PAGES MISSING

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

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Canada

The country of a thousand isles,
Of zephyrs sweet and cool
Where mirrors daily show God's
smiles,

There's many a fern girt pool.

Where freedom's banner is unfurled, Riches from sea to sea The grandest land of all the world Is Canada the free.



Mixed Farming in Ontario

By J. C. Neale, '17

EDITOR'S NOTE—J. C. Neale won the prize for the best thesis written by second year students on the prescribed topic. We publish here the complete thesis which does the writer credit.

wherein does it differ from other types of farming? Mixed farming is the producing of several kinds of farm products upon the same farm, under the supervision of the same manager. Other types of farming tend to specialize in the production of one or two particular classes of articles.

The history of Mixed Farming in Ontario dates back to the time of the earliest settlers. These pioneers went forth into the wilderness, where they were forced to depend, almost entirely, upon their own resources. There were no markets where they might sell that which they chose to produce nor buy that which was necessary to maintain life; they were forced by the grim hand of necessity to produce enough upon their small clearings to enable them to "keep the wolf from the door." Hence was evolved our present system of Mixed Farming, which has come down to us through the generations, modified, to some extent, according to the progress of civilization, and to meet the demands of the markets developed in the growing towns and cities, but the essential of which is the same today as it was in the days of our great-grandfathers.

This system of farming, as it is pursued today, has many advantages, some disadvantages and many latent possibilities. Let us consider these in the order mentioned, though perhaps digressing somewhat as they merge, one into the other.

The chief source of Ontario's food supply lies in her mixed farms. Up

to the present, the specialized farm has not displaced the mixed farm to any appreciable extent. It is true that some types of specialized farming offer opportunities for larger financial gains than does mixed farming, but, where there exists this possibility for great gain, so also is the possibility for great loss to be found in equal proportion. This law accounts for the stability of the mixed farming industry in the Province of Ontario and for its introduction into the Provinces of Manitoba, Saskatchewan and Alberta, where specialized farming has been proven, more or less, a failure. To be successful, specialized farming requires the most favorable circumstances, while mixed farming may be carried on, with fair success, under an almost unlimited variation of conditions. Thus, while the probabilities of the mixed farmer's amassing a large fortune are somewhat small, the possibilities of his being forced into bankruptcy are equally small.

This condition of affairs affects not only the farmer himself, but the Province, and even the Country as a whole. To what are we indebted for the total absence of famine in the Province of Ontario? Is it not to our system of mixed farming, as well as to the fritility of our fields and the growth-inducing properties of our climate? Let us compare Ontario with provinces in India or in China, whose people depend, for their sustenance, almost entirely upon a single commodity, rice. When their rice crop fails, they have no line of reserve upon which to fall back

and they are reduced to the horrors of starvation. Why? Because they do not practice mixed farming. Their land is as fertile as ours and their climate as productive of growth; we have the statements of Agricultural Missionaries from these countries that were a system of farming, similar to ours, established there, famine would become a matter of history only. Do we not, then, owe much to the system of mixed farming, inaugurated in this country by our pioneer forefathers?

Mixed Farming tends toward a decrease in the cost of production of food supplies. No two crops require exactly the same food materials from the soil, nor do they take their supply of food from the same soil stratum. During the process of cultivation, and by the action of fertilizers, plant foods are being constantly restored to the soil in the requisite condition for absorption by plants. If one crop, only be sown, year after year, it utilizes only its own particular foods in the straum in which it feeds, and all others are lost. Also, to produce a sufficient supply of available food for this crop, it is often necessary to increase the amount of cultivation and the amount of fertilizer applied to the land. On the other hand, if a number of crops be sown in succession, while one is removing certain foods from a certain stratum, natural agents are building up other foods, which will be required by the following crops, in that and in other strata; less cultivation and less fertilizer are required than in the case of a single crop grown year after year. From these statements, it may readily be seen that, in the case of specialized farming, much waste necessarily ensues, while in the case of mixed farming, the waste is reduced to a minimum. Waste, in any form, means lessening of efficiency and a

consequent increase in the cost of production. Therefore, by applying a system of mixed farming to our agriculture, we do much to accomplish that, the correspondent of which, in the manufacturing world, occupies the attention of the highest salaried experts, namely, the increase of efficiency and the decrease of the cost of production.

Mixed farming in Ontario is not, however, without its disadvantages. It is, in reality, a combination of several distinct businesses and the farmer must be an expert in each business in order to attain the highest degree of success. This is practically an impossibility and, as a consequence, on the average Ontario farm, some branch of the business is neglected or, at least, improperly managed, and the success of the whole lessened accordingly. Mixed farming does not readily lend itself to the advancement of rural cooperation. It is very difficult to operate successfully a Co-operative Association which deals with more than one class of commodity. A rural section must, therefore, organize several societies in order that its products may be marketed and its supplies purchased co-operatively. This is, perhaps, the most difficult circumstance against which the rural Co-operative Movement has to contend.

The possibilities of mixed farming in Ontario are great, but there are many difficulties to be overcome before it will attain its proper degree of prominence among the industries of the Province.

As was stated previously, the pioneers of this Province were necessarily mixed farmers, but as the country developed, towns and cities sprang up with surprising rapidity, and other industries grew accordingly—manufacturing, the development of natural resources, the professions. For a time,

these industries offered much greater inducements than life upon the farm and there was a consequent trend of the younger generations toward the cities. Noting the successes which these men achieved in the cities, those who remained upon the farms urged their children to go to the cities, except, possibly, those who were not inclined to be very bright-minded, who in their parents' estimation, were not likely to make a success of anything; these were allowed to remain upon the farm. Rural school education was such as to kindle the child's desire for life in the city. He heard no mention of success to be achieved upon the farm, while the histories of the lives of men, who had become eminent in the cities were ever before his notice. The lessons he was forced to learn were those which would fit him for a city career. Is it to be wondered at, then, that Ontario's farms should have become depleted while her cities have grown with almost unbelievable rapidity? These conditions were predominant until very recent years, when the high prices of necessary food stuffs began to attract the attention of our deeper thinkers, and although, up to the present, no very definite "Back to the land" movement has been evoked, there is a tendency in that direction. The Department of Education has instituted a "Stay on the land" agitation in the teaching of Elementary Agriculture in our rural schools. In connection with this, school gardens and school fairs are coming into prominence. The Agricultural Colleges are gaining in favor among the people, as is evidenced by the increased attendance, during the past few years, at the Ontario Agricultural College, the only institution in the Province which teaches the Science of Agriculture. The advent of the District Representative

has been of inestimable value to the farmer of Ontario. The Representative has, at his command, all available information, relating to all branches of Agricultural Science; he has studied Agriculture, particularly as relating to mixed farming conditions in Ontario, from a scientific and from a practical standpoint, and it is his duty to distribute among the farmers of his district all the information which he possesses. The effect of the Representative's work may not be apparent among the older farmers of the Province, who are, as a rule, very conservative in the adoption of new methods, but among the younger men, its influence is beyond measure. They have not become set in their methods and ideas, as have their fathers, and they are open to the advanced scientific teachings which the Representative is able to bring them. And the fact that these younger men, as well as the children of the rural districts, see that men of education take an interest in Agriculture and consider it the equal of any vocation in the world, cannot fail to have an untold effect upon farming in Ontario before many years have elapsed.

One of the greatest drawbacks to Ontario's mixed farming industry, during the past decade, has been the lack of sufficient and competent labor. The exodus of young men from the country to the cities has left, as a rule, one man upon a farm of one hundred or sometimes two hundred acres of land. Thus, it has been necessary for the farmers to depend to a great extent upon hired help, and this has been, up to the present, increasingly difficult to obtain. But the responsibility for this condition of affairs rests, to some extent, upon the farmers themselves. Few farmers map out their work according to any system; they do not know how much to expect of a

hired man; they themselves, have formed the habit of working from daylight until dark, or later, and expect their men to work those hours alsoand sometimes without holidays. Besides this, they employ labor during eight or nine months of the year only, or will pay practically nothing for labor during the winter months. of course, causes much discontent among the farm laborers, who usually emulate the example of the farmers' sons and wend their way cityward. Before the farmers can hope to obtain a sufficient supply of competent labor, they must, in some way, operate their businesses so as to employ that labor during all twelve months of the year. As an inducement to married men to become farm laborers, the erection of comfortable cottages, where they may have homes of their own, is to be advocated. However, in a great many instances, even though the farmer offers an attractive yearly wage, laborers cannot be persuaded to work outside the limits of the city, even though they may be out of work and depending upon charity for their existence. Were those who so earnestly advocate a "back to the land" movement of farm owners, on account of the high prices of food stuffs, to devote their attention to the breaking down of the laborer's prejudice against work in the country, the desired results would be achieved in a manner more advantageous to all concerned.

The most potent factor in the cause of the high cost of living, in Ontario, is not, however, rural depopulation or the scarcity of labor. It is the lack of marketing facilities. It is well known throughout the Province that the farmer makes as much or more money during a year of general low production in his part the country, than during a year of gen-

eral high production, while the price to the consumer is not materially altered. This statement may seem, on first thought, scarcely reasonable, but when we consider that during a year of general high production, many crops are not worth harvesting and are allowed to waste upon the fields, we can conceive of the possibility of such a condition. The keynote of the situation is "inefficient distribution." Herein lies the true task of those seeking to lower the cost of food products. It is a consumer's problem as much as a producer's. Consumers' Co-operative Societies, acting in conjunction with Farmers' Co-operative Societies, could do much to remedy this evil, reducing the cost to the consumer and increasing the price to the farmer. But, as was stated previously, mixed farming is the most difficult business to adapt to Co-operative methods, as Societies which handle a diversity of articles cannot operate successfully, and hence, it is necessary to form separate societies for the handling of the various kinds of farm products. Co-operation is, however, coming to the fore in this Province; it is yet in its infancy, but is proving satisfactory in many instances, and to what extent it may prove applicable to our conditions is not easy to predict.

Another handicap to Ontario's mixed farming is lack of capital and the total absence of a Credit System. It is true that our banks will loan money to farmers, if their security be sufficient but their rates of interest are such as to make this system of credit absolutely prohibitive. Co-operation only will supply a remedy for this much-felt want. It has done so successfully in Ontario, when it has become firmly established throughout the Province. The advent of true Co-operation, with

the accessory of an efficient rural crédit system, will mark the beginning of one of the greatest epochs in the advancement of rural Ontario.

One business principle, which the average farmer, in mixed farming communities, has heretofore neglected, is the systematic keeping of accounts. He knows whether or not he is making a profit on his total business, but he does not know which branch of that business is the source of most profit or which is incurring a loss. No business can be run to its highest degree of efficiency upon such principles. The farmer must keep accurate and systematic records of his receipts from and the expenditures and labor demanded by each branch of his business, that he may be able to eliminate those branches which are unprofitable and concentrate his efforts upon the profitable. Such a principle would undoubtedly tend toward a more specialized type of farming but, if not carried to such an extent as to interfere with the fundamentals of mixed farming, would prove much more advantageous to the individual farmer, and therefore to the Province as a whole.

With regard to life in the mixed farming districts, social conditions are far from favorable. The rural depopulation of the Province is attributed, by many, to lack of social intercourse. No man can live unto himself alone; he must have companionship with his fellows; and this is, too often, his chief reason for leaving the farm for the city.

where he is probably not as well off in any other respect. Such a condition, though prevalent, is not necessary. Social life cannot flourish in rural districts to the same extent as in urban, but there is no reason why it should not exist. The chief cause of this lack seems to be in the reluctance of all the people to take the initiative, for where this reluctance has been overcome, by one or two people, and social life in the community begun, it now flourishes as well as could be de-Modern conveniences are being installed in farm homes-waterworks, modern heating systems and even, in some cases, electricity for lighting and power. Electricity is not generally distributed over the mixed farming areas as yet, but Hydro-Electric is still in its infancy and all look forward to a time, not far distant, when the coal-oil lamp in the farmer's home will be a relic of a bygone age, as it is today in the home of the cityman. Within recent years, the rural telephone and the rural mail delivery have been tried and have each proven an unqualified success. The automobile has come as a boon to those living somewhat isolated from neighbors, and is gaining in favor, year by year.

Hence we see that mixed farming in Ontario, although handicapped in many respects, is gradually overcoming the obstacles in the path of its development and will, in time, force a recognition of itself among the foremost industries of the Province.



Balanced Rations for Poultry

By Kenneth Welton, '16

recognize the need of balanced rations. Successful poultrymen unconsciously balance rations. They have learned what to feed, and how to feed by experience. Unsuccessful poultrymen who do not balance the rations of their poultry should do so, as in a good many cases this is the cause of non-success. But whether successful or non-successful a poultryman is not feeding to the best advantage unless he keeps in mind what he is feeding for, and balances rations to obtain that end.

The laying hen is a heavy eater and drinker, but neither overeats nor overdrinks if furnished the right foods, in the right quantities, systematically. The feast and famine style of feeding is harmful to the hen as well as to other kinds of live-stock.

There are no hard and fast rules which may be applied with success to every case, in the balancing of a ration. General environment, breed of fowls, prices of feeds, and the end to be obtained, must be considered. To balance a ration we must know the constituents of the food to be used, and



A Well Paying Flock on Free Range.

There is no single grain that contains all the necessary food elements in the right proportions, either for keeping the body in a healthy state or for the production of eggs. Chemistry proves that a laying hen needs starch, gluten, oil, meat, and shell. She requires animal food for the production of albumen, green food as a tonic and regulator, and water is absolutely necessary, as it enters into all changes taking place within the body.

the role each constituent serves in building up and maintaining the body, or in the productions of the body.

Foods consist of water, fibre, ash, protein, starches, and fats. Water is important in the formation of bcdy tissues, in the digestion of solids, and in the manufacture of the egg. Fibre is mostly of mechanical importance, and has little nutritive value. Ash or minerals enter into the composition of the bone, also in the manufacture of

the egg shell. Protein is the nitrogenous substance which supplies material for the formation of body tissues, and bone. The albumen of an egg is protein, and contains the materials for a fully developed chick. Protein is the desirable element of foods for the production of eggs, and for the growth of bone, and muscle in chicks; it must be economized as much as possible as foods rich in protein are high in price. Starches or carbohydrates produce heat or energy in the body, they also store up this heat or energy in the form of fat. Carbohydrates enter largely into the composition of the egg. Fats are highly concentrated carbohydrates, and serve the same purposes.

A balanced ration is one which supplies the elements needed to keep the body in a healthy condition, and also supplies the elements in excess for production purposes. We use the term "nutritive ratio" in balancing foods, it means the ratio of the Carbohydrates and fats to the protein or nitrogenous matter. The protein content of a food is taken as unit, and the carbohydrates will be represented in increasing numbers. A narrow ratio is where the protein and carbohydrate content are nearly the same, e.g., 1:2; and a wide ratio is where the carbohydrates greatly exceed the proteins, e.g., 1:6.

In rearing chicks we do not want them to put on fat until they have obtained their bone and muscle growth. Therefore, we should feed a ration containing abundance of protein and ash constituents. When we commence to fatten the chickens we should make the nutritive ratio wider to supply the fat forming materials in greater quantities. In feeding laying hene we must supply them enough carbohydrates to produce body heat and energy, and also to supply them with an abundance of protein for the building up of their

tissues and for the production of eggs: But in fixing a ration for the laying hen we must consider the season of the year; hence in winter the ration may be widened to 1:6, or 1:7, so that enough heat may be supplied to the body. If this wide ration were fed in the summer when the body is kept warm by the atmosphere, the excess of carbohydrates would turn into fat, unless the bird were exercised enough to work it off. Therefore in summer a ratio of 1:4, or 1:5, will give the best results, and keep the hen in a more healthy laying condition.

But there is such a thing as injury from having the ration too extreme in either direction. The first object of food is to support life, and for the production either of meat, fat, or eggs, we must feed an excess of the materials from which these are made. Slight variations of rations are sufficient to produce results. Hens may be forced by extreme rations, but it will be at the expense of their health. instance, hens have no alternative but to live upon a very narrow ration, e.g., 1:1, or 1:2, their livers will quickly go back on them, they will turn a dark purple color, the hens combs will also take on this color, and the hen will soon die. On the other hand if a wide ration such as corn be fed in the summer time, and the hens have no means to lower this ratio, they will soon die of fatty degeneration.

The compositions of various grains and milling products, as well as of green foods and meat foods, may be found in any good live-stock feed book, or in bulletins supplied by the Government, and there is no need of quoting them here. I might say that in calculating the nutritive ratio the amount of fat is X2.5, because it has been found by experiment that the fats in the food produce about two and a half times as

much heat in the body as that amount of carbohydrates. Therefore, the fat X2.5 is added to the amount of starch and taken as the total carbohydrates.

Profitable feeding for eggs begins from the time of the chick's infancy, and continues until all of the cluster of eggs has gone to market. In her wild state the hen lived upon seeds, green food, bugs, worms, and water. It is therefore a mistaken idea that corn alone is sufficient for a hen. Corn to a hen is like Christmas cake to a child. If poultry keepers will persist in feeding only one grain for both meals in a day, and every day, wheat or cats will be found to give much better results than other grains, as they are both the nearest approach to a perfect ration for a hen. Feeding of milk as a drink, in any of its forms, is an excellent food for poultry. Green cut bone and beef scraps are good forms in which to supply protein, in a forcing ration. Bran is useful in keeping particles of focd separate in a mash, and hence aiding digestion. Green food is not very nutritious but is succulent, and necessary. Milling products are nutritious and are obtainable in nearly any ratio. All of the above may be utilized to the greatest advantage by the farmer in feeding his flock.

If farmers would use their knowledge of food values in feeding the poultry, they would find that the hen is the most useful of all live stock in helping to balance her own ration. Fowls at liberty to roam find abundant animal and green food, on their range, these with the proper grains and exercise furnish a perfect ration. The egg farmer who can provide in winter, rations and conditions, that nearly approach those of spring, will surely reap his reward.

For the benefit of those who have neither the time nor the desire to scientifically balance their own rations, I will suggest sample rations for each season of the year. The rations are based on foods easily obtained, and cheap, in most places.

For laying hens in winter:-

Morning Meal—3 of corn to 1 of wheat.

Noon Meal—Green food, turnips, cabbages, etc.

Evening Meal—Rye, 27 lbs.; wheat bran, 5 lbs.; wheat middlings, 20 lbs.; cotton seed meal, 5 lbs.; malt sprouts, 25 lbs.; clover meal, 8 lbs.; animal meal, 10 lbs., or ground bone.

In Spring—Double amounts of animal focd fed. Do not feed fowls as heavy as in colder months.

Summer—For Towls on free range:— Morning—Wheat, oats, and rye or barley.

Evening—10 lbs. buckwheat middlings; 10 lbs. animal meal; 10 lbs. raw ground bone.

On range where insect life is easily obtainable, animal food should be left out of mash and kept in hoppers, and buckwheat middlings and wheat middlings fed alternately.

For yarded fowls in summer, with scarce vegetation:—

Morning Meal—Wheat, oats and rye or barley. (Mostly oats in very warm weather.)

Noon Meal—5 lbs. green food. (Lawn clippings, sprouted oats, etc.)

Evening Meal—Mash Mixture: Whole oats, 35 lbs.; buckwheat middlings, 40 lbs.; wheat bran, 10 lbs.; animal meal, 10 lbs.; raw ground bone, 5 lbs.

Fall:—Same mash as for summer, with morning meal—wheat and rye or barley.

Wheat in above grains may be partially substituted by buckwheat. Fowls should be fed just as much of grain or mash as they will clean up in a meal.

The Production of Field Root Seed in Ontario

By D. M. McLennan, '16.

IN THE course of an address delivered a short time ago, Prof. C. A. Zavitz said, "It is well for us at this particular time to consider more carefully the advisability of giving more attention to the production of root seed in this country." His advice is of particular value at this season when roots for next year's seed production may be selected to the very best advantage.

During the past year about one hundred thousand acres of land were devoted to the growing of turnips; eighty thousand acres to mangels: twenty thousand acres to sugar beets and over two thousand acres to the growing of field carrots. It has been estimated that nearly one million pounds of root seed are required in Ontario annually. In recent years the greater part of it has been imported from Europe. The mangel seed came from France and Belgium and a small quantity from England and from Germany. Germany supplied nearly all the sugar beet seed and England a large part of the turnip seed.

Owing to the unsettled state of affairs in Europe at the present time we can not depend on the districts which formerly supplied us with seed. Much of the land which yielded rich returns is now a battlefield and the people who cultivated it are engaged in work of destruction. There are, therefore, two important reasons why the Ontario farmer, at this time, should make a determined effort to produce the seed which he will require.

(1). The large quantity of valuable seed required for this important crop.

(2). The difficulty which may be

experienced in obtaining sufficient pure seed of good quality.

With a limited quantity of seed on the market the price per pound is certain to increase and much seed of inferior quality will be placed upon the market. Seed which will not germinate, or which if it does germinate, gives rise to a weak, unthrifty plant is dear at any price and must be guarded against. It is impossible to know how long this war will last and even after the articles of peace are signed, it will be many, many years before the districts in France, in Belgium and in Germany will produce as they have in the past. This is the time when our Ontario seed growers have the opportunity to meet the demand with native grown seed which will be sufficiently good to prevent the necessity of looking some-where else for the required quantity of seed. In recent years the Danes, with characteristic energy and foresight, have given this industry considerable attention and if we do not take advantage of the opportunity to supply our own demand it may not be very long before Denmark will supply it for us.

During the last ten years experiments have been conducted at the Ontario Agricultural College, as well as at other points in the Province, which prove conclusively that field root seed can be grown in Ontario. This native seed has given a higher percentage germination and also a larger yield of roots per acre than any imported seed which was tried under similar conditions.

The fact that field roots are biennials, that is they require two growing

seasons and one resting season before they ripen seeds or fruit, has perhaps had as much to do with preventing the development of the industry as any other one factor. It takes longer to get returns and the risks are greater than for the average crop which requires only one season.

European seed growers use small, well formed roots called "sticklings," as a source of seed. They find that the seed can be sown later in the season, as a secondary crop, than for the production of roots for feeding. If they are stored, either in pits or in cellars they require less room. In Ontario, however, results of experiments go to show that medium sized, well formed roots give better results. They seem to have more reserve energy than either very large roots or the small roots or "sticklings."

When the mother roots have been selected in the fall one of two methods may be followed. They may be stored in pits or in a cool cellar and planted as soon as danger of frost is over in the spring, or they may be planted in the fall. The latter method has given better results in experimental work.

For autumn planting the land is slightly ridged about the first week in November and the roots planted three feet apart in the rows, the rows being about five feet apart. The roots, after being placed, are covered with loose, dry straw, after which they are covered with earth, two furrows being turned toward them from each side. When the land has become slightly frozen strawy manure to a depth of three or four inches is placed over the rows. In spring, when danger of frost is over, the manure and surface soil is removed. Roots planted in this way get an earlier start in spring; they give a considerably larger yield of seed and the seed matures earlier thus avoiding

danger of injury by early frosts.

When grown in a commercial way the plants are usually cut when about two-thirds of the seed is browned. They may be made up into sheaves, stooked like grain, and threshed when dry. If only a small quantity of seed is grown, the seed may be stripped from the plants by hand or threshed by the ordinary grain thresher. The seed does not ripen evenly and, if time will permit, slightly better results will be obtained by gathering the ripe seed early in September and going over the plants again in about two weeks time to get what is later in ripening. It is very important that the seed should be gathered before a frost injures it. In 1912, two degrees of frost were registered before the mangel seed was harvested and the percentage germination of that seed was very low.

The yield of seed from different plants may vary considerably. A number of the best plants yielded an average of 6.6 ounces of mangel seed during six years. The yield of carrot seed has been about two ounces per plant and of turnips about eight ounces per plant. When harvesting the seed, sufficient seed from the best plants should be carefully saved and used in the production of the next crop. In this way the sort may be kept pure and up to the standard or even improved from year to year. It must be remembered that mangels and sugar beets belong to the same botanical family and that they will cross fertilize if grown too near together. This is also true of different varieties as well as of different sorts of the same variety.

The cost of producing native seed is from fifty to one hundred per cent. greater than the cost of importing seed but the advantages to be gained by using the native seed are sufficient to counter-act this increased cost. The native seed gives a much higher germination and an increased yield of

roots per acre. These are the two most important considerations in growing a crop of roots.

Saskatchewan's Better Farming Train

THE BETTER farming trains operated over the lines of the railways in the Prairie Provinces appear to be meeting with a considerable measure of success. Provincial agricultural authorities are convinced that the work so carried on will result in the spread of better agricultural practices throughout the country.

When such a lecture train completed its itinerary over the lines of the Canadian Northern in Saskatchewan recently, a compilation of statistics showed that, in all, 10,464 persons had boarded the cars at the various stopping places, thirty-four in number, and that of this total, approximately fortyfive hundred were men, thirty-five hundred women and the remainder children. The weather was unfavorable most of the time. At some of the points when lectures were given rain fell continually and a great many people were unable to attend on account of the conditions of the roads. Saskatchewan Government representatives expressed themselves as greatly pleased with the attention given the train under the circumstances.

The Canadian Northern Railway train was made up of standard sleeping and dining car, a nursing car, household science car, model farm car, crop production car, boy's and girl's car, Colonists car, refrigerator car, and a water car. Designation streamers were attached to the outside of the cars with lettering in letters large enough to be easily read, and when the train

stopped at a station there was no confusion among the people. The children gravitated naturally to the "Boy's and Girl's" car, where lantern slides of various birds and insects were thrown on the screen and their good and bad traits explained. The older people, bent on more serious matters, were accordingly enabled to give close attention to the lectures in the other cars.

The "Crop Production Car" contained samples, mounted, of flax, oats, alfalfa, western rye grass, wheat, millet, peas, barley, brouse grass and clover. There were also illustrations of alfalfa in rows, of alfalfa seed cutting; alfalfa for seed; classes of barley; samples of corn; classes of wheat. There also, were descriptive charts illustrative of experiments of cropping fallowed land during a dry year as against plowing fallow when land is free from grass and other perennial plants; early as against late fall cultivation; effect of harrowing on yield of wheat; wheat yields on stubble land; alfalfa for forage and seed; influence of tillage on 1914 wheat yields; rates of seeding concerning heavy and light seeding in wet and dry seasons; effect of packing for second crop of wheat; effect of harrowing on fallcultivated land, and charts showing relative increase in production under different soil cultivation.

The Model Farm Car, contained section of barn showing method of bracing; sheep barn; cow stall; pig pen;

split log drag; fence; home-made cattle stanchion; photos of all kinds of stock and mountings of soil products. This car also contained the poultry section, showing model of portable poultry house, photographs of the different kinds of fowl; Saskatechewan trap nest; fattening crate; feed hopper for use on range; oats sprouter; hen coop; Cornell trap nest; Newmaine trap nest; result of experiments showing the effect of water glass and lime water on egg preservation; complete surgical outfit for operating on fowls and sample of proper food for fowls. In addition, the literature was in this car, and printed matter pertaining to agriculture was freely distributed.

The Nursery Car, was equipped with sand boxes, toys and made up beds. This car was also a valuable addition to the train; mothers were able to leave their children in car and attend lectures without the usual annoyance.

The chief speakers included:—The Hon. W. W. Motherwell, Minister of Agriculture, Regina; A. F. Mantle, Deputy Minister of Agriculture, Regina; W. W. Thompson, Director Cooperative Organization, Department of Agriculture, Regina; John Bracken, Professor of Field Husbandry, Agricultural College, Saskatoon, Saskatchewan; F. H. Reed, Ex.-Representative Dominion Seed Branch, Regina; A. Phillips, Representing Poul-

try Husbandry, Department of Agriculture, Rosthern, Saskatchewan; P. Stewart, District Representative, Ontario Department of Agriculture, Kenora, Ontario; Mrs. Jean Archibald, Professor Household Science, Saskatoon; and Miss E. Thompson, Lecturer on care of children, Saskatoon.

The lectures usually required three hours in each town, and longer in some cases, owing to the late arrival of some of the visitors. The usual procedure was to keep the car closed for a few minutes after arrival, and until the people had gathered, when the cars would be opened and the audience distributed. Mr. Reed, was generally the first speaker and lectured on the crop production and other points of field husbandry, followed by Prof. Bracken who dealt with soil cultivation. Mr. Mooney lectured on the eradication of obnoxious weeds. The Hon. Mr. Motherwell dealt with general farming conditions. Mr. Stewart spoke on stock raising and dairying and at several points gave demonstrations of milk testing. Mr. A. Fawcett looked after the Model Farm Car, and answered questions regarding building matters. Mr. Phillips lectured on poultry raising and egg preservation and at the principal points gave demonstrations of the killing, plucking and preparing of chickens for market. Mrs. Archibald lectured on Household Science and gave demonstrations in cooking.

Fruit Packages

By J. R. Wilson, '16

THE FRUIT package of today is an influential factor in the produce business. Many fruit growers do not consider the relation the package bears to the selling value of their products. In fact, few people realize the full significance of the packages on the market today as used in all branches of trade, particularly those engaged in handling of farm and orchard products. It has only been within recent years that the individual consumer could carry fruits home in the packages in which they originally reached the market. The smaller package is gaining favor daily. Its development has been brought about by keen competition, resulting from the ever increasing demands of the public. Many people buy only in small quantities for their immediate consumption. Thus when they go to the market, the smaller attractive package sells better. They have no facilities for storing the fruit and they do not buy for the purpose of selling. Therefore, the smaller packages have become increasingly important. There has also been a wide spread demand for a cheap package, which need not be returned.

Modern packages are characterized by the following:

- (1). Neatness.
- (2). Lightness.
- (3). Cheapness.
- (4). Uniformity.
- (5). Favor on the markets.
- (6). Suitability for carrying the given products in good condition.
- (7). Attractiveness which is not misleading.

The sale of products largely depends upon the appearance of the packages in which they are contained.

Attract the attention of the buyer and the bargain is half made. It is always advisable to have a sufficient supply of new packages on hand at the beginning of the shipping season. Packages should never be used that have already been used for fruit. on the market previously. Their general appearance is very often decidedly unattractive and the wood is usually impregnated with spores of numerous moulds and rots from the produce previously used in them. Rapid decay nearly always develops in fresh produce coming in contact with this infected wood. If at the close of the season, a number of unused packages remain, they should be stored in a clean, dry place where they will be protected and their general attractiveness retained until the next season. Fruits may be of the very best quality but if put in dirty unattractive packages they hardly ever find ready sale.

On account of the perishable nature of fruits they must be handled and transported as rapidly as possible. This and the cost of transportation makes it necessary to have the lightest and most durable package procurable. Cost of transportation is affected by the actual weight of the packages handled. Usually hardwood veneer, or pine is used in the construction of baskets, crates or boxes. It has been found that hardwood veneer is used most extensively in the construction of these and will generally be found to be the lightest and at the same time the most durable and cheapest package.

The cost of packages is another point worthy of some thought. While attractiveness, weight and durability are important considerations, cheap-

ness must also be considered. The time has come when the better grades of fruit are put up in special packages that have not to be returned. The history of packages and baskets of the different fruits has really come a long way for as old flour barrels and soap boxes became scarce and as the producer found it necessary to compete with the more enterprising neighbors, he was forced to build containers, the cost of which led growers to demand a basket, or package, that would be returned, and used again and again. This kind of package did well enough for short distances and before the producer realized the great value of an attractive, clean, well filled package. But as extended markets were realized and the producer found he could ship tender fruits long distances by pre-cooling his fruit and by special careful packing, it was found very unpractical to have the containers returned. As competition increased and stuffs from the most enterprising districts brought higher prices, the "gift package" has almost entirely replaced the old returnable packages.

If produce is shipped to a near by market in return packages, and there is a glut there and low prices, but scarcity and good prices a few hundred miles farther, the stuff in return packages can not be diverted to the more distant markets. The packages will be lost and price of goods reduced due to the expense of returning packages, or not having such a package returned, whereas a "gift package" can be diverted anywhere.

There are two general lines of development in packing fruits, being followed by the more enterprising fruit growers. The first is in improving quality and appearance of fruit, as strictly high grade stuff in every way possible to get higher prices. The second

is in getting second-grade stuff to market more cheaply, so that more of it can be consumed, increasing the gross returns of the crop, cutting costs on fancy stuff, and relieving so-called overproduction.

When choice fruit is put in inferior boxes or baskets with splinters and sharp edges it is likely to be cut and damaged on the way to market. If it takes some time for the produce to get to the market the skin becomes covered with tiny punctures and decay is the result. Thus the sharp edges and splinters are being reduced to a minimum by using thin veneer and smooth surface boxes inside crates.

At present there are no packages universally recognized as legally standard, yet a marked improvement is seen during a few years past, and the growers are recognizing the great value of a standard and uniform package for the various tender fruits. Although many poorly constructed, "short" inferior packages are still found on the markets, it will only be a question of time before this type will become so thoroughly unpopular that the unscrupulous grower and packer who desires to use them will be compelled to recognize the demands of the trade regarding uniformity, or go out of business. While uniformity is fast becoming a characteristic feature on our markets, still a great many growers fail to grasp this point. They ship produce in packages that may answer the requirements of their local markets, but that do not comply with the demands of distant markets. As a result, dissatisfaction arises between the grower and buyer. The buyer discriminates against this produce, and the grower becomes discouraged, and the business that might have become very profitable is given up in disgust, all on account of the disregard, on the

part of the grower, of market requirements. Growers should become familiar with the conditions and preferences of the markets on which they expect to place their produce. The business of marketing fruit has become so well developed that there is no reason why one should not be thoroughly acquainted with the present requirements and conditions of any market. Buyers, commission merchants and produce dealers in general are always willing to furnish growers with any information regarding the preparation of fruit for markets and the most suitable, strongest, and cheapest kind of package to put their fruit into.

If growers would visit the markets to which they are shipping their produce and study the different kinds of packages and those that are giving the best satisfaction they would be in a better position to know what the require-

ments were.

If has been found by the most enterprising growers from years of experience in the business, that the best results are always obtained when goods are put up in substantial, uniform, well-filled packages. Goods carelessly prepared and in flimsy packages do not command nearly so much on any market as the uniform well-filled article. While good quality is the first condition, good packing in uniform packages is equally as important. Mr. D. R. Stewart, president of the

Stewart Fruit Company, in an article on standardization of packages said, "We are particularly interested in standard packages, as we believe it will be very valuable to the grower and save a great deal of dissatisfaction in handling the different crops."

In these days of wide distribution of farm products it is very important that uniform style packages should be adopted. It is to the advantage of the shipper to secure for his products the widest range of distribution possible. This can only be done by the adoption of uniform weights and measurements. New packages should not be readily accepted as most of them are so soon disregarded. This not only works a hardship on the box manufacturer, but the producer and consumer. It is the firm belief of the writer that there are entirely too many packages for the same kind of fruit on the market -any package introduced should be received with suspicion until it has proven to be of the right sort.

The necessity for co-operation among the fruit growers in various districts is becoming more and more felt. The farmers or producers should get together and study the market conditions and co-operate in the purchasing of their fruit packages. This movement has and will continue to do more for the furtherance and standardization of fruit packages than any other work.



THE O.A.C. REVIEW

REVIEW STAFF

A. M. McDERMOTT, Editor-in-Chief.

J. C. NEALE, Associate Editor.

D. M. McLENNAN, Agriculture.

J. COKE, Expermental.

C. C. DUNCAN, Horticulture.

W. STRONG, Poultry.

W. J. AUSTIN, Query.

H. H. SELWYN, Alumni,

C. M. NIXON, College Life

C. F. LUCKHAM, Athletics.

D. A. McARTHUR, Artist. J. H. SULLIVAN, Locals.

MARGARET SAXTON, Macdonald.

Editorial

ONCE MORE the halls and campus determined and persistent endeavor to resound with college life. Enrolment has now almost reached three hundred. This is a smaller number than usual, but in the face of present circumstances it is a goodly registration, and shows "Business as usual," in agriculture. The student body this year presents a make up more than the ordinary, in that fewer countries are represented, most of the students are Canadians and indeed, mostly native of Ontario. All walks of life are represented and urban homes have a large representation. More than one has returned from active service overseas to resume or commence the study of scientific agriculture, and this year's work and interests will take on a more serious nature than ever before. How can it be otherwise with the upper classes, at least, broken by the absence of many of their members in the service of their country, and the grimness of daily events in Europe always before us? Already this term. quietly and almost without their classmates' knowledge, students have enlisted, and gone into training. This will continue as long as the conflict lasts. For all of us this opening college year must be spent in a serious,

make the most of the opportunity to better train and equip ourselves for service.

THE INITIATION

Contemporary Press has given more than passing notice to our initiation ceremony for the Freshman class. Many of us had the pleasure of viewing the whole entertainment and even found in newspapers of following days accounts of the affair misleading to say the least and emphasizing phases of the afternoon's performance out of all proportion to their importance. Why is this? We think there is sufficient proof that the initiation has seldom done any harm, either in physical or moral effect. This opinion is enhanced by interviews with Freshmen themselves. We need only say that any college graduates can see merits of the initiation ceremony sufficient to warrant its existence as a permanent function affecting the First Year.

But can we not have something new? This year's program was practically a repetition of that of the last two years. It is an opportunity for some inventive originality which must exist among the Freshmen Class.

We hold that the initiation of one form or another is not only correct but quite necessary. Can it not be made just as impressive and yet be entirely original and entertaining?

THE WORK OF THE Y.M.C.A.

The student secretary of our Y.M. C. A. is responsible for a movement to enable students to obtain pictures suitable for room decoration at very moerate rates. This is only another branch of the good work being done in many ways to benefit and enhance the efficiency of the life of college students. The student spends a large part of his time in his room, indeed it is the time he spends there which makes the success of his college course. Obviously, then, his surroundings there are of far reaching importance. Entertainment and recreation is not lacking in our college life but this step suggests much that might be done towards helping the student to tastefully and comfortably arrange his room. A study of some of these masterpieces, (copies of which are now made available) as well as a word in harmony of color, neatness and order could not fail to go far in its effect on rural conditions. A students' room represents fairly accurately his taste and character. Taste can be cultivated to strengthen character. The Y.M.C.A. deserves credit for its move in that direction.

"ENGLISH AS SHE IS SPOKE"

"Ontario Agricultural Farm," so reads the official Ontario Motor League sign on the road to the city.

This is sometimes termed the "Model Farm." It should be understood that the farm in connection with the Ontario Agricultural College is not a model farm, that it is not intended for such. It is an Experimental Farm. But to speak of it as an Agricultural Farm is inexcusable.

On a prominent billboard in the city appears this glaring poster, "All Roads Leads to ---." Read the bulletin board any time and judge the English language. Visit some of the lecture rooms and listen to the language about you. Is it not high time that we should recall the fact that we have an English language, and that there is a correct way of expressing a thought. We cannot bring ourselves to think that in these matters it is ignorance of our mother tongue which causes these jarring errors. It is more probably carelessness. A carelessness grows out of improper and injudicious teaching by those in a position to teach both by precept and example.

So many foreigners in our land are sure to affect our language and it behooves us as Canadians and Britishers to keep our language pure, by using it correctly in our everyday conversation. It will help correct thinking.

OUR COMPETITION

We hope the competition opened for Review prizes will be a keen one. The Review will not be a benefactor any more than the competitor himself. Many students are capable of carrying off prizes (and the honor as well), by a little careful work. If you are a member of the Student's Co-operative Supply Association you are privileged to compete. Have you some good photographs? Can you compose a good poem or write a short story? Can you sketch? We need you in the competition. Winners will be announced in the Christmas number.

Alumni

R. W. Brown, B.S.A., '13, Demonstrator in Cream Separators and Cheese making at the O.A.C., has resigned to accept a position on the staff of the Agricultural College at Ames, Iowa.

Julio L. James has written from Sainta Maria Shaw, F.C.S., enclosing fifteen dollars toward Rural Community Work in connection with the College Y.M.C.A.

Mr. James is an associate of the O.A.C. and is now operating a stock farm in the Argentine Republic. He has 10,400 acres in operation with 2,500 head of cattle, 6,000 sheep and 300 horses. Mr. James took the medal during his year in stock judging.

Geo. W. Myer, Class '77, was the first ex.-student of the O.A.C. to subscribe to the Rural Community Work. Mr. Myer is now General Manager of the New York Life Insurance Company, at Toronto.

Marshall Campbell, Associate '09, is farming at Zimmerman, Ont.

Mr. D. W. Gillies, who has had charge of the physical welfare of the students during the last two years, has left to teach manual training in the Public Schools at Stratford.

Mr. Efton M. James, his successor, comes to us from the University of Michigan, Ann Arbor, where he took an active part in athletics during his college course, playing on the All-Freshmen's football team of 1912, and the Varsity team of 1913 and 1914. To judge from Mr. James' short comment on his chosen work in last month's issue, we have found not only an

athlete but a thinker and one who will turn his energies toward the developing of the moral as well as the physical side of athletics. We again tender Mr. James a cordial welcome.

The Ontario Agricultural College has been fortunate in regaining the services of Mr. G. H. Unwin as lecturer in English and Languages.

Mr. Unwin came to Canada in September, 1904, locating at Irwin, N.S., where he entered the Agricultural College and was one of the first class to receive Associate Diplomas from that Institution.

From there he came to the O.A.C. where he joined the Junior year and was graduated in 1909.

Mr. Unwin then accepted the Deanship of the College, which position he held for two years, after which he was lecturer in English and Languages for two years.

The desire for further Agricultural experience of a practical nature took Mr. Unwin west and in 1913 he left the College to take up a homestead in Alberta. A year later he went to Agassiz, B.C., to engage in research work under the Dominion Health of Animals Branch, from where he has come to resume the duties of lecturer in English and Languages.

Mention should have occurred in these columns ere now of the appointment of Mr. Justus Miller, B.S.A., '14, to the editorship of the *Canadian Countryman*, one of Canada's progressive agricultural weeklies. Justus Miller was the editor of the *Review during his senior year at the O.A.C.* and made a noticeable success of every issue.

In this larger field of journalism, he will be able to bring his abilities better into play and we may look for great things from the *Counytrman*.

M. J. McQueen, B.S.A., '15, is now with the *Farmer's Advocate*, as travelling representative. His head-quarters are at Toronto.

Clark Duff, B.S.A., '14, has enlisted as a private and is in training at Niagara Camp.

W. J. Bell, B.S.A., '15, has taken the position as assistant to Mr. Geo. Putnam, superintendent of Farmers' and Women's Institutes in the Province. Rural work of any kind was one of Mr. Bell's particular hobbies and we feel sure he is just the man for the position.

Messrs. Boulton and Patton, of Year '17, have enlisted since their return to England, with the Imperial forces. Ormonde Boulton has obtained a commission in the Army Service Corp and "George Ernest" Patton in the Artillery. It might be mentioned here that their original intention had been to sail with the ill-fated Lusitania, but they were unable to make connections in time, which was most fortunate, as later events proved.

D. G. Laird, B.S.A., '15, has taken up the duties of Agricultural Editor of of the Family Herald and Weekly Star, Montreal, Que. Previous to accepting this work, Mr. Laird assisted on the staff of the department of Chemistry here, where he was engaged in special soil analysis.

Mr. J. W. Charlesworth, B.A., has

resigned from the staff of the College to take up the duties of History Master in the Guelph Collegiate Institute. Mr. Charlesworth was only with us for two years as lecturer in English and Languages, but during that time he made many warm friends and his genial gentlemanly personage will be missed about the lecture rooms.

A. C. McCulloch, B.S.A., '12, has left to join the staff of the Agricultural College at Pullman, Wash., where he will continue in the work of Poultry Husbandry. We regret sincerely the departure of Mr. McCulloch. Not only did he incorporate enthusiasm into his own particular subject, but his interest in the social life of the college was keen and the Dramatic Club in particular will always be indebted to him for the part he took in various plays staged from time to time.

France, Armentieres,
Sept. 15, 1915.
Dr. G. C. Creelman,
O.A.C.

DEAR SIR:—As it is now drawing near the time for the O.A.C. to open its doors, I take the liberty to write a few lines to say that the boys here in France have not forgotten the good old O.A.C. In fact, as the month of September came round the boys would start to spring jokes about packing their trunks for College again.

All the O.A.C. boys are still in the firing line. Luckily none of them have been hit although some of them have had close shaves. . . . It is pitiful to see the people growing crops within sight of the German trenches, their fields full of great shell holes and disused trenches.

I must close this letter, wishing you Sir, the staff and the Faculty, students, both old and new, the best wishes for coming term.

Yours respectfully,
Sgt. G. F. Brooks and
THE BOYS OF NO. 4. Co.,
P.P.C.L.I., B.E. FORCE,
FRANCE

J. A. Neilson, B.S.A., '15, ("Dad") has accepted the position of lecturer in Horticulture at the Manitoba Agricultural College, Winnipeg, Man. We wish him every success in his undertaking.

NUPTIALS

Colquette-Dougherty—at Guelph, on September 30th, by Rev. Wilfred Goetz, pastor of Norfolk Street Methodist Church, Richard Daniel Colquette B.S.A., of Peterboro, Ont., son of Mr. and Mrs. R. J. Colquette, Feversham, Ont., to Alice Ethel, daughter of the late Alexander and Mrs. Dougherty, of Guelph. Ont.

FORSYTH-MCCOMBE

On Wednesday at the home of the bride's parents, Mr. and Mrs. S. I. McCombe, the marriage was solemnized of their second daughter, Rita L. to Fred Forsyth, B.S.A., son of the late Frank Forsyth and Mrs. Forsyth, of Stouffville, the Rev. W. W. Whylie officiating. The bride, given away by her father, wore white duchess satin with pearl and lace trimming and bridal veil. Her sister, Miss Gertrude, played the wedding music and sang

during the signing of the register. After breakfast, Mr. and Mrs. Forsyth left to spend a couple of weeks in Muskoka, the bride travelling in a suit of navy blue serge and black velvet hat with rose colored mount and facing. On their return they will reside in London.

The Review extend hearty congratulations to the happy couples.

S. G. Freeborn, '15, has taken out a Lieutenant's commission with the Canadian Exp. Force in England.

Allan C. Lane and I. Hogarth, '17, have enlisted with the 71st Battalion and are now in training at London, Ontario.

In an interesting note from B. J. Baenke from Vierfontein, South Africa, he says, "It may be of interest to you to know that the O.A.C. South African students now back here are calling a meeting towards the end of the year with the idea of forming an association of those in this country, who have attended the old institution. I find there are at least fifteen now and the number is growing. We mean to include also all South African students who attended American colleges. Will send particulars of our doings from time to time."

E. T. Chesley, who was on the Review staff has enlisted with the 32nd Battery with the rank of Sergeant.

College Life



Biology Building O.A.C.

FOR THE first time since its erection in 1902, the Biology Building is true to name. Before this, not only was it a refuge for beeties and caterpillars, weeds and fungous diseases, to say nothing about the still stranger creatures who study them, but the Physics Department had managed to squeeze its tile drains and lightning rods under the same roof.

For many months, work has been progressing on the new Physics Building, located just below that Department's old home. As it was seen that Prof. W. H. Day and his staff would be able to occupy the new premises by September, it was decided to remodel the Biology Building at once.

Carpenters and painters took full possession, and the staff of the Botanical and Entomological Departments were forced to take up temporary quarters elsewhere. Plans had been drawn up giving the Botanists the whole of the first floor, and the Entomologists all of the upper one. To do this, almost all of the interior walls were torn down and for a couple of months one could hardly enter the building without having bricks and mortar

dropped on his head. Gradually the laboratories and offices were finished and by the beginning of September, the staff was able to start the almost over-whelming task of getting the equipment old and new, into its proper place for the coming term.

The Museum has been practically unaltered, but we were amazed at the transformation which had occurred upstairs. On the first floor, to the left of the

front door, is a room fitted as a herbarium, used also by Mr. Wright as an office. Beyond this are the and second Year Botanical laboratories, and Dr. Stone's office. To the right, the classroom takes the place of the old Soil Physics Laboratory. Behind this are two very bright laboratories, one with a seating capacity of forty, for Third Year work, the other, a small one for Fourth Year specialists. Both these rooms are fitted with excellent new equipment, each student having plenty of cupboard room at the permanent, tables. Professor Howitt's office is just to the right of the front door.

On the second floor, Dr. Bethune's sanctum is at the head of the stairs, with the offices of Professor Caesar, Mr. Baker, and Mr. Spencer beyond. Almost the whole of the west side of the building is occupied by a spacious general laboratory, containing new tables, shelves and other fixtures. The new classroom and a smaller laboratory take the remaining space on the east side.

In the attic, a new photographic room has been added to the dark room



The Initiation--"The Detention Camp."

and culture room already in use by the Botanical Department.

With increased space, new equipment and offices, the lower years and also those few eccentric individuals who take the Biological Option, will be able to do better work than has been possible in the past.

INITIATION

The listless repose of a silent September morning was rudely broken by the sound of the Sophomoric hammers, picks, shovels, and various other

implements of barbarous warfare. Out on the campus, in the grey dawn, the shadowy forms of the Sophomores could be seen moving to and fro, preparing divers tortures for their enemies.

All was in readiness by 1:30 p.m. At the first sound of the bugle every freshman was captured without a blow being struck, and trembling before the authority of the terrible Sophomores, was confined for the time being, within a roped enclosure, close to where the atrocities were about to begin.

Right royally did the Freshmen, on their hands and knees, submit to



The Initiation-"Receiving" a Candidate.

the Sophomoric salute, and when lampblack, flour, and molasses, marred every feature, one could still trace a smile of half fear, and half grim determination to become a full fledged college student through the time worn custom of initiation.

The initiation over; the spectators were invited to the lower end of the campus, where the freshmen were frantically preparing to defend their flag, while somewhere amongst the shrubbery of the Campus the wily Sophomores were planning an attack.

Some five minutes elapsed, during

gathered around the pole, only to be driven off after nearly reaching the coveted rag. For about twenty minutes, the space surrounding the pole, was covered with a seething mass of greasy humanity, divested of much clothing and reeking of loud eggs, and louder tomatoes.

When hostilities ceased the Freshman flag still waved aloft.

While the Freshmen are to be commended for their clean, plucky fight in defence of their colors, the Sophomores are to be congratulated upon their



The Battle for the Flag.

which time there was a wild scramble amongst the spectators for points of vantage from which to watch the struggle.

When all was expectancy the Sophomores came, sending ahead of them a veritable hail of ancient eggs; and over ripe tomatoes. Much of which found lodgings within the scanty clothing of the freshmen. So fierce was this onslaught that several times the Sophomores almost succeeded in lowering the Freshmen's flag. A second squad of Sophomores charged the Freshmen

valiant struggle against almost overwhelming numbers.

YEAR EXECUTIVES

The various years held their respective elections with the following results:

FOURTH YEAR-

President-A. M. McDermott.

Vice-Pres.-A. E. Romyn.

Secretary-D. M. McLennan.

Treasurer-C. C. Duncan.

THIRD YEAR-

President—Chas. M. Nixon. Vice-Pres.—E. G. Rowley. Secretary—J. Bird. Treasurer—V. R. Hunter.

SECOND YEAR-

President—Norman James. Vice-Pres.—W. F. Geddes. Secretary—F. L. Ferguson. Treasurer—Percy Shorey. Committee—

> L. F. O'Neill. Fred Clare G. R. Wilson.

FIRST YEAR-

President—J. I. Way. Vice-Pres.—N. J. Harkness. Sec.-Treas.—D. A. Kimball.

The election of the first year executive is only temporary, pending the permanent election, which usually takes place one month after college opens.

Y. M. C. A.

On the evening of September 21st, a reception to the Freshmen was given by the Y.M.C.A.

About eight o'clock the students, old and new, together with the faculty and their wives gathered in the college gymnasium, for the purpose of becoming better acquainted.

The chair was taken by W. H. Squirrel, Honorary President, of the Y.M.C.A. Addresses were given by President Creelman, W. H. Day, Col. Smith, and President Falconer, of Toronto University.

President Creelman's address of welcome will be long remembered by the Freshman Class. He impressed upon them the many advantages of becoming active, and enthusiastic, in the various branches of college life.

W. H. Day and Col. Smith clearly outlined the object of the O.A.C.

O.T.C., urging that the students avail themselves of this opportunity to become efficient officers.

President Falconer's address dealt with the present situation in Europe and in Canada.

The several musical numbers of the program were well received.

Chairs were placed in circles about the gymnasium and refreshments served, after which all joined in singing the college songs. A very enjoyable evening was concluded by singing "God Save the King."

A LETTER FROM THE TRENCHES

J. A. Steele, '16, who enlisted with the Universities Company, last spring, sends a most interesting letter written in his characteristic style which gives us a vivid idea of what our O.A.C. boys on the firing line are experiencing. In part he says, "We have had Field Day with boxing, wrestling, races, etc. Bob Murrary and Sergt. Brooks have gone to the hospital with fever . . . We go over to the support trenches to dig at night. Last night we were in an orchard about six hundred or seven hundred yards from the trenches so of course there were a few stray bullets flying. It amused us greatly to see one of the new sergeants duck and say, 'G--, did you see that?' The bullet was probably fifty yards away from him.

"An occasional stray bullet gets some one but that is not frequent. The only time I've been afraid was before I enlisted when I was scared blue at the thought of being killed. I was a trifle blue too the night before the gunboats fell in as escorts coming across. I had a shell burst near me the other night but luckily I was protected by a wall of sand bags.

"This country grows good crops.

There was a fine pear tree just back of the support trenches with some fine fruit on it. Fitzgerald and I decided to try some and slipped over to the tree and I climbed up. I noticed that I could see the whole of the German lines so I kept on the other side of the tree and shook the limbs. 'Crack' went a rifle bullet close by. I started

to swing under when another and another came. Three more ripped by so I just let go and dropped. I'll never forget the stare of Fitz as I got up. The stretcher bearers came up for me and certainly got angry when I laughed at them. I'm not allowed to forget the incident. The boys all thought I had been shot.

Athletics

FOOTBALL

O.A.C. vs. G.C.I.

the rugby curtain was drawn at the College campus on October 6th, when the O.A.C. firsts clashed in an exhibition game with the Guelph Collegiate team. The home team got away with a good lead but a few costly fumbles during the third quarter gave the visitors a chance to tie the score and they availed themselves of the opportunity. In the last quarter, however, Musgrove, by a speedy run down the field landed the ball over the touch line, scoring for the college, making the final score 16 to 11, for the O.A.C.

O.A.C. vs. BALMY BEACH

Any one who witnessed the exhibition game between O.A.C. firsts and Balmy Beach rugbyists at Exhibition Park on Saturday October 9, will agree that it was merely a practise game; nor was it a good practise game for the visitors only brought six men with them. The rest were either lost by the way or didn't believe in chasing the ball on a cold day. At any rate, they failed to put in an appearance and as a result, five of the student players had to help them out.

Balmy Beach started out well and

when the whistle blew at first quarter, they had a 6 to 0 score, but from that time, they failed to get a look in and the college continued to pile up the score until they had 23 points.

HAMILTON ROWING CLUB, 16—O. A. C., 9.

With Evans, Sullivan, and Carncross, the only surviving members of last year's champions, our first team journeyed to Hamilton on October 16, to play the Rowing Club the first of their home and home series of games. As an exhibition of football the game was not much, as an exhibition of prize fighting, it was a hummer. There is an old saying that no team ever wins in Hamilton and it held true in this case. Our boys went down to play football but found themselves up against a team where football was only a secondary consideration-dirt coming first. This is a very regrettable thing, but our boys have shown in the past that they know how to fight the devil with fire when occasion demands and beat him at his own game and they will probably demonstrate in games to come that they have not forgotten the art.

It was their first game and some of the new men had quite a job finding themselves. However, the boys showed snatches of real football, tackled well and kept their heads throughout. They lacked training in the science of playing a game—a science that can only be acquired by experience. What poor playing accrued was due almost entirely to lack of experience. There were no outstanding features in the game. Michael's bucking was very effective and Surginor played a strong game. "Husky" Evans can let the line just as strong as in the old days. With a little more experience the firsts will be a combination that is hard to beat.

Lineup was as follows:

Scrimmage....Steckle, Springstead, Taylor (Binkley).

Left Wing....Inside, Clare; middle, Surgenor; outside, Costogue.

Right Wing .. Inside, Michael; Middle, Musgrave; outside, Weld

Halves......Right, White (McEwan); central, Cook; left,

Flying Wing Sullivan.
Quarter.......Carncross (Captain).

WOODSTOCK COLLEGE, 6—O. A. C. II., 10.

While the First team was taking a licking in Hamilton, the second team upheld the good name of the College by winning from Woodstock on our College campus. This was the Second's first game and they gave a good exhibition of football. The game was slightly loose in spots but was well played, the seconds surprising everybody by their good form. Cassels and Copeland proved great tacklers, old "squirrelly" Ben Langley was "squirrellier" than ever and Kay and Walton on the back division played a strong

game, the former punting in good style. The seconds showed that they had some mighty good material and the outlook for a first class team is good. Martin at quarter had the misfortune to receive a dislocated shoulder which will lay him up for some little time. The lineup was as follows:

Scrimmage... Sutton, Richardson, Hoard Left Wing... Inside, Pearsall; middle, Begg; outside Copeland (Edwards).

Right Wing Inside, Jacques,; middle, Graham; outside, Cassels.

Flying Wing Langley.
Quarter.......Martin (Copeland).

TRACK

Our Twenty-fourth Annual Field-day was held on Thursday, October 14th. Heavy rains during the night left the campus and track in a rather heavy condition but the weather cleared off in the morning and the afternoon was almost ideal. At the east end of the campus could be seen the year tents which harbored their various athletics and inside were busy men who catered to the wan s of the competitors. The tents of Year '17 and Year '18 looked especially attractive, the former being nicely decorated with bunting and pennants and a sign, telling everybody of their last year's glories, whilst in front of Year '18's tent was a barber's pole with red and white stripes encircling it, a chair alongside, a sign overhead calling "Next" and around it all a wealth of suggestion. The freshmen were out in force, too. Among them were noted several clerical gentlemen, but a closer examination revealed the fact that they were just ordinary members of Year '19, with their collars reversed. The sophomores had put the order forth that collars must be reversed and not a few were reversed with an outlandish vengeance that gave considerable amusement to the spectators. Macdonald Hall students were there in full force, "fussers" were much in evidence, the faculty was well represented, in fact all elements were present which made the day a success.

Many surprises came to light. The year points were as follows: Sophomores, first with 85 points; Seniors, 43 points; Juniors, 30 points; Freshmen, 19 points. This standing came as a rude shock to the Juniors, and mighty surprise to the seniors, and as an occasion for much joy to the Sophomores. White, of '17, grand champion of two years ago, was taken sick after winning the half-mile and Evans of '17 arrived too late to get any training. This accounts to a great extent for the poor showing made by the Juniors. "Pinkey" Wallace was grand champion with 32 points. The "Chili-sauce boy" from New Jersey certainly made a great showing, and besides being grand champion, won the Cosmopolitan Cup for winner of the short runs and was also champion of the jumps and vaults. Shaw of '16, was champion of the weight events; Lambert, '16 and Raymond, '19, tied for the championship of the long runs and Raymond '19 won President Creelman's medal for the freshman winning the highest number of points.

At night in the Gymnasium, the presentation of prizes and medals took place. The Macdonald girls also presented their ribbons to prize-winners on their field day. The whole was carried out smoothly and nicely—a fitting close to a successful day.

Events and winners were as follows: No records were broken due probably to the heavy condition of the track.

100 yards—Wallace, '18; Hamilton, '18; Newton, '18—Time 11 sec.

Standing Broad Jump—MacGregor, '18; Evans, '17; Bryden, '16; —9 feet 3 inches.

16 pound hammer—Shaw, '16; Manton, '17; Dodding, '18;—72 feet 5 inches.

220 yards—Wallace, '18; White, '17, Newton, '18.

Running Hop, Step and Jump—White, '17; Evans, '17; Wallace, '18—40 feet 2½ inches.

16 pound Shot—Shaw, '16; McGregor, '18, Dodding, '18—32 feet 10 inches

16 pound Shot (under 140 lbs.)—Forman, '18; Wallace, '18—29 feet 5½ inches.

Standing High Jump—Wallace, '18; MacGregor, '18; Lackner, '16—4 feet 4 inches.

Half Mile—White, '17; Cassels, '19; Halsey, '18—Time, 2.17 3-5.

Running High Jump—Lackner, '16; Wallace, '18; Shaw, '16—4 feet 111/1 inches.

Running Broad Jump—Wallace, '18 Evans, '17; Bryden, '16—18 feet 4½ ins.

440 yards—Wallace, '18; French, '16; Cassels, '19—Time, 5.9 1-5 sec.

One Mile—Raymond, '19; Lambert, '18; White, '17—Time, 5.29 2-5.

Discus—Shaw, '16; McGregor, '18; Clark, '16—86 feet 1 inch.

One mile Walk—Bird, '17; O'Neil, '18.

120 yard Hurdle—Schuyler, '16; Wallace, '18; Michael, '18.

Three Mile—Lambert, '18; Raymond, '19; Peters, '19—19 min. 3 sec.

Pole Vault—Shaw, '16; Weld, '19; Dodding '18—8 feet 9 inches.

Inter-Year relay—1st, '16; second, '18.

Macdonald

INITIATION

"Seniors' Circus" parades tonight In the gymnasium just up one flight— See the dear monkeys climb up to their perch.

Donkey and elephants left in the lurch Next comes the doggies, the clowns and the seals—

Every last animal ready for meals.

Now from each pretty freshie we'll need some small aid

To make a success of our glorious parade. So come all ye freshies and each represent Some dear little beastie for our circus tent. We'll have you fed early so this evening come

To the Library 6:30, and then starts the fun."

Thus were the freshies greeted one fine September morn? Throughout the day there was hurrying and scurrying in every corridor. It was surely a grand opportunity for each freshie to reveal her inventive powers.

Promptly at half after six, each member of the circus assembled in the library where she was greeted by Barnum, alias Frances Beven. From the library the procession wended its way to the gymnasium, each separate group of animals being in charge of a senior trainer. The first item on the programme was a grand march in which every member of the circus took part. Then each group of beasties was led to the centre of the sawdusted floor, and there, with the president of the Students' Council in their midst, took the following oath:

"We, the Freshies, of the September class, on bended knee and with uplifted hand, do hereby solemnly swear, by the yellow bows and bands which we have worn in deep humility, by the pink lemonade and pop corn balls, by the siren shrieks of the calliope, by the shades of dear departed Jumbo, by the dancing bears and wiggling seals of this the greatest show on earth, to be loyal and true to the President of the Student's Council and the Senior Class of Macdonald Hall, so help us, Barnum and Bailey."

Two boisterous seals who, after their long march, were too thirsty to speak, were given a swig from an ominous looking decanter after which they found the oath very easy to take. Thus events proceeded until each little animal had done his brilliant stunt.

At the conclusion of the performance, the Seniors gave three hearty cheers for the Freshies and welcomed them into the ranks of Mac girls,

Y.W.C.A.

The Y.W.C.A. has begun another year with every prospect of success. The Hall has been canvassed for members and the girls, with very few exceptions, joined our Association.

The speakers we have had so far this year were Mr. McLaren, Mrs. Watt and Miss Saunders. In our first meeting we were shown clearly what the Y.W.C.A. stands for.

Mrs. Watt enlightened us with regard to Leper Missions. Miss Saunders at one time a foreign missionary, but now national General Secretary of the Y.W.C.A., spent a Sunday with us. She addressed us, at our meeting, on the College Woman's opportunity.

The music at our meetings is excellent. As the year goes on we expect to find even more musical talent among both our new and old girls.

Mission and Bible Study will be

conducted in small groups this year. This is an important branch of Y.W. work. The Red Cross work is the newest addition to the Y.W.C.A., and is going on splendidly.

FIELD DAY ON MACDONALD CAMPUS

OCTOBER 2ND, 1915

Senior Yell-

Nigger, rigger, amatator, Half past alligator, Rim. ram. bulleator, Chick, wah! dah! What's the matter with the M-a-c's? Are we in it? Well, I guess! S-E-N-I-O-R-s, '16.

Junior Yell-

Yellow and blue Yellow and blue We are the Juniors, Who are you? Who are you? Are we here? Well I guess! Juniors, Juniors, Yes, yes, yes.

These repective yells are here set forth that they may be fully distinguished and appreciated, because on Field Day, owing to the desire of the members of each year to outyell the other year, it was impossible to do so.

In spite of the fact that it was a cold day and wet underfoot, the sports were carried on very successfully, partly due to the large number of entries for each event and partly due to the enthusiasm shown by contestants and onlookers. The honors of the day were well divided between Juniors and Seniors. The laurels were carried off by Helen Turner, Homenaker.

Special interest was shown in the contests between Seniors and Juniors. The Tug-of-War was a hard won victory for the Seniors. Enthusiasm ran high over the Basket Ball and great was the cheering when at the end of the game, the score was in favor of the Seniors.

A new feature of the prize giving for this year is that each member of the winning Basket Ball team is to receive a Basket Ball Shield. On former occasions they have received no recognition of their hard won victories.

The programme and winners are as follows:

- 1. Flat Race—Helen Turner, L. McCarthy.
 - 2. Sack Race-Marjorie Williams.
- 3. Nail Driving Contest—Helen Turner.
- 4. Peanut Race—A. P. Scott, M. Williams.
- 5. Three-Legged Race—Helen Turner and Kate Trotter.
 - 6. Tray Race-Helen Easton.
- Class Relay Race—Helen Turner, Homemaker; Marjorie Williams, Senior Normal.
 - 8. Overhead Ball-Seniors.
- Blindfold Race—Helen Turner and Leah McCarthy; Marjorie Williams and Eleanor Smith.
 - 10. Backward Race-Beatrice Wylie
- Tug-of-War—Seniors vs. Juniors—won by Seniors.
- 13. Basket Ball—Seniors vs. Juniors—Won by Seniors.
- 14. Base Ball-Edna Mayhew's team.

ATHLETICS

The girls at "Macdonald Hall" made no mistake when they chose Miss Francis Beven as their Athletic President for the year 1915-16, and with able assistants, Helen Easton and Kate Percy as secretary and treasurer, sports are bound to hum.

Already the Basket Ball manager, Eleanor Hopper, has class teams organized and inter-class games are soon to be played off while the Base Ball, under Marguerite Stewart's direction, shows keen competition between the different teams.

The girls have entered the Tennis tournament with great enthusiasm and the boys across the campus and our own girls, as spectators, watch with interest the competitions in the mixed doubles now being played off.

The interest taken in athletics was shown on Sports Day when both Seniors and Juniors entered the many events, where Miss Adams, our new physical instructress, proved a great assistant in making the day a success, and won the admiration of all the girls.

The social spirit in athletics was shown when the executive entertained their Honorary President, Dr. Ross, Mrs. Fuller and Miss Adams, and as per usual, the famous athletic picnic was enjoyed alike by both boys and girls.

When talking athletics, we must give rather more than honorable mention to the Senior Basket Ball team. Starting last September with an immense handicap, they have won through hard fought battles, the summit of success. Marjorie Williams, Captain, has had much to do with the triumphs of the team and has proved a wonderful forward. Helen Easton ably assisting her efforts-Eleanor Smith as centre, is unequalled, while Eleanor Hopper and Kate Percy have no rivals as a defence line-up. The class of 1916 is justly proud of the Senior Basket Ball team and unite in giving three hearty cheers for them.

The following is an incomplete list of the graduates from Macdonald Hall in 1915, who have already secured positions:

Miss Katharine Kennedy, Household Science Teacher, Smith's Falls, Ontario.

Miss Gladys Manning, Domestic Science Mistress, Havergal College, Toronto.

Miss E. Jennie Rogers, Household Science Teacher, Consolidated School, Guelph, Ont.

Miss Pearl Gray, Assistant in the Women's Department, Industrial Farm Thornhill, Ont.

Miss Jean Bradley, Household Science Teacher and Assistant Matron, School for the Deaf, Belleville, Ont.

Miss Ethel Dickenson, Domestic Science Teacher, St. Johns, Nfld.

Miss Kathaleen Dowler, Household Science Teacher, Winnipeg Public Schools.

Miss Ethel Hannah, Household Science Teacher, Startford, Ont.

Miss Mary Kelso, Supervisor of Domestic Science, Brandon, Man.

Miss Helen Hepburn, Dietician work in the Ontario Agricultural College Dining Hall.

Miss Elizabeth Master, is doing substitute dietician work in the O.A.C. Dining Hall and substitute work in Macdonald Institute.

Miss Lenora Panton, Pupil John Dietician, Hopkins Hospital, Baltimore, Md.

Miss Daisy Hamilton, Pontorea, South Africa, is bravely doing her bit for the Empire as the following extract from one of her letters well shows:

> Swakopmund, S.A. June 6th, 1915.

Dear Mrs. Fuller:

" We have two hospitals running in perfect order and in-

side them it is impossible to realize we are in the middle of nowhere. The German hospital is being used and we have turned the large school into another. The thing our men are fighting most is the difficulties of the country sand, wind, heavy mists, fleas, water and transport. Each one in itself would be a fearful hardship but all combined are quite beyond imagination."

Miss Renee Rocher, another South African girl, who attended Macdonald Hall in 1914, writes from England in regard to the work women are doing in munition factories. Miss Rocher herself has offered her services in one of the factories. 16 Cathedral Mansion, Vauxhall Bridge Road, London, S. W.

Dear Mrs. Fuller:

to a munitions factory. We went to inquire at the war office and expect to receive marching orders tomorrow. We have to go to a Polytechnic for six weeks to learn to make munitions.

. . . . I must explain to you that a Miss Cayley, an enterprizing lady, worked out a scheme for munition making and in a very clever letter presented the scheme to Lloyd George. It was immediately accepted and this is the upshot of it all."

On September 13th, inst., H. H. McGregor, Ph.D., died at his father's home, 435 McLaren St., Ottawa, of typhoid fever. His sister Bess, was a member of Normal Class '15, to whom and the member of the bereaved familythe *Review* extends sincerest sympathy.

Locals

We have had repeated requests from our readers to publish our annual joke about the experimental station at Sault Ste. Marie, Ont. We can only refer our readers to our January number of this year or to the author, W. P. Macdonald.

Will Kay, of Second Year, please call at the President's office and ask for receipt for the amount he paid in fines at time of registration.

Mr. Spencer (in Entomology)—
"Whenever I go out for a walk I always take a bottle with me."

MACGREGOR—"Empty or full?"

DUNCAN (to Miss G. at Athletic

picnic)—"Do you think my moustache is becoming?"

Miss G.—"It may be coming, but it certainly has not arrived."

A Freshman recently entered a down-town livery stable to obtain a horse. He was shown an animal in excellent condition but affected with the heaves.

"Look at that coat," said the proprietor, "Can you beat that?"

"I like his coat," said the wise one, but I don't like his pants."

Lost—A clinical thermometer, suitable reward for return to A. E. Romyn, Cosmopolitan Club.

ATTENTION

(During drift on the campus.)

Officer-"Squad Number from the right."

FIRST MAN-"One."

SECOND MAN-"Two."

WAY ('19, working under pressure)
—"Three, four, five."

LOVE IN SPRINGTIME

She was sitting on the fence. It was four in the afternoon, but she was unconventional. He stopped below and called to her.

She remembered how gruff he had been to her on the preceding day and she silently turned away her head.

He called again. Still she did not answer.

He was a persistent youth. He leaped up beside her. He put his face roguishly close to hers. With a low snuff she turned her back to him.

Suddenly she whirled with a little gasp of anger and slapped him on the ear.

Naturally he was a gallant youth, but now the blood of savage ancestors surged through his veins. He could not take the blow passively. He dealt her a swift blow on the face that knocked her off the fence.

No sooner had he done so than he was sorry. But before he could jump down and try to make amends, she had given him an injured glance and was running across the garden.

Ashamed of his hasty action he followed quickly and tried to catch her but she slipped through a hole in the fence and eluded him.

They did not see each other again



until the next afternoon-those two C. for the hearty goodwill shown durcats.

MR. WRIGHT (to Sophomore Class) -"Gentlemen: No two members of a species are exactly alike. For instance, twins may appear alike but on closer examination show a slight difference."

PROF. ZAVITZ (to Freshmen)-

"Can anyone name any other condition that might be improved to increase crop production."

THE PHILOSOPHIC GOOK-"The weather."

KINGSMILL (lecturing to Fresh-ies) "Gentlemen: A drone is no relation to his father."

SUNDAY AFTERNOON - (Freshmen making past orchard. Mac girls between)-Fair one remarked, "I see nothing tempting there."

Freshmen takes every thing to heart, even ladies-comments.

IN BOT. LAB.

JOEY WATERMAN-"Mr. Wright, would you mind telling me the price of that laboratory kimona your wear?"

Mr. Wright- . . (unprintable.)

The Seniors, Juniors and Sophomores of the O.A.C., had best take heed unto themselves, lest a certain high official of the first year becomes the most popular man in Mac Hall.

The "Juniors" wish to extend a THE WELL-KNOWN FRUIT PACKAGE vote of thanks to the men of the O.A.

ing the Basket Ball game on "Sports Day."

Scene: Mac. Hall, night of first prom.-

FRESHMAN - (Rushing frantically around under "W.")-"Are you looking for a man?"

NEW GIRL-"Indeed, I'm not looking for any man."



- J.R. WILSON.

EXPERT.