennial border, beautiful in all seasons, sweeps in long curves, skirting the velvety-green, tree



The herbaceous border at Sir Edmund Osler's, showing the alyssum, beet and carrot border.

adorned lawn, gay in its wealth of bloom. It may be well to follow this border—though other views beckon as invitingly—in order that some attempt at a systematic description may be made. What a joy that border is whenever studied! Recently it was in full summer garb, and stately holyhocks (yes, the single old-time kinds long since voted not fashionable enough for our gardens) in soft pinks and cream, with tall blue delphiniums, primrose-yellow foxgloves, flowering shrubs, etc., make the background for the dwarfier occupants of this floral community. Glimpses there are of the plummy white of spireas, but Mr. Allan, the head gardener, has edged this large herbaceous border with the prosaic members of the kitchen garden. Here the carrot waves its plummy green leaves down the full length of the border as proudly as any ferns could do, and it was an attractive sight. Near neighboring is the beet which parallels the other row, and is as upright and dignified as any coleus could be.

Throughout this border, from the beginning until one reaches the gravel walk which leads from the house and paved garden to the pergola (that is the background for the herbaceous border throughout the entire depth of lawn at this section of the grounds) are old-time favorites, as well as many of the newer hybrids of these plants. In this, as in the beds situated on the other side of the path and fronting the greenhouses, one finds many interesting plants. Here, for instance, are gaillardias, not the variety which, from its harsh red and yellow coloring, justified the name of "Blanket flower" being given, since it cannot fail to recall to mind the warm winter covering, but hybrids producing pale flesh-yellow petals with a crimson ring, and others in pale creamy tints, so much lovelier

than the kind usually found. Just beyond are clumps of dainty potentillas. One of these near the entrance to the pergola is delightfully colored, giving hints of primrose-yellow, wallflower-reds and rich browns. Beyond this are the bright miniature marigolds which have not the unpleasant strong scent of the large flowering variety, but when brushed in passing emit a scent rather suggesting lemon.



A spacious pergola adds interest and beauty to the grounds at Craigleigh.

On the occasion of this visit the rockeries (of which there are several) were given special attention. The one in the rear of the pergola was, as usual, very attractive, though the early beauty had passed and the full summer glory was not yet attained. Wandering down the pergola from this point

on the right hand one gets a backview of the long border mentioned, thus making closer acquaintance with the hollyhock, delphiniums, arancus, anchusa, and other tall background plants, yet, between these, getting glimpses of the velvet lawn and stretches of color made by the plant groups in the front of the border as they bloom just behind that carrot edge. On the left of the pergola are rockeries where ferns and other shade-loving plants enjoy existence. Just before the end of the pergola is reached a gate on the left leads to the vegetable garden, attractive enough to merit an article itself, but a path faces this gate and following this part again a rockery appears in a nook, and here honey-sweet fumitory, dainty campanulas and other plants which enjoy a root run among stones find a pleasant habitation.

There is such a wealth of nature's beauty every where around that a fair description of any one part seems impossible, while to do justice to the whole would be a severe task for the most skilful pen.

The formal garden has its special attractions. It was here that the dwarf lychnis appeared in creams and pinks, as well as the bright scarlet blossom so like the tall growing variety, but with a magnified bloom, and little alpins peeped up between the flagstones of the walk.

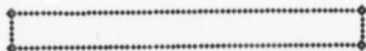
It was not the mound rockeries alone

that were interesting, but in another part of the grounds newly-made flat-bed kinds were found, where the grey-stone brought out tints in individual plants—dainty dwarf plants— which would be lost amid the green of an ordinary border. Here dainty sedums and fairylike bells of campanulas invited study, while the rear two borders, a short distance away, showed not only a parsley edge but beets and other occupants heretofore found in the kitchen garden. But what can be prettier than curly parsley and kale? Why should they not be in front borders, as here in what might be termed the rear-front of "Craighleigh," a front which has caused many favorable comments from passers-by.

"There's perfume upon every wind,
Music in every tree,
Dews for the moisture-loving flowers,
Sweets for the sucking bee."

So sang the poet Willis, and to wander hither and thither in 'Craighleigh' grounds on a summer day is to realize the truth of this. The song of bird, the hum of insect and windwafted perfume transported from the busy life of the real world to the dream garden which memory paints as one revels in the beauty lavished around recalls to mind Lowell's description:

"A poem every flower is,
And every leaf a line,
And with delicious memories
They fill this heart of mine."



The Mosaic Disease of Potatoes

By P. A. MURPHY, B. A., M. R. C. S. I.

THE Mosaic disease of potatoes is not generally recognized by farmers, or the extent of the loss it causes appreciated. Particularly in the potato-raising sections of the Maritime Provinces in which the Green Mountain variety is largely grown the ravages due to this disease form a large and steady drain on the profits of the industry. The Plant Pathological Laboratory for New Brunswick estimates that ten per cent. of the value of the potato crop in that province is lost each year as a result of the disease. Calculating the New Brunswick losses on the basis of 1916 prices, this would amount to about \$768,900. The same would hold good for all the neighbouring provinces where varieties liable to the disease are generally grown.

Mosaic is easily recognized once one knows what to look for. If an average field of Green Mountain potatoes be examined, say at the end of July or thereabouts, there will be noticed a certain proportion of plants with leaves not so smooth as those of other plants nearby. The foliage, instead of being a smooth glossy green, is somewhat wrinkled or corrugated. The feature varies considerably, being very marked in some cases and not so marked in others, but it is always present to such an extent as to be easily recognized. These wrinkled leaves will on closer examination be found to be mottled with faint light green or yellowish spots. The spotting is also variable, but it can generally be seen, particularly if the observer stands in such a position as to place the plant being examined in his shadow. Occasionally it is strik-

ingly evident, depending on the severity of the attack and also apparently on the weather conditions at the time of the examination. Diseased plants often show more bare stalk near the ground than normal ones, partly because the affected foliage does not spread out and droop down as in the normal case, and partly because the lowest leaves sometimes fall off in the last stages of severe attacks. No other marks will be found on any parts of the affected plants, or on the tubers. The latter are normal looking and sound, and their keeping or eating qualities are not impaired. From a casual examination of a few plants in the field the yield does not seem to be reduced materially, but such is not the case, as the experiments to be recorded will show.

The cause of the trouble is unknown. A somewhat similar disease affects other plants of the same family, such as tobacco and tomato. No parasites have been found responsible in any case. In the case of tobacco mosaic, at least, it has been shown clearly that the sap of mosaic-diseased plants contains an infective principle which when transmitted to healthy tobacco plants reproduces the disease in them. The cause of the malady in potatoes is probably of the same nature, although infection has not been conveyed artificially from one plant to another. It has been proved, however, that infection takes place through the tubers of mosaic plants when used for seed, and this result is borne out by experiments carried out at Charlottetown in 1916. The product of some diseased plants as planted in hill units, and in

every case all the plants showed unmistakable symptoms of mosaic, although the severity of the attack varied. In two other experiments tubers from a number of diseased plants were all planted together. In one case every resulting plant without exception showed mosaic symptoms in a readily recognizable form, while in the other case, which was on a somewhat larger scale, 77 per cent. of the plants showed clear symptoms along with some doubtful ones. An attempt to convey the infection from diseased to healthy tubers by contact of cut surfaces resulted in failure.

Trustworthy data on the yield of mosaic hills in comparison with healthy ones of the same variety and strain of potatoes are furnished in Table 1. They were secured from a quarter-acre plot of Green Mountains which was divided into eleven plots and used for a spraying experiment. During

the season it was found that 28 per cent. of the plants were mosaic-diseased. It is interesting as bearing on the prevalence of the disease that the seed used was purchased because it was known as a good strain and one particularly free from this very pest. The diseased plants were all very carefully staked during the growing season and at digging time they were taken out one by one from each of the eleven plots and carefully weighed. When that was done, the healthy plant nearest the place where a mosaic plant had been growing was then dug up, one for every diseased plant. There were thus obtained figures relating to from 55 to 71 diseased plants and the same number of healthy plants, from eleven plots, or 682 individuals of both kinds. The twenty-two lots of potatoes were afterwards graded carefully and the amount of marketable tubers determined.

TABLE 1 SHOWING THE YIELD OF THE SAME NUMBER OF DISEASED AND HEALTHY HILLS FROM ELEVEN PLOTS OF THE SAME STRAIN OF GREEN MOUNTAINS

No. of plot.	No. of Mosaic hills.	No. of healthy hills.	Weight of Mosaic hills in lb.	Weight of healthy hills in lb.	Yield of Mosaic plants the yield of the healthy plants being taken as 100
1	66	66	76	121½	62.6
2	71	71	64½	124	52.0
3	62	62	63	116	54.3
4	63	63	75½	130	58.1
5	60	60	70½	113	62.4
6	56	56	61½	112	54.9
7	65	65	68	124½	54.6
8	63	63	66½	104½	63.6
9	65	65	62½	108½	57.6
10	55	55	44	79	55.7
11	56	56	36½	59	61.9
Totals and averages	11 plots 682	682	688½	1192	57.8

From Table 1 it can be seen that mosaic hills gave less than 58 per cent. of yield of normal hills. This result is very constant, ranging only from 52 per cent. to 63 per cent. In

other words the diseased hills yielded an average of 16 ozs. of potatoes and the healthy hills nearly 28 ozs. Not only so, but as the run of tubers from mosaic plants is small, so that they

graded no more than 82.7 per cent. marketable, while the healthy hills graded 91.6 per cent. marketable, the yield of marketable potatoes from diseased plants is only 52 per cent of the normal. Translating these figures into bushels per acre, we deduce the result that for an average crop of potatoes of 250 bushels per acre the yield of marketable tubers is reduced about one and one-fifth bushels for every one per cent. of mosaic present.

Since the average crop of Green Mountains contains probably from 20 to 100 per cent. mosaic, the loss would range from 24 to 120 bushels per acre.

Observations based on another lot of the same potatoes in which there was 30 per cent. of mosaic plants lead to the same conclusion. The healthy hills weighed 1,537 lbs. while the mosaic-diseased hills weighed only 392 lbs., the diseased plants, giving 59.5 per cent. of the yield of the normal plants.

Mosaic is perpetuated by planting the tubers from diseased hills. It yet remains to be proved how efficient hill selection will be in eliminating the disease from a susceptible variety. It is possible that some varieties are breaking down to mosaic so quickly as to make hill selection too difficult to be useful. It is hoped to have more exact knowledge on this point next year when the fifty bushels of potatoes from the healthy plants of the above experiment are planted. If it should prove that a considerable proportion of these plants develop the disease, it may be necessary to look around for some other varieties to replace the most susceptible ones. It is planned to do some more work to further our knowledge of varietal susceptibility, but a promising sort which seems to be immune is the

"Cumming's Pride," the tuber of which resembles the Green Mountain very closely. In the meantime growers would do well to avoid using seed from crops badly affected with the disease. Hill selection might be tried and may prove valuable, or growers might make use of the Dominion Potato Inspection Service carried out by the Field Laboratories of Plant Pathology at Charlottetown, P.E.I., and Fredericton, N.B., which can put them in touch with seed growers whose crops have passed a field inspection for this and other diseases.

It will be easily seen from the above account that the mosaic disease of potatoes is of great economic importance. It is most prevalent in Eastern Canada, but has also been observed in fields in the West. The absence of any symptom of the disease in the seed tuber emphasizes the necessity for farmers to become familiar with the symptoms of the disease in the growing plant and, further, the wisdom of removing the diseased hills from the whole field, or at any rate, from a part of the field, in order to secure a quantity of seed free from the disease. This course is recommended in cases in which the amount of mosaic present in the crop is not excessive. Where the disease assumes serious proportions, as in many strains of Green Mountain, the grower would be wise to obtain fresh seed from disease-free fields. Negligence on the part of the growers towards the elimination of this disease will afford it every chance for dissemination by the use of seed from infected fields, and thus aid in the decrease of yields which should and can be avoided by the exercise of a little care and action along the lines suggested in the literature on potato diseases published by the Division of Botany. Increased produc-

tion, as shown by experiments, is to a very large measure due to the combating of diseases affecting agricultural crops. Indeed, we consider it the most essential point,

since the use of diseased seed of all kinds of crops will frustrate all other efforts otherwise contributory to increased production.—Agricultural Gazette.

Cow-testing in Ontario

By A. H. MUSGRAVE, '19.

COW testing is carried on by many prominent farmers and breeders on their own account and consists in keeping a careful and exact record of the weight of the milk yield, and also of the butter-fat content of each milking, as ascertained by the Babcock test. This article, however, deals mainly with the official and semi-official tests carried on by the Canadian Government and the Holstein-Friesian Association of Canada. These are of two kinds. The government keeps what is known as the Record of Performance to which all the dairy breeds are eligible. To be enrolled, the animal must equal a standard for production both of milk and butter-fat. The standard varies with the breed and age of the animal. The rules call for a record to be kept by the farmer himself of the total milk yield for one year, beginning at time of freshening. A government inspector visits the farm about once a month, staying two days, during which time he personally weighs the milk and tests it for fat content. The total fat content is averaged from the tests made, and the farmer's weights must be confirmed by those of the inspector. The standard may be learned by applying to the Live Stock Commissioner, Department of Agriculture, Ottawa.

The Holstein-Friesian Association of Canada keeps what is called the Record of Merit, to which of course, only pure-

bred Holstein cattle are admissible. The test is for seven consecutive days and is a butter-fat test only. The supervisor, sent by the Association, stays at the farm for the full seven days, and personally inspects every milking of the animals on test, weighs the milk and takes samples of it each time. The samples are tested by the Babcock test and the amount of butter-fat in each milking is calculated in pounds to three decimal places. The standard is contained in the rules of the Association, a copy of which may be got from the Secretary, W. A. Clemons, St. George, Ontario. The results of ten, fourteen or thirty day official tests are also entered in the Record of Merit. The Babcock test is so well known as to require little explanation. The acid dissolves the solids, not fat, in the milk, and the rapid whirling in the centrifuge raises the light fat particles to the top by the force of gravity plus the centrifugal force of the machine. The accuracy of this test has been well established and its simplicity is apparent.

Now we come to the question! "Why test the cow at all? It won't make her give any more milk." Of the many reasons, three have been selected as the most important to the writer's way of thinking. A tested cow can give an assurance of her value to both buyer and seller, and consequently her value is more settled than

if she were not tested. Then testing increases production and in this way the whole nation is benefitted. Lastly, testing adds to the interest and attractiveness of farm-life.

To the breeder the test is of great value as it enables him both to select and eliminate intelligently, and with a reasonable prospect of success in attaining his object, which is the breeding and raising of higher producing animals. The boarders, the cows that don't pay expenses, are detected in their deceit and given short shrift, while the cows that foot the bills, the heavy producers, are given an opportunity of perpetuating their own desirable qualities. If the breeder has only an approximate idea of the comparative milk yield of his cows, and no knowledge whatever of the butter-fat content, it is impossible for him to select his breeding stock with any degree of certainty that he is perpetuating desirable dairy characteristics. A cow may give a fair quantity of milk which, however, may be so poor in butter-fat that she is really sponging on her owner for food and shelter, instead of making him a substantial profit. Such a cow is immediately detected by a test and should be disposed of at once.

To the farmer the institution of the tests has been a benefit since they give him definite information regarding the producing ability of the animals offered him by the breeders. He can thus purchase pure-bred cattle without taking such great chances of paying a big price for a fancy pedigree and no milk. At the present time, however, the records made under official test are what make pedigrees fancy or not. Even when buying a young animal, therefore, the farmer can look up the records made by dam and sire's dam and form a fairly accurate estimate of

its worth. Continuing: when the farmer has a young animal for sale, he can point to the records behind it, and in this way get a fair price for what would otherwise likely have to be vealed. Then in the increased amount of milk which will be produced, the farmer gets the first profit, and as the increase has been known to be nearly one hundred per cent. in four years, this alone would render testing profitable.

In these times when increased production is so imperative, nothing should be neglected that will aid in preventing food scarcity. The farmer who has tested a cow cannot fail to be impressed with the tremendous results which come from apparently trivial details. The cow must be milked regularly or she will retaliate by lowering her milk yield and also her percentage of butter-fat. Every care must be taken to keep her comfortable and healthy, for if she becomes cold for a short time, if her teats become sore from careless milking, if her stomach is upset by improper feeding, or lack of cleanliness, or even if she is frightened in some way, the effect becomes immediately apparent both in amount of milk and in butter-fat. When it is thus demonstrated by tests that the details are of such great importance, the farmer begins to pay more attention to details in looking after the remainder of the herd. He is careful to milk always at the same hour, to keep the mangers and drinking vessels clean, to feed nothing but the most wholesome feed and to keep the cows comfortable in every way. He does this because he finds that it pays in larger production.

It has been noticed in some country districts that the farmers vie with each other in putting on style. If one gets an automobile, the others must also

invest. How much better it would be if they would compete to see which could produce the most from his farm. This local competition is encouraged and increased by testing the cows, because it reduces production to official figures, which can be dealt with on a dollar-and-cents basis. The writer knows of two young farmers, who are near neighbors and who keep pure-bred Holsteins, who are at present engaged in a perfectly friendly but none the less strenuous rivalry with regards to milk and fat production. Such things as this are what make farming interesting, and interested farmers are productive farmers.

Some of the old superstitions are amusing when dragged from the shelf into the light of science. For instance, it has been said with perfect seriousness by practical farmers,—“Never test a cow; she'll never be any good to you afterwards.” And they thought they were right. The record of Jennie

Boanerges Ormsby of thirty pounds of butter for five successive years completely disproves the statement that testing ruins a cow. There were so many ideas connecting the moon with things terrestrial that we cannot take space to mention them. We are forced to agree with the old Irishman who when asked whether he thought that the new moon portended wet or dry weather, replied that he had come to the conclusion that the rain came from the clouds, and not from the moon “at all, at all.” As the incorrect and unprofitable ideas go out, the scientific and paying methods come in, and chief among these is the system of official testing of cows. The simplicity and comparative low cost of the tests render them available to all, and the promotion of increased production, the tendency toward settled values, and the making of farmers interested in and contented with their work are some of the results of cow-testing.

“Cram”—considered

- I. *In Its Bearing on Examinations.*
- II. *In Relation to Development.*

By W. F. GEDDES, '18.

I.—In its Bearing on Examinations: IN English Universities and elsewhere there has prevailed, from time immemorial, a practice termed “Coaching” which is really another name for “Cram.” When a young man discovers that there is serious reason for questioning the probability of his being able to pass an examination, he hires a “Coach”. The business of the “Coach” is, to facilitate his passage through the various stages of his curriculum, until he emerges finally into that sun-lit land in which

the graduate shines in all his glory. It is a well known historical fact that thousands of youths have become graduates of a University in this way, who, without special “Coaching” would never have attained the envied distinction. Yet the writer does not regard “Cramming” as a process simply and utterly valueless. On the contrary, considered as a means to an end, that is success at examinations, on which one's life success may hinge,—cram must always hold a venerable place educationally, or at

least so long as examinations continue to be conducted as they now are. Until examinations be revolutionized, students, however brilliant, must **cram** or be **crammed**. So long as the examiner makes huge draughts on the memory and light draughts on the understanding, the examinee must be crammed. No amount of literary culture; no acuteness of the perceptive faculties; no brilliancy of wit; no profundity of thought; no solidity of judgment; would ever enable a youth, without the assistance of mere memory to answer the questions on our examination papers. Cram as a means—not of education or mental growth—but of passing certain ordeals, is all important. If, as is often the case, your very "bread and butter" depend on your passing certain examinations—cultivate "Cram." You will find it your nearest and dearest friend, because it means a short cut to "marks" and marks mean to you gold and silver. Never mind the reason of things, their connection, their philosophy,—gather the flying fowl of general knowledge into your arc, the creeping things of cunning, tricky, little minded examiners;—for, lo! a great deluge of questions is about to be let loose upon your head. Herein is wisdom: the man who Crams much and thinks little, stands a fair chance of outstripping him who Crams little and thinks much.

But what is good Cram?—and how shall one best Cram himself? Good Cram signifies the raw material wherewith to meet all probable questions of a non-rational character. It means memory's storehouse filled with lumber out of which may be made-to-order answers to all possible questions; especially those of a disconnected, superficial, empirical character. Don't spend too much time in meditation,

reflection, or any kind of thinking process whatever. Life is short—examinations long.

Perchance, however, you do not know exactly how to set about "Cramming." Well then, remember, in the first place, that whilst "Cram" is a short cut to "pass" there are also short cuts to "Cram." He is little better than a block-head who crams pell-mell by dint of memory only. There is a scientific way of doing it. The secret is so precious that I feel almost reluctant to disclose it, but here it is. Before you begin to "Cram" on any given subject make a special study, not so much of the subject as of the examiner. Endeavour to diagnose his infirmities; to measure him in all his length and breadth and height. Is he to be your examiner in Swine Husbandry? Study the book he is sure to have published on that subject. Is he a great "light" on the efficiency of lightning rods? Master his methods. In a word, be your real acquaintance with any branch of study great or small there is one thing you must never overlook—the style, methods, peculiarities, or eccentricities of the examiner. Should any one object to this advice as savouring of immorality, I would simply reply that if it be not immoral to Cram at all, it cannot be immoral to Cram the best way you can. It can never be thought vicious to do a virtuous thing to the best of one's ability.

I may add that an excellent and legitimate mode of Cramming is to take notes of your reading as you go along, committing these afterwards to memory.

II.—In Relation to Development:

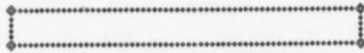
Perhaps the writer in discussing "Cram" in its relation to development, or, as an instrument of education could not do better than say at once,

that it is hardly to be called a means of education at all. Education means the very opposite of "Cram." The very etymology of the word condemns "Cram." "Drawing out" can never signify "filling in." The field of the teacher is to develop thought and the habit and power of thinking. Mental education means mental development. It consists in taking the young mind and causing all its faculties to grow as the child grows. If we would preserve intellectual symmetry one faculty must not outrun another. "Cram" inflates memory and a monstrosity results. The college is not so much a place where knowledge is acquired, as it is a shop, in which the implements, by which a man is to acquire knowledge in his post scholastic days, are wrought to the highest pitch of perfection. Its work is not to delve the mine of man's exhaustless knowledge but to get ready the tools for digging. A student might leave college, singularly deficient in general knowledge and yet be highly educated in the true sense. In his hands is now a lever by which to move the world

of knowledge. True education is to be attained by cutting down the number of subjects retaining only the best. Healthy, symmetrical, intellectual development cannot be produced by overcharged programmes of study.

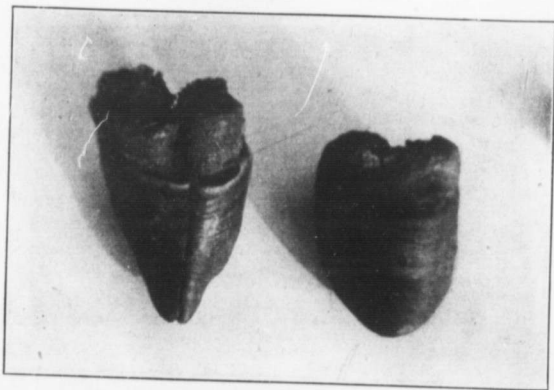
But reform must begin at the top. The gangrene is in the university. So long as college vies with college, not in developing mind as much as in developing immense calendars, so long will "Cram" flourish. This grabbing at universal accomplishment means neither physical robustness nor intellectual energy but a shallow, conceited imbecility. To develop minds in the best way we want fewer cast-iron courses and a freer scope for options. Then will taste find its appropriate channels; talent drop into its native groove and we would have at once the most useful education of all.

"The aim of education is this: To make a man all that his natural gifts, the accident of his birth, and the claims of his future profession will allow him to become."—DR. KARL HILLEBRAND.



The Mule-foot Hog

By C. V. LAWSON, B.S.A.



Foot to the left shows the solid formation, while the one to the right shows the partial splitting at about nine months of age.

THE outstanding peculiarity of the mule-foot hog lies in the fact that the hoof is solid not cloven. The hogs are of all colors but breeders are today aiming to establish black as the standard color.

These hogs are widely distributed, having breeders in twenty-two different states of the union and as many as one hundred and forty-five in the state of Indiana. Two breeders associations are also established one in Arkansas, the other in Indiana.

Their origin is not well defined. Some suppose they came from the South Sea Islands 60 years ago, from where they were imported to supply the Indians of Little River Mountain district in Oklahoma. Some suggest they were imported from Sweden as

early as 1637; others, that they are the result of a cross between the ordinary hog and a peccary. To offset this latter statement a record is made of Aristotle making mention in his writings of solid hoofed hogs as early as 370 B.C. Hence it is quite possible they have come to us from ancient times.

Extravagant claims as to immunity to cholera have been made for these animals but official tests do not bear this out.

In cross-breeding the solid-hoofed character seems to be dominant. In some instances the hoof splits apart when about nine months old. In other cases only the rear hoofs split. The anatomical study is not yet complete and facts of considerable interest may yet be revealed.

Annual Meeting of Canadian Seed Growers' Association

THE Annual Meeting of the Canadian Seed Growers' Association for the year 1916-17 was held in the Canadian Building, Ottawa, on July 31st and August 1st. Dr. Jas. W. Robertson, President, occupied the Chair and there were present among others: Dr. C. A. Zavitz, O.A.C., Guelph; G. H. Clark, Seed Commissioner; Geo. F. Chipman, Winnipeg; R. B. Whyte, Ottawa and the Secretary L. H. Newman.

The reports submitted showed that never before in the history of the Association has the value of systematic work in the improvement of Seed been more apparent than during the past season. The number of applications from individual farmers who wish to carry on this work under expert direction is 285, this being much the largest number ever received during any one year. The total number of farmers now affiliated with the Association is 1504. Plans were discussed for advancing the work still further and of adapting it to meet after-war conditions. The problem of assisting in creating a source of supply of pure vital and productive seed in sufficient quantity to meet the needs of new-comers and others is an important one and, therefore, received special consideration at this Conference. The matter of encouraging the production of Registered Seed Potatoes on a substantial scale in certain districts in New Ontario

for use in the older settled parts was discussed at considerable length. The Association expects to cooperate with the Provincial Department in this work and looks forward to rather large developments. The officers elected for the ensuing year are as follows:

Dr. Jas. W. Robertson was re-elected President as was also Mr. L. H. Newman as Secretary-Treasurer. The Board of Directors consists of 18 members and is composed of prominent authorities from each of the provinces:

Professor C. A. Zavitz, Guelph, Ont.; Professor James Murray, Macdonald College, Que.; Professor John Bracken, Agricultural College, Saskatoon, Sask.; Professor T. J. Harrison, Winnipeg, Man.; Professor M. Cumming, Truro, N. S.; Dr. R. B. Hagerman, East Florenceville, N. B.; H. A. Craig, Deputy Minister of Agriculture, Edmonton, Alta.; E. A. Howes, University of Alberta, Edmonton, Alta.; M. P. Tullis, Regina, Sask.; R. S. Duncan, Department of Agriculture, Toronto, Ont.; F. N. Savoie, Department of Agriculture, Quebec; Wm. Palmer, Scotch Lake, N. B.; W. L. MacFarlane, Fox Harbour, N. S.; G. H. Hadwin, Duncan, B. C.; W. H. McGregor, Miscouche, P.E.I.; W. W. Thompson, Department of Agriculture, Regina, Sask.; Prof. L. S. Klinck, University of British Columbia, Vancouver, B.C., and Geo. Dow, Gilbert Plains, Man.

THE OAC REVIEW

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EDITORIAL:

CHANGE IN STAFF.

With the edition of the August number of the Review our magazine completed twenty-nine years of active existence. This caused an entire change in staff with one exception, the Editor, whose term of office expires with the edition of a Christmas number. We have with us many new men with new ideas which we hope will help to not only maintain the high standard of the Review in the past but will tend to improve it. So far as we have been able to learn some of our new staff members will not be returning to college this fall so we trust our readers will be somewhat lenient in criticism should you notice a few of our departments not actively represented. One of the greatest assets to any college magazine is the whole-hearted support of the student body. This can be given in

two ways, first, by contributing to our columns anything you know would be of interest to others, and second, by wholesome criticism—constructive not destructive. If you have any suggestions to make regarding the improvement of the Review drop in to the office and let us talk the matter over. The Editor takes this opportunity of thanking all the retiring members of the staff for the loyal support and faithful service they have given to the magazine during their term of office.

TO CLASS '21.

As year by year goes on since the beginning of the war the attendance continues to dwindle. What the future has in store no one knows, nor will the laws of the land permit us to interview any of those who predict the

future. However, the past years have been successful so far as the activities of the student body are concerned and with your support the present year will be just as prosperous as any one might wish for under the existing circumstances.

The Review extends to you a cordial welcome. On your "year" rests great responsibility. College societies have been started by men who have gone before; the students' co-operative association has become one of the finest organizations of its kind on this continent. Athletic records and reputations have been made and upheld in the past, so it is up to each and every member of year '21 to cheerfully do his bit in maintaining and supporting all the college activities during this coming year. In number the year is small but in prestige and influence it is great if you individually and collectively do your duty and do it well.

SHALL WE OR SHALL WE NOT?

Was the hospital co-operative arrangement with the student body a success last year? It was a most decided success so far as the students were concerned, but what about the hospital authorities. It was indeed no profitable arrangement for the board. Owing to the comparatively few students who bought tickets and the abnormally large number of whom, through no fault of theirs or the college, became sick, the hospital board found itself financially behind. Such a result must lead to only one solution, namely, that if a similar arrangement is to be obtained by the students' council this year the fees for the members must of necessity be higher. Are we going to support our council in its efforts to obtain another agreement or are we not?

This is not a new plan, but an old

one. In many of the large American cities people have been benefited by the use of the family hospital ticket. In Canada the majority of our colleges and universities benefits by arrangements with hospitals to look after the welfare of the students who become indisposed during the college year.

Last year the agreement was as follows: A minimum of one hundred tickets had to be sold to bonafide students at two dollars each. In return the hospital agreed to furnish private room in female cases, private or semi-private as the case demanded for males, together with board and regular hospital attention to all those ticket holders who became sick during the college year.

About one hundred and sixty tickets were sold to the male students; the girls at Macdonald Hall did not avail themselves of this splendid opportunity. Despite the fact that the number of patients was abnormal, excellent attention was given to all, which reflects great credit on the hospital board and those in charge. Many operations, some of which were very critical, were successfully performed and every effort was made to see that the agreement with the student body was carried out to the last letter.

In view of these facts—are you going to stand with closed wallet and have the council members beg and pray as they did last year for you to become a member? Surely not, let every student at the O.A.C. and Macdonald Hall come forth in support of any action which the students' council may take in this matter. Do not expect a renewal of the old agreement, the insurance was too cheap to last as was shown by last year's test. Let everyone join together to satisfy the hospital board—we will be the benefactors.

YEAR '19 ATTENTION!

In former years breeders of live-stock in Canada and the United States have invariably looked to Europe for choice stock with which to build up and replenish their herds. After the war, however, conditions will be greatly changed. European herds are being depleted to an alarming extent, hence the necessity for Canadian breeders to redouble their efforts, not only with a view to increasing and improving their own herds, but in order that European breeders may be able to secure choice stock with which to rejuvenate their herds at the close of the war.

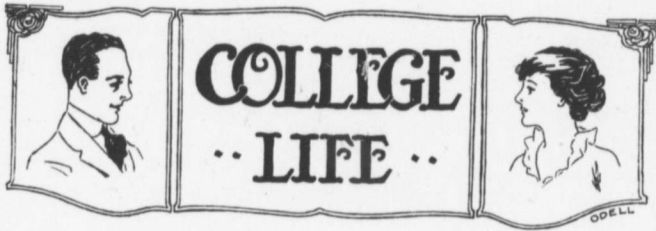
In order that we may be able to do our part it is necessary for us, as Agricultural students, to have a practical as well as a scientific knowledge of all classes of live-stock. Standing as we do on the threshold of our third year we note that our program calls for very little, if any, practical stock judging. Therefore, in order that we may not grow indifferent to this subject it should be the aim of each one of us to seize every opportunity to improve ourselves along this line of work, because of its paramount importance to us as Canadians and to the Motherland as well.

A splendid suggestion was offered last fall by W. R. Gunn, a member of our year. He suggested that we form an Animal Husbandry Club among

those interested, with a view to supplementing the work of the regular course. If the suggestion is to be acted upon now is the time to make a start. It would, perhaps, be unfair to ask the Animal Husbandry Department to put on extra lectures for us, but we feel sure that we can depend on the members of that Department for assistance and advice, as far as their already onerous burdens will allow.

When the club is organized, we can arrange to have prominent breeders of live-stock address our meetings. Thus we would acquire a great deal of valuable information, our interest would be quickened and we would be in a more receptive frame of mind to absorb the final instruction in live-stock judging which will be meted out to those taking the Agricultural Option in the fourth year. We must prepare for next year's judging competition at Chicago. All cannot go but all can assist in making the team that is chosen a winning team by beginning now to prepare. By raising the class standard of efficiency we will produce more capable individual judges. So don't wait till next fall, but let each one interested boost the idea of a club, and under the guidance of our efficient and genial instructors, year '19 will have the honor of bringing the coveted trophy to O.A.C.

CHARLES F. MACKENZIE.



"THE CRICKET ON THE HEARTH."

We wish to congratulate Mr. G. H. Unwin, and his group of players on their presentation of Charles Dicken's story, "The Cricket on the Hearth." The play was a huge success and reflected credit on the director, the players and the college, as well as providing enjoyment for the audience and a goodly sum for the "Fresh Air Fund."

Excellent music for the evening was provided by Mrs. Iveson, and Miss Little.

The Caste was composed of college girls and regular students, who are working here in the various departments and was as follows:

Dot Perrybingle.....	Nellie Hamilton.
John Perrybingle.....	Robert Almey.
Tilly Slowboy.....	Miss J. Gardiner.
Old Man.....	W. T. Ziegler.
Caleb Plummer.....	A. M. Porter.
Bertha Plummer.....	Dorothy Day.
Tackleton.....	J. B. Munro.
Mrs. Fielding.....	Miss J. Austin.
May Fielding.....	Grace Hamilton.
Mrs. Dot.....	Miss J. Bowman.
Mr. Dot.....	G. S. Grant.
Man.....	G. H. Scott.

A striking feature of the play, and an essential one, was the fact that the players put themselves into the story with enthusiasm and zest seldom exhibited by amateurs on their first appearance in public.

Very pleasing to the eye were the well arranged scenes in which the plot was laid. The abode of the Perrybingles had a "hominess" about it that harmonized with the quaint costumes of Dot and her plodding husband. Their happy, contented life was sweetened by the music of the cricket which was well trained and played his part well. The house of Caleb and his blind daughter was in a deplorable condition. No wonder the tears welled up in many eyes as Bertha strove to be happy and make others happy in her darkness. Joy and sorrow were in turn interpreted among these surroundings. Finally the gloom cleared and all was put right. Happiness was restored to all as the closing scene showed.

It has seldom been our privilege to witness a more pleasing presentation of a play of this kind. We regret that space will not permit dwelling on the ability of the individual members. We will say, however, that while memory of the play lasts, the appearance of Tilly Slowboy will be foremost in our minds.

WANTED—AN OWNER FOR THIS DIARY.
Dear Susy:

Well the dye is cast and I am here. It seems kind of queer at first but I guess I'll soon get used to it. I asked _____ for a single room but he advised me to take a double as they

are more soshable. Of course I said anything to oblige. You see these big guns have to be kept on the right side off.

I think little girl I'll start to write in a diary form. It looks better and besides then you will get the salyunt points of each day. I wont try to remember dates they are too pesky.

Next day—Today I took a look around the bilding. It is a big bilding Susie and very pretty too. All the houses here are bigger than ours at home. I can't take time to describe the bildings or grounds. I never was long on deskripshun but suffice it to say it is a lovely place with lots of nice bildings and pretty girls. But it feels abomably lonely here Susie. Of course you wont understand how a fellow can lie lonely with lots of people round but that's generally when I'm lonesomest espeshilly when I don't know the crowd.

Next day—I've been thinking today that this is an awful big world and a chap gets kind of lonesome sometimes. And well I guess I can't explane myself but I sure wish you were here little girl, with your bells on!

What do you know about it Susie the lights went out and I'm finishing this in the hall and its rather cold. I suppose I shouldn't tell you but I'm in my bare feet too.

P.S. Gee I forgot to mail this. Last night I went for a walk and met a perfect peach. She was the prettiest girl I've ever seen—tall and straight. I'm not poetic generally but she looked like a tiger lily to me only not spotted. She was so proud looking and dressed in yellow to. Gee! I wonder if she was one of those college girls! But one of the Seniors said the college girls were mostly hombly.

Dear Susan:

I got your painfully brief note. Whats hurting you little one? Of course I'm sorry you can't come here. Why shouldn't I be? It would be a great thing dear for you would have a good time and youd likely find a nice quiet girl who would be intrusted in the things you are. There are all sorts over across the campis. Your letter reminded me of a snowball going down a hill. Soft and cold enough to begin with but when it reaches bottom hard and strong enough to knock a fellow over. I wonder what innosunt little thing I said to start it?

Next Day—I have done as you said too at the table. You are a right wise girl for your size. I watched the other fellows and then followed in their footprints. Figgertively speaking of course. I'd have something of a job to do it literally. Some of them looked as if they'd heard bad news. I dare say I look the same but I'm getting over it. The others, Seniors I guess that didn't look like Dark Dispare had an expreshun something like what you see on old Dave Millers kid Lucy when she gets a hunk of mince pie, and the way they piled sad news on us was a frite. Two of them were awful. They went on till I said to the ugliest well Prince Charming if things are so awful here why do you bless us by your presunce? You can always tell a Senior they have such an ogiush look of glea whenever a Freshie appeers.

Two days later—One of the fellows asked me to go over to Mack Hall with hem tonight. I said what for and where was Mack Hall. He said it was the girls' college and he wanted me to meet a nice girl who also wanted to meet me. That last sounded good so I fell for it and her too at the same time. Of course I don't mean anything by all this girlie for there is only

one little girl for me really but one can't very well turn akerite right away unless I go to a convent and I don't want to be a nun for then I couldn't marry any way. Just as I came into the dining room at dinner I heard some one say Hello Friend Zebra I was quite sure it was that same infurnal Senior so I said quite cam and deadly, Hello Prince Charming when are you going to make me that call? But nothing happened so I went on. Prince Charming was at the table. I dare say it was a saddlite of his. He must have wondered what call I was talking about.

After supper I got ready for the spree. I got ready but as my tie seemed ornate I changed it for a red one then I thought perhaps that smart aleck menat my tie so I just changed it back again. When we got to the hall a very pretty red haired maid showed us into a big room. Here we waited for a few minutes. And they were in-trusting moments too. Five or six girls had a pleasant way of passing and repassing in the hall dilivering a broadside of stairs as they went. Only one of them did not look at us after the first time but during the coarse of the evening she passed six times. She has a nice long sensable black skirt and a plain white waist and held her head very skornfully but I noticed that every time she passed us her bracelets was on the arm nearest us. I was just beginning to get figety and wished I'd changed my tie when my fellow suferur said their coming and when I saw them I wished I'd changed the tie once more. What do you think Susan it was the Tiger lily. She was perfectly bewitching. She had a real short white dress on, but some girls can wear short skirts. The first thing she said was, Well how do you like the O I see. At least it sounded like that. She seemed to think I ought to know so I made a stab at it

and said it was fine.

It was a little hard to talk with the other cupple right there so she said lets go in the other room. When we got over there she told me she had deskribed me to the other girl and had her get her friend to pick me out. Of course I complimented her. A man has to do that you know to society women. I told her she should always wear yellow and she told me that I was so nice and broad shouldered. Just about that time I happened to look up as it was embarrassing. My mouth fell open as if a screw had gone loose in the musle. There was a hole in the floor above the hall and a railing around it and five girls were fisting their eyes on us from it. I dont know how long they'd been there. I was so shocked that I forgot it was a collige and I said. Are those your little sisters. She farelly froze. Why, do you think I look so anshunt? Of course I mended it up with a few poetic words and blamed it on my eyesite but it was a close shave. The temperchure thawed after awhile and I was surprized when she rose. She said the lights would soon be out. I said let them go out, but I rose too. Then she said. Be sure you go to Union Lit this Saturday it is great. That gave me an idea. I said can we take girls? She said of coarse and then you can see it was plane sailing.

Next day—Wore my zebra finny to breakfast but I guess I won't wear it to Union Lit as it might not be sootable. Why can girls wear any color they like and we fellows have only two or three.

Today's Tuesday—It takes a long time until Friday. Well dearie I must close don't forget to write and let that big sister of yours help. Tell her I said the exercise will build up her tishues and give her a good compleckshun.

Goodbye for now dear, Lovingly,

George.



B. S. A's '17

AITON, R. M.:

Aiton enlisted with a Construction Battalion early in the winter. Great was his disappointment early this summer when he was notified that due to minor physical disqualifications he would not be able to proceed overseas. At the present time he is working for the Department of Entomology investigating the work of pear blight in the vicinity of Grimsby.

AUSTIN, W. J.:

"The marriage of Leotta D. Rusling, youngest daughter of Mr. John Rusling, of Bloomsburg, to Mr. Wm. J. Austin, B.S.A., son of Judson Austin, of Woodhouse, took place at Maple Bower, the home of the bride's sister, Mrs. N. C. Butler, on July 18. Mr. and Mrs. Austin left this week for Victoria, B. C., where he has been appointed District Supervisor of Agricultural Instruction."

Enough said.

CLARK, H. W.:

"Hugo" says he is trying to instill into the minds of the farmers of Peel County the necessity of buying Ford cars. Upon looking into the matter we find that instead of having the agency for the above machine he is Assistant County Representative lo-

cated at Brampton. He believes that farmers with cars move along the roads to success faster than those without them.

DAVY, A.:

"Dad" is on the Department of Public Works, Toronto, as an experimentalist. They are trying to grow nitrogen producing bacteria in their sewage as well as potatoes in their backyard gardens in that city. It is the hope that the value of the sewage may be increased as a fertilizer by increasing its nitrogen content.

ELLIOTT, D.:

"Dave" was reticent and wouldn't reply to our letter. We found out that he asked another man to write us and tell us what he is doing, but it seemed that "Dave" wasn't doing enough to make it worth the second gentleman's while. The Globe says that Elliott has been appointed District Rep. for Lincoln county with headquarters at St. Catharines. This is likely true.

EVANS, O. C.:

A number of the graduates of '17 are farming. "Husky" is one of them. Immediately upon graduation he went home to Chilliwack, B. C., and is at

present making use of some of every "ology" he took while at college.

FANCHER, P. L.:

"Phil" says, if given time, he will do for the corn crop of Ontario what "Blue Jay" has done to many a feminine foot. One is inclined to believe this statement when he considers the state of the maize crop this year. Fancher is Corn Specialist for Ontario with headquarters at Chatham. Ontario is his field of action with Kent, Essex, Lambton and Elgin especially interested in his work. He will make a study of the corn industry under two headings: (a) Growth; (b) Consumption.



Jack Bird with the battery colt and its mother.

FLEMING, R. R.:

Orton, Ont., Aug. 14, 1917.

Dear Alumni:

I am at present located at Orton, Ont., doing my bit at the present trying time, aiding in the production of food for our noble allies.

Yours truly,

R. R. Fleming.

GARDINER, W. F.:

"Bill" is a munition worker at Collingwood, Ont. Other information could not be had since the source was out of town.

GRIFFIN, R. J.:

This is the second man on our list who is busy growing crops and raising

stock. Griffin's address is R. R. No. 1, Sarnia, Ont.



Can you recognize five O. A. C. boys here.

GUILD, A. W.:

You would scarcely think that an agricultural graduate would get into a clerical garb, but here we have one. Saving crops and saving souls are not so far divorced, however, on sober thought, as one might think. Guild is a student pastor at Mildmay, Ont., and in the autumn intends to begin his theological studies at Victoria College, Toronto.

HEARLE, E.:

Entomology is his name and during the summer he has been mounting bugs and making slides for the Department. With the opening of the term he will begin his duties as Resident Master here at the College.



Part of the late famous 56th O. A. C. Battery

LAWSON, E. V.:

Printed on his letter heads we find:

"E. V. Lawson, Lorneside Farm, R. R. No. 3, Goderich, Ont." Fifty sheep, a number of cattle, 30 acres of beans, 60 acres of hay and a little fishing take up about all of his time. He is assisted by a McGill Theolog for the summer.

MARRITT, W. G.:

"Tubby" is Assistant Dist. Rep. at Collingwood, Ont. Farm tractors, and other labor saving devices have been his special care this summer. His office has placed many men and boys on the farms of Simcoe County. Marritt has also been doing some field crop judging.

MARTIN, I. B.:

"I. B." is overseas somewhere with the 64th Battery, but his address is unknown at the time of writing.

MERKLEY, F. K.:

"Merk" once in a while is seen in Guelph but stays most of the time in Hamilton where he is working in a munition plant. He tried to enlist several times, but so far has been unsuccessful. He is still trying to get into the Aerial Service.

MURDOCK, F. G.:

The last we heard of Murdock he was at home just out of Guelph on his father's farm, "Aldie."

MCCONKEY, O.:

McConkey is in the army and somewhere overseas. His exact location is unknown.

MCCREADY, S. B.:

"Prof." McCready is connected with the Department of Agriculture, Toronto. During the past summer he has been lecturing in various towns and cities throughout the country in the Greater Production Campaign.

MACKENZIE, A. M.:

"Mac" has a fellowship in chemistry here on the department.

MCKILLICAN, L. W.:

Another farmer graduate is McKillican. He is located at Maxville, Ont.

NEALE, J. C.:

"J. C." is on the staff at O.A.C. in the Animal Husbandry Department. A Farm Management Survey is to be taken in Ontario and Neale is to assist in doing this. At the time of writing he is at Washington, D. C., gathering experience and data.

NEFF, H. W.:

Neff wants it distinctly understood that he is not Assistant Dist. Rep. in Norfolk County, but that he is running a Farm Tractor in that County. He spends his week ends in Simcoe.

REDMOND, A. A.:

The lure of the West has Redmond fast in its embrace. As Creamery Manager for the Elkhorn Creamery Co., Manitoba, he finds his time well taken up. At the present time their only output is butter, but shortly they expect to manufacture ice-cream. Redmond sees great possibilities for the development of dairying in the West.

SCHURMAN, D. C.:

Schurman, a Prince Edward Islander, is on a farm in his native province. Mail will find him at North Bedeque, P. E. I.

SKINNER, A. G.:

"Guy" has moved across the line. He is County Agent at East Greenwich, Rhode Island, U. S. A. His position corresponds very closely to that of our own Dist. Representative.

WHITE, A. H.:

White is also overseas and in England with the 64th Battery Draft.

ZAVITZ, R. W.:

"Rusty" is growing beans and other farm produce at Coldstream, Ont. Occasionally he comes into Guelph to get a touch of city life, but his farm takes up most of his attention.

YEAR '17 ALUMNI ASSOCIATION.

Shortly before the end of the academic year in April last, the members of year '17 "got together" in Room 117, and formed the year '17 Alumni Association. The object of the association is to keep the various members in touch with each other, despite the fact that they may be scattered over several continents. An executive committee was appointed to carry on the work: Chairman, E. V. Lawson; Vice-Chairman, W. G. Marriett; Sec.-Treas., J. C. Neale.

The following are the rules of the association:

(1). Any man who has been at any time, a member of Class '17 is entitled to membership.

(NOTE.—This gives a possible membership of some two hundred and fifty men.)

(2). An initial fee of twenty-five cents must be paid to the Sec.-Treas.

(3). On or about October 1st of each year, each member shall write to the Secretary (Address, O. A. College Guelph) stating his address, what he is doing and any other information about himself or other member of the class which he thinks may be of interest.

(4). A yearly fee of twenty-five cents shall accompany this letter.

(5). Each year as soon as all members have reported, the Secretary shall prepare a list of the names, addresses and occupations of the members, together with the other information contained in their letters, and shall mail a copy to each member.

(6). A Class re-union shall be held, not before the year 1922 nor after 1927, at such time and place as may be decided upon by the executive committee. At least three months' notice of such re-union shall be given to all members.

(7). The initial fee and the yearly fees shall be used by the Sec.-Treasurer to defray expenses for stationery, postage, stenographers' charges, etc., and any surplus shall be held over until such time as the class re-union takes place.

It has been arranged with the Secretary of the College that any letters addressed to the undersigned shall be forwarded to wherever he may be. Hence any change in his address need not affect the correspondence of the members of the association. It is hoped that all men who have been members of class '17 during first, second, third or fourth years, will take an active interest in the Association, and so help to keep fresh in the minds of all, recollections of their Alma Mater. By the time this is printed, it will be almost October 1st. So, if you are already a member, send along your letter and twenty-five cents. If you have not already paid the initial fee, send along your letter and fifty cents. But, in either case, "**Do it Now.**"

J. C. NEALE,

Secretary-Treasurer,
O.A.C., Guelph.

On Military Service

KILLED IN ACTION.

Lieut. ERIC G. ROWLEY

Early in July, Lieutenant Eric G. Rowley, '17, was killed in an aeroplane accident near the R. F. C. headquarters in France. He had been on active service for only about two months, but had already gone through some sharp fighting with enemy aircraft. An account of one of these exploits appeared in the August Review.

In the death of Lieut. Rowley, the Royal Flying Corps lost one of its most

daring gunner-observers, and the O.A. C. one of her foremost students. Those who knew Eric Rowley will bear out these statements. He came to the notice of his classmates by leading the class in the Christmas exams of the first year. This position he did not yield during first or second years, qualifying for three out of the four scholarships granted to first year students, and winning both the George Chapman scholarship and the Governor-General's medal in his second year. During the fall term of his third year, the call to the colors became too urgent, and he left college to take the officer's training course at London. Qualifying with honors, he turned his attention to signalling, which course he mastered two weeks ahead of the others, and was immediately granted a commission with the 153rd Battalion, and given charge of the signalling section. During the summer, he took the captain's course at London, and in September was sent to England with a draft of officers. In England he took several courses at the request of his superior officers—the field officer's course at Shorncliffe, Musketry and Machine Gunnery at Hythe, Kent, and later a course to qualify as an aerial gunner-observer, also at Hythe. In the examinations at the end of these courses, he led all the classes, with an average of over ninety per cent efficiency.

At college, besides leading his class academically, he could always find time for executive work and social good times while an inter-year "scrap" found him always in the front line. As a comrade he was true as steel, and no man ever walked who stood more squarely before all the world.

The memory of Eric Rowley will long remain with his former classmates. Such an indisputable leader of men is not soon forgotten. His death is made

doubly sad by the fact that he was the only son of a widowed mother. Our sympathy goes out to Mrs. Rowley in this trial through which she is now passing.

Flight Lieut. Arthur W. Kilgour, '15, son of Mr. and Mrs. Robert Kilgour, 6 Beaumont Road, Rosedale, has been killed while flying in England, according to a message received at the summer home of his parent's at Roche's Point, Lake Simcoe. Flight-Lieut. Kilgour was trained at the Long Branch Flying School, and served as an instructor in England. He was born in Toronto, and attended St. Andrew's College, and the O.A.C.

"Dug" Weld, '19, previously reported missing, is now reported a prisoner of war. From the nature of the cable received by his parents, it is thought that he is uninjured.

M. D. McCharles, '15, is a prisoner of war at Cassel, Germany. Dr. Creelman had enquiries from him recently about his fourth year's work. He completed his third year in '13-'14.

Lieut. Ormonde Boulton '17, has been mentioned in despatches for "Distinguished services" in the Salonika theatre of operations.

Eric Romyn is a graduate of Year '16.

1-6-17

Dear Bill,—I notice that you are now Alumni Editor of the Review, and therefore, the best person I know of to send an informal note to on the kind of paper I am using and in pencil.

I have just received a bundle of your Reviews, which have been following me about for as many months. They have reached me at last somewhere in Palestine, and I must say I was jolly

glad to get them. It is a long time since I last heard from anyone at the O.A.C. Though nearly all the names seem strange to me now; the doings of the College teams, and the accounts of college life are as interesting to me as ever.

I can remember the days when the shape of *circium arvense* caused me endless forebodings, and the loss of many meals (?) Now I don't think all the botanical treatises in the world could keep me awake one night after a day's work, or could galleries of snow pictures arouse one shiver in me at the end of a day's trek over the desert sand.

This is a hot and exhausting country even to a sort of salamander like myself.

This is a great place for rubbing up one's Biblical history. I have even seen the pillar that Samson is reputed to have broken. After looking at the pillar, however, I have my doubts as to the truth of the story, or else as to the authenticity of the 24inch diameter marble pillar I was shown. I have also seen the village Delilah inhabited, and the home of Jacob, and several other celebrities. Agriculturally, this isn't an altogether barren landscape. It looks very much like parts of the Transvaal. There are huge areas of barley and wheat, and numerous orchards scattered about the place. Unfortunately the fruit isn't ripe yet, but when it does ripen, we ought to be able to get any amount of figs, and dates, and some grapes, though these latter will certainly not bring up to the size of those described in the old testament.

Well, I have taken up sufficient of your valuable time now, and won't trespass on it any longer. Excuse the hackneyed ending, and give my best wishes to any one who still remembers me.

Yours sincerely,

ERIC ROMYN.

An interesting account of a Macdonald Institute graduate was seen in a London paper the other day. Miss Roberta McAdams, '11, is dietitian at Orpington, with the rank of a lieutenant. She hopes by autumn to be a member of the Canadian House of Commons for the Province of Alberta. If elected, she will represent some 38,000 soldiers from that province. She is looking after the culinary needs of about 2,000 patients.

On Production

Mr. W. J. Bell, B.S.A., has been appointed Principal of the Agricultural School which the Ontario Government is establishing at Kemptville for Eastern Ontario. Mr. Bell comes from Dufferin County, and taught school a number of years. Since graduating at Guelph, he has been in the Institutes Branch of the Ontario Department of Agriculture. He is reported as an excellent livestock man. His appointment takes effect on September 1st.

Although the school will not be open for students in the regular courses, this year, there is a great deal of preliminary work to be done which will require the attention of a principal. The livestock judging pavilion will be finished this year, in which short courses will be held during the winter months. The two hundred-acre farm is also being operated by the Government, and a herd of dairy cattle is being assembled. The work is therefore being advanced as rapidly as possible under war conditions, and everything should be in shape for starting the institution on full running as soon as war is over.

A.B. McDonald, B.A., '18, Dist. Representative for Guysboro, N.S., reports that he will be unable to con-

tinue his college course this autumn, since the duties of his position demand his attention for the entire year.

J. H. McCullough, B.S.A., '16, is now attached to the staff of the Nor'-West Farmer, of Winnipeg..

MARRIAGES.

HOEY AND TOBIN.

The marriage of Beatrice Tobin, daughter of Mr. and Mrs. T.S. Tobin, and Mr. Owen Hoey, of Campbellford was solemnized on June 12th, at Stratford. Hoey was an associate member of Class of '14.

OLIVER—WELLS.

A quiet wedding was solemnized at the summer home of Mr. William Wells, at Jackson's Point, when his daughter Nellie was married to Charles E. Oliver, son of the Hon. John Oliver, Minister of Agriculture, for British Columbia.

Miss Wells was a very popular member of the Macdonald Associate Class

of 1916. Her friends from both sides of the Campus will unite in wishing her "the very best."

MARTIN AND BISSONNETTE.

The marriage of Florence, only daughter of Dr. J. D. and Mrs. Bissonnette, to Norman R. Martin, B.S.A., Asst. Supt. of the Burwash Industrial Farm, was solemnized at their home on Wednesday evening, June 27th, Rev. J. T. Hall officiating.

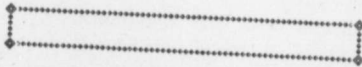
BIRTHS

On Thursday, August 23rd., to Mr. and Mrs. Charles F. MacKenzie, 38 Forbes Ave., a son.

On Saturday, September 8th., to Mr. and Mrs. H. M. King, 25 Elora St., a son.

ENLISTMENTS

K. W. Foreman, formerly Physical Director at the O.A C. has received an appointment as Physical Instructor in a military camp at Long Island, U.S.A.





ATHLETICS

OPELL

RUGBY, 1917.

S. H. GANDIER, B.S.A., Rugby Manager

AT date of writing it is impossible to estimate the prospects for rugby at the O. A. College during the present fall term. The outlook is much more uncertain than in 1916, when, after some delay and difficulty in arranging games, we went ahead and experienced a very successful season under the circumstances. Though we were not entered in any league, a series of exhibition games gave us plenty of good sport. The friendly rivalry between the O. A. College and Western University, London, furnished sufficient incentive for hard practice and training and the results of hard work were apparent before the end of the season. In this war time, however, rugby is as uncertain as everything else; in fact, present conditions would indicate the possibility of no rugby at all. It was difficult enough in 1916 to arrange games, and it is probable that only a few clubs will be operating this fall and these will largely be junior and Collegiate teams. Though our student body will be smaller than ever, we will still have material for a team, in spite of the fact that only a few of last year's players will be available. We have learned one thing in the last two or three years,

which is that with a nucleus of only two or three experienced men and proper coaching, we can round out a very respectable team before the season is far advanced. We always have good material for a rugby team at this College, boys with strength and the "sport spirit," which is particularly necessary in developing a rugby man; and with a few of the "breaks" in the matter of coaching and training, the O. A. College team is usually an aggregation which the students are glad and enthusiastic to support. One point upon which we can satisfy our minds at once is the fact that there can be no organized rugby for colleges such as ours until after the war. Any games we play must necessarily be exhibition games, and whether or not any rugby will be played will depend upon the decision of the Athletic Executive when the College opens and upon the possibility of arranging suitable games. As the College is "open for business" as usual, some outlet for the superfluous energies of the students will have to be provided, but we may have to look to some of the other branches of sport for a year or two until rugby again "comes into its own." It is impossible to discuss the game in any greater detail just at the present time.



Will someone interview the President of the Sophs? in regard to the not only allowing, but compelling all "Freshmen" to fuss at Macdonald Hall, at least once a week until after field day. Let the penalty be the same as tradition has imposed upon those, who in former years, could not refrain from visiting across the Campus. Let the veterans for the past few months have a well deserved rest.

WANTED—Someone to prove to J. C. McB. that any two sides of a triangle are greater than the third. Jim apparently doesn't believe it, because in going from Woodstock to Walkerville, he goes Woodstock to Guelph, then Guelph to Walkerville.

WANTED.—The names of the men who were guilty of pushing a "Henry" near Turkey Point.

QUERY.—Who is the busiest man in Ontario?

Ask the Bursar, he knows.

It is reported on good authority that Red Wallace, '18, who is now in camp at Camp Funston, Texas, made practical, but unwise use of his powers of selection when picking himself a quiet mule. Something happened when "Red" attempted to halter the animal, and by the time he landed back on Mother Earth, the mule, so "Red" says, was out of sight. He has been wondering ever since, whether it was he, the mule, or both, that moved.

A seedy-looking Irishman was driving an attenuated nag in front of a dilapidated wagon. The outfit was progressing leisurely down the main street of the town and passed in front of the hotel on the steps of which a group of commercial travellers were sitting.

"Hey Jack," they called to the driver. "How much can your horse draw?"

"Draw, is it?" replied the driver, "he can draw the attention of every darn fool in the town."

J.R.S.—Showing party of young ladies through Physics Building, comes to draughting-room:—

Sweet Young Thing—"And what are those two young men doing in there at those desks?"

J.R.S.—"Oh, they are drawing plans of farm drains to remove the surplus water from the ground."

S.Y.T.—"Why, just like our wind-mill; it draws water whenever the wind blows."

J.R.S.—"Yes,—they draw plans whenever there's a draft."

Little Jew (to his friend Ikey): "Yes, he said something against England. I said, 'If you say that again, I'll knock you down.' He turned as white as your shirt, Ikey." Then, looking more closely at the garment, "Much whiter."

SEPTEMBER COMES AGAIN

And now September! in whose languid veins

The wine of summer, slow-distilling, flows;

The light and glory fade—the laughter wanes,

But earth more lovely grows.

O rare September! has it all been said?

The wistful hours, the soft reluctant days,

When nature seems to pause with arms outspread

And heart that yearns both ways.

Upon the mellowed harp-strings of the vine

The fitful winds their soft forebodings urge,

And with the liquid murmurs of the pine

In plaintive sweetness merge.

The mountains, veiled in gold and amethyst,

Their once familiar outlines scarcely show;

Across the uplands, faint with purple mist,

The oaks and maples grow.

These gathering mists the coming change would hide,

But in our hearts already sounds the knell,

O, never surges love in such a tide

As when we say farewell!

Yet come, September! All the old desires,

The old enchantments, at thy touch return—

'Tis in our hearts thy August-kindled fires,

In deepest rapture burn.

And in our hearts the ancient melody

That earth has yielded of her joy and pain,

Comes softly stealing, echoed back from thee,

In surpassing strain.

Still summer waits, her mood with thine akin,

As if her love could not release its hold

Until her little hosts were folded in
Against the coming cold.

Against the cold till March once more unlocks

The gates of frost, and rives the icy chain,

And June returns to lead her little flocks

Across the fields again.

Across the fields, beyond the shining hill,

When Pan plays up his pipes o' love and pain—

But now, O heart of mine, be still,
September comes again!

—Helena Coleman

AN ACCESSORY.

Old Dobbin was a good old nag,

And he proved mighty handy

In days of old when I would go

A-sparkin' sweet Mirandy.

He knew the roads that we would take,

And faithfully he'd take 'em;

He knew the hills that we would make

And faultlessly he'd make 'em.

Unguided, he, and when at times

Her lips to mine were pressin',

Implicit faith we had in him—

He never had us guessin'.

The while I hugged her, I recall

The lines were idly swingin',

Old Dobbin was one good spark plug,

His praise to-day I'm singin'.

—T. S. (Detroit.)