

PAGES

MISSING

THE O. A. C. REVIEW

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

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No. 7

A New Lease of Life

By W. R. Reek, B.S.A.

ALL are familiar with the Consolidated School which stands near the Agricultural College at Guelph. Other schools throughout Canada, similar in proportions and to be used for like purposes were erected by grants

being conducted at various points, wherever the people request that they be carried on, under condition that the local authorities assume part of the responsibility. These courses last for one week only at a place. A depu-



Hillsboro Consolidated School, P. E. I., which is undergoing a rejuvenation.

from the same fund. One is situated at Mount Herbert, in Prince Edward Island and is known as the Hillsboro Consolidated School.

For several years excellent work was carried on, the results of which are very evident to-day, but for reasons not necessary to enumerate the school was ultimately closed and remained so until February 7th, 1916.

Throughout Prince Edward Island a series of short courses in Agriculture is

tation of representative farmers waited upon the Hon. Murdock McKinnon asking that one should be held in the Consolidated School. Many maintained that the section in which the school was situated was one of the most difficult in which to carry on agricultural work.

A few of those interested immediately took up the work of cleaning and repairing the school. Many days were spent because any building out of use

rapidly deteriorates and goes to pieces. The heating system, fortunately, was still intact and gave excellent satisfaction. Windows were repaired, doors were made to swing again, floors were mended and the domestic science department was thoroughly cleaned.

Five of the ex-students took charge of serving lunches during the course and probably in no way did the influence, which the school exerted when in use, become more visible than in the effectiveness of this work, in charge of the ladies.

The course opened at 10 a.m., February 7th, with an attendance of seventeen and a general feeling that the venture was doomed to failure. Everybody seemed disappointed. However, the lectures were taken up with enthusiasm and made as practical as possible. The crowd was somewhat larger in the afternoon, with indications of life and reserve force. On Tuesday the signs were more cheering; appearances showed that the people realized that there was something taking place in the Consolidated School. Wednesday morning brought a crowd and before noon the lecture room was filled. The lectures were given by Mr. Andrew McCrae, who has one of the best Ayrshire herds in Canada, and by Mr. Harvey Mitchell, a veteran dairyman of the Maritime Provinces. Discussions revealed that men were thinking very hard and were prepared to give expression in no uncertain way as to what might be accomplished, if a few of the old difficulties that had made trouble, were forgotten. Suggestions made by elderly men at such meetings have excellent effect. The atmosphere around the school seemed laden with that influence which draws people together in a common cause for mutual benefit. The work of organisation was quickly placed in the hands of com-

mittees, which were to report on the Friday evening following. Discussions, earnestly carried on by groups after the lectures exhibited only too clearly that all were anxious for some progressive move in agricultural organization. It must not be supposed that this section is one where financial matters are a difficulty, because all are well-to-do.

The judging of grains and tillage operations are of paramount interest in this section but live stock is becoming of much greater import yearly. Live stock judging was carried on so far as possible under existing conditions, and to supplement this, illustrated live stock talks were given. Plant diseases, weeds, clovers, underdrainage, soils and poultry were all discussed as fully as the time would allow. Each session took the form of a conference rather than that of a lecture.

The work in the hands of the committees was of the greatest interest and everyone eagerly looked forward to Friday evening. The night was clear and moonlight. The sleighing was good and before seven o'clock the assembly room was crowded with people, ranging in years from ten to seventy—two hundred and fifty were in attendance. A short programme was rendered and the usual formalities at such courses complied with but most interest seemed to centre on some routine business which had to be arranged and on the reports of the committees.

The Farmers' Institutes on the Island are very active; they are more like Farmers' Clubs. The people could not by law form another one, so they joined with the Strathcona Institute and the Secretary in a very short time enrolled 52 new members.

Two cheese and butter factories had been established in the past, owing to a difference of opinion, very close

together—one at Hazelbrook and the other at Mt. Herbert. The directors agreed to amalgamate for creamery work—a very advanced step considering the conditions. It will prove a great boon to many distant dairymen who had difficulty in the delivery of the milk, whereas cream can be much more easily handled.

In the afternoon an attempt was made to form a Woman's Institute but it failed. However, at night the ladies held another meeting and in a few minutes announced that they had their officers appointed.

The time for discussion was very short. A meeting was requested in order to more thoroughly deal with tillage and manures. A committee was

quickly appointed to make arrangements. Neighboring institutes will be invited to attend.

The school was opened in order to hold the short course covering but one week. To close it seemed like retrogression. A County Club was formed with upwards of a dozen charter members paying in a fee of two dollars each. Their purpose will be to create healthy social conditions and assist agricultural work wherever possible. The school will be their headquarters and rooms are to be heated and arranged as the demand arises. An effort will be made to make rural life not only profitable but just as pleasant and interesting as city life.

My lord rides through his palace gate,
 My lady sweeps along in state;
 The sage thinks long on many a thing
 And the maiden muses on marrying;
 The minstrel harpeth merrily,
 The sailor ploughs the foaming sea,
 But fall to each whate'er befall,
 The farmer feedeth all.

Smith hammereth cherry-red the sword,
 Priest preacheth pure the Holy Word;
 Clerk Richard tales of love can tell,
 Dame Alice worketh 'broidery well;
 Great work is done be it here or there,
 And well man worketh everywhere;
 But work or rest whate'er befall,
 The farmer feedeth all.

—Charles G. Leland.

Something New About Warble Flies

By G. H. Unwin, B.S.A.

WARBLE flies injure cattle in several ways: they puncture the skin, thus spoiling the hide from the tanner's point of view; they annoy cattle in the open, sending them in panic-stricken and headlong flight all over the pasture; they undoubtedly create channels of entrance for disease germs (such as anthrax) which live in the soil; and, when infesting an animal in any abundance, they cause emaciation, weakness, and irritability. This article, however, is primarily concerned, not with economic aspect, but with their life history and habits.

The latest investigators are Dr. Carpenter in Ireland, Glaser in Germany, and Dr. Hadwen in British Columbia. Previous to their work the life cycle of this remarkable insect had not been fully worked out, though the warble maggot was described by De Geer as early as 1776, and careful descriptions have been published from time to time by Bracy Clark (1815), and more lately by Miss Ormerod in England and Dr. Curtice in America. These descriptions covered the adult fly and the full-grown maggot as it is found in the backs of cattle; but the intermediate stages, the egg, and the newly-hatched larva, were not fully described until recently; nor was it at all certain how and where the egg was laid by the fly, nor how the little grub gained entrance to the host. These problems have now been solved and their solution will be described subsequently.

First, however, it would seem advisable to give a short account of the adult fly and its methods of attack. There are two kinds of warble flies,

which, though closely related, (being in fact first cousins) show some striking differences not only in appearance, but in their manner of doing business. We shall give these their scientific names in order to distinguish between them: they are respectively *Hypoderma bovis* and *Hypoderma lineatum*. The general appearance of these flies shows a close resemblance to a small bee, though the legs are much longer in proportion to the body. The first-named, *H. bovis*, is the larger fly of the two, thicker in the thorax, and shows more of the "bull dog" build. In general coloring *H. bovis* shows more yellow, while *H. lineatum* is a darker colored, more sedate-looking insect.

The greatest difference between these two species, however, lies in their method of attack. The larger fly, *Hypoderma bovis*, inspires the greatest fear in cattle, causing that familiar performance known as "gadding"; the animals stampede madly about the pasture, frequently colliding with any-



Fig. 1—*Hypoderma bovis*, which causes cattle to stampede.

thing that happens to be in the way of their blind flight; sometimes they run till they are completely tired out and are forced to lie down. There is no mistaking a genuine "warble" stampe; a sudden panic runs through the whole herd and away they thunder, heads down, tails up, staid old cows and young calves, each one the embodiment of bovine terror. It is difficult to imagine a good reason for all this, when we consider that the fly does not sting or bite, but merely glues a small egg to the base of a single hair.

animal is at full speed, follows it about two or three yards behind, from time to time darting forward and depositing an egg on the flanks or hind legs. Then she alights on the ground to rest. The position on the ground is curious and quite characteristic of this fly the long fore-legs are stretched out in front, tail depressed and head raised, as though taking an observation.

The other species, *Hypoderma lineatum*, causes no fear in cattle. Dr. Hadwen, Dominion Health of Animals Branch, stationed at Agassiz, B.C.,

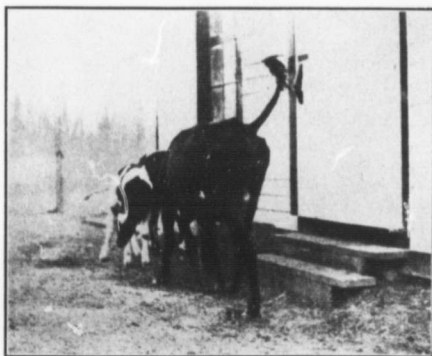


Fig. 2—Calf has just seen fly and is on point of running away.

If it were one of those large black Tabanids, which bring blood each time they alight, one could understand the anxiety of the beasts to get away, but they will hardly move a step for the largest of these blood-sucking flies; whereas a single warble-fly has only got to appear on the scene to send them flying.

The female *Hypoderma bovis* seems to prefer laying its eggs on running animals; like a true sportsman she likes to get the bird on the wing. She selects her victim, planes rapidly over it once or twice, and when the

was the first to discover this. The two flies have been much confused in the past, and it was thought that both of them caused cattle to "gad." Some observers denied that warble flies ever made cattle run; others stated confidently that they did. It appears now that both were right. There is certainly some excuse for these earlier observers, for it seems almost incredible that two species so closely allied, should have such different effects on cattle.

Hypoderma lineatum lays its eggs when the cattle are standing quietly

or lying down. This is generally done when the fly itself is on the ground. Hadwen describes a case when a female *H. lineatum* ran all round a recumbent cow, depositing eggs at intervals on the line where the cow's body met the earth. This fly lays anywhere from six to fourteen eggs on a single hair, whereas *H. bovis* lays but one on a hair. Another favorite place for the depositing of eggs is the hair at the back of the hoof, where it nearly touches the ground

thus taken into the horse's stomach. The warble larva, on the other hand, is not "licked" into the host animal. The position of the egg at the base of the hair is protected from the cow's tongue; then the egg itself has no lid, but cracks down to centre to let the larva emerge. These are arguments against the "licking" theory, which has had many supporters. The final proof against this theory was not brought forward till last year, by Professor Carpenter in Ireland and

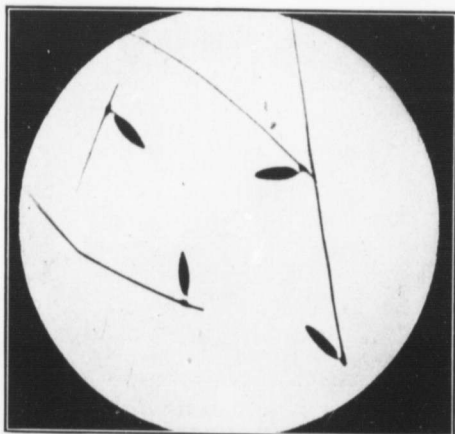


Fig. 3—Warble-fly eggs attached to hairs. Note attachment near base, slightly enlarged.

The eggs are small and are attached by a kind of clasping arrangement to the lower part of a hair. The hair folds over, completely concealing them. Compare this method with that of the well-known 'horse-bot,' which belongs to the same family. The egg of the horse-bot is attached at the end of a hair and is always visible. It has a small lid, and when the horse licks itself the lid comes off, and with it comes the little grub inside, which is

Dr. Hadwen in Canada. These investigators proved by actual observation that the young warble maggot, after hatching, crawls down the hair and bores its way through the skin, using the hair as a fulcrum to keep its body perpendicular; in other words it makes a little drill of itself. Hadwen removed a piece of hide on which were some freshly laid warble eggs, and by keeping this at a favorable temperature and under constant observation

was enabled to see the young maggots hatch out, crawl down the hair and bore into the skin.

Once inside the skin the larva makes its way to the gullet, there to take up the second stage. That so minute and delicate a grub can migrate through the coarse tissues of a large animal, whose muscles are frequently in movement, without being destroyed seems a large order. Nevertheless, it is a fact, and proof positive can be had by referring to either of the two authors quoted. The larvae live under the thin mucuous membrane of the gullet

up a position underneath the skin. It punctures the hide and henceforth grows very rapidly, forming the well-known lump which is called the "warble." In early spring it forces its way out and falls to the ground, in which it buries itself almost immediately; then the outer skin hardens, forming a pupa-case, and inside the case the winged insect develops. On reaching maturity the fly knocks the end off the protecting case and emerges after the manner of a young chick.

The time of emergence varies, of course, with the season; a warm and

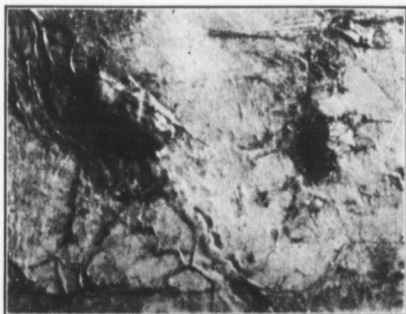


Fig. 4—The underside of a cow's hide, showing (on the right) a partial dissection which reveals a young larva, and (on the left), an unopened warble.

for a considerable time, apparently travelling up and down; it has been thought that the free supply of air in these tissues must influence the larvae to select them for the greater part of the sojourn in the host animal; also there are very few blood vessels in the gullet and the body of the larvae is less likely to cause inflammation. On such a point as this, however, we can only state suppositions.

Having reached the proper stage of maturity, the warble maggot makes its journey to the back, where it takes

early spring hastening maturity. Hadwen reports that in 1915 at Agassiz, B.C., a very early spring brought out the first warble flies toward the end of April or the beginning of May. This is the earliest appearance recorded for the warble fly. The same investigator notes that *H. lineatum*, the smaller fly, appears about one month earlier than *H. bovis*, though their periods of activity overlap. This fact had been previously ignored and it may account for the failure of certain spraying experiments conducted by

Professor Carpenter at Ballyhaise, Ireland. *Hypoderma lineatum*, owing to its unobtrusive method of working, has been overlooked, and spraying operations against *H. bovis* may have failed to catch the smaller fly, since it emerges a month earlier.

The scientific proof of the facts detailed above can be had on application

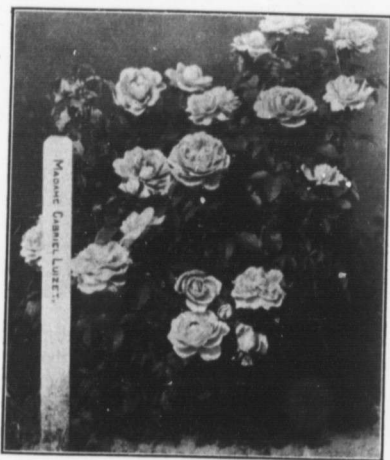
to the Dominion Health of Animals Branch, or to Dr. Seymour Hadwen, Agassiz, B.C. The literature of the past two or three years' work on the subject, forms an interesting history of patient and careful labor, under considerable difficulties, and the results are valuable both from an economic and a scientific point of view.

Note—Illustrations from Bulletins by Dr. Seymour Hadwen.

Roses for the Farm Garden

Why Not Make Our Home Surroundings More Attractive?

By Wm. Hunt.



What a difference a few rose bushes such as this will make in the general atmosphere of the home surroundings.

A FEW bush and climbing roses will add greatly to the appearance of the farm home, if well selected varieties are planted. Their bright colored, showy, fragrant blossoms, are not seen

as often on farm lawns and gardens as they should be. The selection of unsuitable types and varieties is often the cause of failure in growing roses. A lack of knowledge as to their re-

quirements is also a drawback to success. An insufficient supply of water is another reason for non-success in their culture, as moisture is one of the main factors toward successful rose growing. Where a moderate supply of water can be obtained there should be no difficulty as the other main requirements needed for roses, viz., fairly good soil and plenty of barnyard manure, are usually available for the rose bushes.

In respect to moisture, mention might be made of soapy water and soap suds that are often allowed to go to waste. There is no better preventive of insect attacks than strong soap solutions, if applied early and often during the summer season. Given a little well-directed care, there is no reason why the rose, the "Queen of the Garden" may not be more commonly seen on all lawns and gardens than it is at the present time. The following brief hints on their culture may perhaps help to an increased interest in these very popular flowers.

TYPES AND SPECIES.

Japanese or Rugosa Roses are the hardiest. Hybrid perpetuals (H.P.) come next in point of hardiness, and are possibly the best roses for the amateur's garden. Moss Roses are very similar to the Hybrid Perpetuals and require about the same care and culture. Hybrid Tea Roses (H.T.) are not as hardy as the two kinds before mentioned, but flower more continuously throughout the summer. These require more careful protection than H.P. Roses, especially in the colder sections of the province. Climbing roses are usually a mixture of species and are of variable hardiness. All of the species before named are useful for the farm garden. Tea Roses are very tender and require extra care and

culture to have success with them. They cannot be recommended for general outdoor culture. The Japanese or Rugosa Roses are specially suited for farm gardens, as they are almost immune from attacks of insect pests and require less care and attention than many other kinds.

LOCATION

Roses like an open, sunny position to grow in. The only time that roses are benefited by shading is during very hot weather when they are in bloom. A thin piece of cotton stretched over them for a few hours at mid-day at this time, helps to retain the rich coloring of their petals and prevents bleaching. They should not be planted close to a building on the south side. On the east or west side of a building is not so objectionable. It is best to train climbing roses on a trellis so that air can circulate freely about them, as well as allowing spraying to be done effectively.

SOIL

The Rugosa, Hybrid Perpetuals and Moss Roses like a well drained, rich, clay loam soil, and will usually give good results on a well drained, heavy clay soil. A very sandy or gravelly soil does not suit them. The Hybrid Teas and Climbing Roses like a fairly light, well drained, rich, loamy soil best. They will succeed fairly well on a well drained, clay loam soil. A very heavy soil does not suit Hybrid Tea Roses.

FERTILIZERS

Well rooted barnyard manure, cow manure and bone meal are the best fertilizers for roses. These should be forked in around the bushes early in spring after pruning has been done. Roses require a good supply of fertilizers to be successful with them.

About two pounds or so of chicken manure forked lightly in around each rose bush in early spring will prove a good fertilizer and also help to keep down insects. Too large a quantity of chicken manure should not be used.

PLANTING

The soil should be packed firmly around the roots of rose bushes when planting them. The best time to plant roses is in early spring. Bush roses should be set about two and a half

them during the hot summer months, or lawn clippings may be used for this purpose.

WATERING

Roses should be given copious supplies of water at the roots in very dry, hot weather. A thorough soaking once a week is better than light surface waterings every day or two. Strong soap suds or a liquid solution made from cow manure may be applied to advantage at intervals of a week or two to established bushes during the growing



A splendid bush being spoiled by neglected briar growth on the right.

to three feet apart, climbing roses eight to ten feet apart. A climbing rose will cover six or eight square feet of trellis work. Pack fine soil firmly around the roots of roses when planting them. Any fertilizer used should not come in direct contact with the roots when planting. Chicken manure should not be used for newly planted roses. A light mulch of half-rooted barnyard manure on the surface of the ground around newly planted roses will help

season, especially if fertilizers have not been applied in early spring.

INSECT AND OTHER PESTS

Insect Pests, such as Green Aphis, Rose Thrip and Red Spider that attack rose bushes can be kept down very largely by spraying the bushes every day with fine sprays of water under pressure, in very hot, dry weather. Moisture is one of the principal requirements in successful rose culture.

Soap or tobacco solutions may also be applied to the foliage about every week or ten days from early May until the hottest weather has passed. Sulphotobacco soap, a preparation to be had at large seed stores, is also a good remedy for most insect pests. Spray on under side of leaves especially. For the rose slug, a small, slimy grub or caterpillar, that eats the leaves and rose buds, dusting the bushes with white hellebore powder is the best remedy.

The following is a good and easily made remedy for insect pests: one part of slightly sour milk, two parts of coal oil; mix these thoroughly together first, then add twenty parts of water or soapy water. Mix well and use up quickly, as this solution does not keep long.

DISEASES

Black spots and mildew are the two worst diseases that attack rose bushes. Rake up and burn all dead rose leaves and trimmings to prevent the spread of these diseases. Spraying the bushes when dormant early in April, before leaf buds start, with lime-sulphur, the same as applied to dormant fruit trees, will help to prevent these diseases and help to keep down insects as well. A solution made by thoroughly mixing one ounce of potassium sulphide with three gallons of water and spraying the plants every week or two as required, is a good remedy. Dusting the bushes with dry powdered flowers of sulphur will help to keep down mildew. The two last mentioned remedies may be applied at any time during the summer. Spraying rose bushes in cold, chilly weather induces mildew. Spray in the morning in chilly weather, and in the evening in very hot weather. Applications of insecticides and remedies for disease should be started early

in the season. An ounce of prevention is better than a pound of cure.

PRUNING H. P. AND MOSS BUSH ROSES

Roses should be pruned early in spring, about the second or third week in April, before growth buds have started much. To prune bush roses remove all dead wood first. Cut out all weakly shoots that start from the ground, leaving sufficient of the stronger ones. Then cut back about two-thirds of the length of the last season's lateral or side growth, leaving short spurs a few inches long at the base of the last season's growth. Leave one or two strong, young, one-year canes that start from near the ground each year to keep the bush supplied with young, strong vigorous growth. Very old wood three or four years old may be cut out to make room for the young growth. The stems or growth of Hybrid Tea bushes that have produced roses may be cut back a few inches at any time during the summer when the roses have dropped their petals or have been cut for decorative purposes, so as to cut the shoots back to strong growth and buds. Japanese or Rugosa Roses require very little, if any, pruning. Thinning out the most prominent growth so as to keep the bushes symmetrical looking is usually all the pruning they require.

CLIMBING ROSES

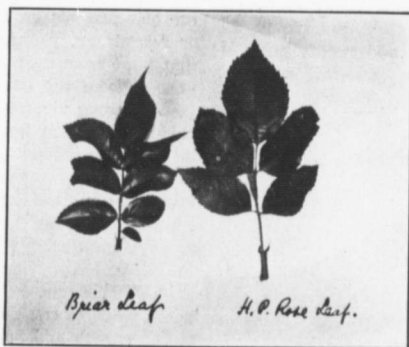
In pruning climbing roses, remove the dead wood, and any small weakly canes starting from near the ground, leaving a few strong, vigorous one-year old canes each year to replace any very old canes cut out. Cut back these young canes a little, about one-fifth their length. Shorten the last season's lateral or side shoots on the older canes about two-thirds their length,

leaving spurs three or four inches in length at the base. The growth on all newly-purchased roses usually requires to be well cut back, when planted, leaving only about twelve to eighteen inches in length of the base of three or four main stems. Cut out any small, weakly shoots to their base. Small, weakly growth will not produce good roses at any time.

BRIAR GROWTH

Cut out to its base, at any season of the year when seen, any briar or man-

bank soil up around the plant in a conical shape about a foot in height, toward the end of October. Later on, about the end of November, put some strawy manure five or six inches in depth in and around the bushes. Or an empty inverted flour or sugar barrel without a lid may be placed over each bush in November. Some dry leaves or strawy manure should be placed around the bush first. Holes should be bored in the side of the barrel to admit air, but the top when placed in position should be left intact to



The way to distinguish between Briar and Rose leaves is by the size and number of leaflets.

etti growth on rose bushes, or it will eventually kill out the rose growth entirely. More rose bushes have been killed out by briar growth than by frost in winter. Briar growth is most common on H. P. roses, budded or grafted on the briar or on Manetti stocks. Before planting newly purchased rose bushes cut off all buds or growth below the junction of bud or graft with the stock, to prevent briar growth from starting.

WINTER PROTECTION

To protect rose bushes in winter,

keep out moisture. Thatching the bushes with straw so as to keep out moisture is also a good method. The bushes should be tied up closely to a stake before the straw is put up.

PROTECTING CLIMBING ROSES

Climbing roses should be taken down from the trellis toward the end of October and covered a few inches deep with strawy manure or some similar material about the end of November, or the growth may be bound round with straw an inch or two in thickness. Cover the protective material named

with plenty of loose snow during winter, it will help protect the bushes considerably. A close watch should be kept on protected roses to see that field mice do not take up their winter quarters in the covering material, as they are very destructive to protected rose bushes, even under snow alone, especially climbing roses. The covering should be removed from rose bushes toward the end of April, in dull, warm weather. In the Niagara District, only the more tender kinds of roses require winter protection.

The following is a list of a few good varieties of roses for the farm garden or lawn.

TWELVE HYBRID PERPETUAL (H.P.) ROSES

Good, hardy garden roses

- Alfred Colomb—purplish crimson.
- Baroness Rothschild—pale reddish pink.
- Clio—white tinged flesh pink.
- Duke of Wellington—velvety crimson.
- Duc de Rohan—brilliant crimson carmine.
- Fisher Holmes—Rich crimson shaded scarlet.
- Frau Karl Druschki—white.
- General Jacqueminot—scarlet crimson.
- Louis Van Houtte—maroon crimson.
- Mme. Gabriel Luizet—silvery pink.
- Mrs. John Laing—soft pink.
- Ulrich Brunner—cherry red.

CLIMBING ROSES

- Dorothy Perkins—shell pink, double.
- Crimson Rambler—deep crimson, double.
- American Pillar (6 ft.)—single, margin of petals deep rose, nearly red. Centre white. A very pretty pillar rose.

TWELVE HYBRID TEA (H.T.) ROSES

- (Not quite as hardy as the H.P. roses, but give more continuous flowering)
- Alice Lindsell—flesh pink.
- Bessie Brown—creamy white.
- Caroline Testout—salmon pink.
- Countess of Annesley—rosy salmon.
- Florence Pemberton—white, shaded rich peach.
- Gruss an Teplitz—bright, scarlet crimson.
- Rhea Reid—reddish crimson.
- La France—silvery pink.
- Mme. Ravary—rich yellow.
- Richmond—scarlet red.
- Mme. Aaron Ward—Indian yellow.
- Mme. Abel Chatenay—Carmine rose shaded salmon.

HYBRID BOURBON

- Hermosa—a free flowering, hardy, bright pink, hybrid Bourbon rose, very desirable.

RUGOSA ROSES (JAPANESE)

- Strong growing, robust, suitable for corner of yard or lawn, or in shrubbery or for a rose hedge.)
- Blanc double de Coubert—semi-double white.
- Agnes Emily Carmen—crimson.
- Conrad F. Meyer—silvery rose.
- Rugosa Alba—white.
- Rugosa rubra—red.

MOSS ROSES

- (Very similar to H.P. roses, and require about the same care and treatment.)
- Blanche Moreau—white.
- Crested Moss—rose pink.
- Glory of Mosses—blush pink.

Sweet Clover—Pro and Con.

By T. H. Binnie, B.S.A.

Editor's Note.—Mr. Binnie was graduated from the College as a specialist in Dairying in 1907, and is now farming near Durham, Ont. Sweet clover has given fairly good returns on the gravelly soil in this locality; therefore Mr. Binnie speaks of the plant from practical knowledge.

THE Editor of the Experimental Department has asked me for four pages of "rag" chewing on sweet clover. Now, if as a result of this, the writer should have an attack of "lint on the lungs," readers of the REVIEW will at least know who to blame. The sweet clover problem is a pretty ticklish question to tackle, especially as the Professors at the O.A.C. are not united as to the real value of the plant. Therefore if we were to state that sweet clover is the one and only plant we would have Prof. C. A. Zavitz and his assistants at us with both pen and tongue. On the other hand we would hesitate to make the statement that sweet clover should be avoided on all occasions as we would have Prof. Harcourt and his assistants after us. Possibly we can steer safely through the happy medium and offend neither of the parties mentioned. We hope so.

Our first statement will be a sweeping one. On the good soils and in the localities where you can grow alfalfa and red clover to their best advantages we would say that you should leave sweet clover alone. But if your soils are light and gravelly and not in the best condition, or if your climate and local conditions are such that red clover and alfalfa will not give the best crops then you should grow sweet clover. During the past four years the weather man and the poor soils combined, have, in the locality of the writer, been very much against the red clover in particular and to a great extent also against the alfalfa. During these four years

there has not been one decent crop of red clover. While we all know that clover is about the best crop that can be grown on the land from a fertilizer point of view, yet we like to get a little more than fertilizer when we pay \$14.00 to \$20.00 per bushel for the seed. The failure of the red clover crop in this section is driving many to the use of sweet clover. We do not find fault with them for that, for if we are to feed live stock we must have the feed, and if we can not get it from one plant we will have to get it from another.

Sweet clover will grow in almost any soil and under almost every condition that is liable to be found in Ontario. On the light soils it will give a heavier yield than will the red clover and in addition will leave the soil in better shape than it was found. In the wetter places where red clover will be heaved out and alfalfa will not grow, sweet clover will grow and give fairly good yields of hay. We will say, however, that if your soil is in shape and the weather man will allow you to harvest a good crop of red clover or alfalfa you should not need to grow sweet clover. It will not grow in water, nor will it grow without water but it will withstand the effects of drouth and wet better than any of the other clovers which have so far been handed out to the farmer to grow for food.

The hay from the sweet clover is good and stock will eat it readily. True the stems are coarser and the flavor is a little bitter, but these do not seem to bother the cattle or horses when they are eating it. According to

chemists the sweet clover hay is just about as rich in feeding value as is the alfalfa. Then, if so, why should we not make use of it when we can not get the alfalfa to grow? We have seen cattle that never saw the plant before eat the sweet clover hay and not leave even a coarse stem behind to show what they had been eating. We know that when the sweet clover hay is cut and mixed with corn silage that we have one of the best feeds we can get for winter feeding of all kinds of cattle.

Many men have said that the sweet clover will be growing along the road and cattle will not even look at it, let alone eat it. Why? Take any field you like and sow it into strips of June grass, red clover, alfalfa and sweet clover. Which of these will the cattle eat first if allowed to pasture it off? The June grass every time. So long as there is June grass, cattle will not eat any clover. If you do not believe us, try it and see if we are not right. But if you turn your cattle into a field of sweet clover where they can not get the June grass they will eat it off close and do better on it than they would on the June grass. We know that this is true of milch cows and why not of other cattle? In pasturing sweet clover, you need not be afraid of the cattle bloating. It is the only clover grown that will not bloat cattle or sheep. It has a medicine of its own to prevent that, and is, therefore, that much more valuable than the other clovers.

We have seen it stated that sweet clover will leave more nitrogen in the soil than will any of the other clovers. This may or may not be true, as we have no means of proving it. We know however, that it will take the nitrogen out of the air and leave it in the soil for the use of succeeding crops. It

will do so to a large extent. We have a field in the farm which has not been in the farm for many years. Before we bought the field it had been cropped almost steady for forty years and everything that was grown on it was taken away and nothing brought back. On this field we sowed sweet clover at the rate of about six and a half pounds per acre. Even this thin seeding was the means of securing a larger oat yield off the field than had been secured for some years. We are inclined to believe that the sweet clover will leave the soil in better shape than any of the other clovers.

If you do sow sweet clover, do not neglect to apply plenty of seed. The plant has an erect branching habit and will grow to very coarse hard stems if allowed to have its own way. Seed should be applied at the rate of at least twenty pounds per acre, if wanted for hay. This will have a tendency to keep the stems close together and not allow them to become too coarse. If the clover is to be grown for seed purposes, then you need not seed at any heavier rate than ten pounds per acre. When grown for hay or pasture we want the good heavy growth but not the thick, coarse stems, and that is one and the chief reason why we should seed heavy.

When the majority of crops are cut for hay they are left till the blossom appears. This should not be done with the sweet clover. As soon as the first blossom in the field begins to show its nose, then is the time to get the mower into the field and make hay for all you are worth. Once the blossom appears the sweet clover stalks soon become hard and brittle and the stock will not eat them. To avoid this we must cut the hay early and when it is cut early it must be cut high and a long stubble left. Why?

The sweet clover comes from the root just twice; when the seed starts to grow and again the following spring. The plant has no "crown" like other clovers but branches out a short distance from the ground. When the first crop is cut below these bottom branches there will be no more of the sweet clover. But if cut above these bottom branches there will be a second cutting, which will make good hay. Many people hate to grow sweet clover for fear they will not be able to get it off the farm. There need be no fear of this as it is only a two-year plant, like red clover, and if kept from going to seed for two years there will

be no more of the plant to bother. It is said that if sweet clover is grown in the land for a year or so there is no need of inoculating the soil with bacteria for alfalfa, as the same germ grows on the roots of both plants. This, however, is not true.

Now, Mr. Editor, we do not know if this is enough "rag" or not, but we sincerely hope you will use some quieting drug if you see any of the staff of the O.A.C. heading this way to urge us to say more or less about the sweet clover plant. We hope there will not be too much difference of opinion amongst those in authority.

Timiskaming and Agriculture

By *W. G. Nixon, B.S.A.*

I DO not know who christened this part of the province "Timiskaming," but I presume that it was named after Lake Timiskaming, which is really an expansion of the Ottawa River. The name is of Indian origin and means "long and deep." It truly represents the beautiful Lake "Timisk." as we frequently hear it called, which is approximately ten miles wide and seventy miles long and noted for its great depth. It also represents, well, the land portion of the district, which is long and narrow and which has a very deep, fertile soil.

It is probably more natural for people to connect Timiskaming District with the mining industry than with agriculture. It is true that its mineral resources are great and that its mines are producing large quantities of precious metals. But it is also true that from an agricultural standpoint it is yielding, according to the area now under cultivation great quantities of agricultural products.

When we consider that agriculturally the district is not yet out of its 'teens, we must admit that a very rapid advance has been made along agricultural lines. This is partially accounted for by the fact that the major portion of the forest consists, or consisted of evergreen timber, and, of course, is very susceptible to fire; consequently much of the land was cleared very easily.

The soil consists chiefly of a friable white clay and clay loam, very rich in carbonate of lime. It is very uniform in texture, and consequently we find that one proper system of tillage can be adopted for nearly all the district. This is quite an advantage to present and prospective farmers.

There is no doubt but that in time the district will be noted for its production of high class seed. All kinds of grain and grass give large yields of seed of the very best quality. This is particularly true of all leguminous crops. A few figures showing what

was produced last year will better serve to illustrate the point. Under good, average conditions the following yields were realized by many farmers: peas, 35 to 45 bushels per acre; oats, 75 bushels per acre; barley, 60 bushels per acre; flax, 12 bushels per acre; fall wheat, 40 bushels per acre; spring wheat, 42 bushels per acre and hay 1.5 to 3 tons per acre. Alsike gave a yield of 7 to 9 bushels per acre, and red clover a very similar amount. As another instance showing the possibilities of the clover seed industry, from nine acres one farmer realized \$500.00 and would have realized more had he known how to properly handle his crop. In Timiskaming, as elsewhere, it is the progressive farmers who see the possibilities and profit thereby.

It seems to be a very prevalent idea, among most of the people of Old Ontario, that Northern Ontario is too far north to be of any value from an agricultural standpoint and that it is comprised mostly of rocks and inhabited by Indians. Cochrane, the northern terminus of the T. & N. O. Railway and the eastern terminus of the Transcontinental Railway, is ap-

proximately one degree south of the city of Winnipeg. This being the case, it is erroneous to class this part of Northern Ontario with the impossible parts of the "Great Northland", and can be attributed only to ignorance. "The Clay Belt" can no longer be regarded as mythical; it has proven itself to be good agriculturally and most certainly has great possibilities ahead of it. From previous figures quoted it will be noted that crop yields per acre are high. While these figures cannot be taken as an average, they are by no means exceptional. The climate is most conducive to good health, the summer days are long and bright and the nights cool. The winters are generally cold and the atmosphere fresh and bracing. Such a climate naturally produces a strong and vigorous manhood. It is quite a common thing to meet people from Southern Ontario who have come north for the purpose of regaining their health.

"The deep-pent life awakes and bursts its bonds;
We feel the strength and goodness of our hands."

—Lampman.



"Daffodils that come before the swallow and take the winds of March with beauty."

—Shakespeare.

Commercial Maple Syrup Making

By J. F. Andrew, '18.

IF at this season of the year a true Canadian hears the words "maple syrup," he is at once seized by a desire to wander forth in search of a sugar bush. Before his mind there is a vision of hazy spring days, slowly dropping sap, huge steaming kettles, gallons of syrup and cakes of sugar. Such scenes are rapidly passing out of existence, and, as in agriculture, the modern self-binder has taken the place of the old fashioned cradle, so has modern syrup making apparatus replaced the old sugar kettle and the dug-out sap trough.

who contemplates engaging in commercial maple syrup making will be to estimate the number of his available trees. This done, he may then get in touch with manufacturers of maple syrup makers' supplies, and from them get estimates of the size of outfit required and prices at which he can be supplied. The choosing of the evaporator is a very important item. It must be large enough to evaporate all the sap quickly, even in heavy runs, for sap, if allowed to stand, rapidly deteriorates and makes a syrup of low quality. It should be economical



Scenes such as this are becoming scarce in Canada.

Few of us realize the extent and importance of this industry. Statistics compiled by the Department of Agriculture at Ottawa show that the annual output of maple products in Canada amounts to twenty thousand pounds of sugar or its equivalent in syrup. It is estimated that this vast industry representing a cash valuation of two million dollars is carried on by fifty-five thousand growers, and in most cases the raw material is taken from timber growing on land unfit for cultivation.

The first step to be taken by anyone

of fuel, easy to operate and easy to clean. The inflow of sap should be mechanically regulated so that a constant depth of sap may be maintained in the evaporator.

Having chosen his evaporator, he may then proceed to build a sugar house. This house must be large enough to contain the evaporator at all times, and afford a place for storage of buckets and other utensils during the time they are not in use. It is advisable to build a woodshed at one end. At one side, preferably the north side, a roof should be made to project out over the

storage tank to protect it from rain and snow. If possible erect the sugar house on a hillside, having it so arranged that the sap will run from the gathering tank to the storage tank and from the storage tank, feed into the evaporator by the force of gravity. Perhaps the best material for construction is wood because it is a non conductor of heat. When metal, concrete, stone or any such materials are used the vapor condenses on the walls and roof and drops back, causing great unpleasantness and perhaps a lowering of the quality of the syrup. A ventilator in the roof immediately above the evaporator and equal to it in area will allow the escape of steam. A raised platform built along one side of the evaporator will prove a very great convenience to the operator.

Having completed his preparations in the interior of the sugar house, the syrup maker awaits the time when sap will begin to run. This varies with different localities, but the average throughout Ontario would be about the 12th of March. When the increased number of hours of daylight and the power of the sun's rays begins to cause the snow to retreat from the hill tops toward the valley, tapping should be commenced. The buckets are stacked, placed in a sleigh and distributed from tree to tree. The person doing this work must exercise his own judgment in deciding which trees are large enough for tapping and also in selecting those large enough to carry two buckets. Then follows the man who does the tapping. He bores in each tree a hole two and a half inches deep and seven-sixteenths in diameter, inserts the small end of the modern metal sap spout, gives it a light quick tap with a hammer, hangs the sap bucket on the hook of the spout, attaches the bucket lid, and moves on, repeating this operation until

the whole task has been completed.

Soon a warm spring day comes and the drop, drip, drop of the sap falling into the buckets fills the bush with a soft and gentle music. In a few hours enough sap will have run to make it necessary to start gathering. The gathering tank is mounted on a sleigh, and, pails in hand, the workers set out to gather the first of the season's sap flow.

As soon as the first load is brought in, it is allowed to run into the storage tank (capacity 15 to 20 barrels) and from there it creeps into the evaporator until the corrugations on the bottom are covered to a depth of not more than a quarter of an inch. Then with feed regulator adjusted and siphons working properly and strainers ready, the fire may be started. Owing to the shallowness of the sap and the area of corrugated surface exposed to the flame, in a very few moments great clouds of steam will be rolling upward and out through the ventilator in the roof. Evaporation is carried on as rapidly as possible, because the more rapid it is, the higher will be the quality of the syrup. Meanwhile, through the inlet valve a stream of sap is allowed to flow, sufficient in volume to maintain a constant depth of sap in the evaporator. The sap moves slowly from one compartment to another, increasing in density as it goes, until it finally reaches the drawing-off point. Here a thermometer is attached and when the sap has reached a density such that its boiling point is 219° F., or 7° above the boiling point of water, it is standard syrup, and a small quantity may be drawn off. As soon as the sap of lesser density touches the bulb of the thermometer the mercury begins to fall and drawing-off ceases until it once more reaches the 219° F. mark. This will be in a very few minutes.

It will be interesting to consumers of maple luxuries to know what precautions are taken to insure cleanliness in all stages of this work. We hope that the outline which follows will satisfy the most fastidious and prove Canadian maple syrup to be a high class luxury of a singularly national character. All apparatus is made of material which will not impart any unnatural flavor to the syrup, and it is kept scrupulously clean. The top over the gathering tank slopes toward

syrup is allowed to cool and later it is put into the tin cans or glass bottles, previously washed with boiling water. These containers are then sealed, labeled and packed, ready for shipment or delivery. It is therefore evident that in the commercial making of maple syrup cleanliness is practised to a very high degree.

Owing to wholesale adulteration and the manufacture of imitations in past years, consumers were not able to buy maple syrup with any satisfactory



The modern method of sap boiling efficiency and cleanliness the watchwords.

the centre and at this point two strainers are placed, the first of coarse and the second of fine mesh. Through these the sap must pass before entering the tank. Again, when the sap is passing into the storage tank it passes through a cloth strainer. In the evaporator are various mechanical devices to remove sediment and coagulated material, and when the syrup is drawn off it is immediately filtered through heavy white felt strainers. It is then placed in what is known as a settling can, which has a capacity of about 30 gallons, is cylindrical in shape, standing upright, and has a tap inserted about one inch above the bottom. Here the

guarantee of its purity. This caused great dissatisfaction among producers as well as consumers, for they were forced to compete in the market with cheap imitations. Recent organized effort on the part of syrup makers has succeeded in bringing about legislation regulating the sale of adulterated syrups. On each package of such syrup the composition of the contents must be clearly stated, and in this way both maker and consumer are protected, and the future development of the maple syrup industry assured.

To many, on whose farms there still remains a wood lot, this article may suggest a hitherto untouched source

of revenue. The following figures, which are taken from average conditions will form a basis for estimating the amount of that income. An average acre of mixed timber contains about 75 trees. If each tree produced one quart of syrup, then the value of the output from one acre, at \$1.50 per gallon, would be \$28.00. Estimates on cost of production are difficult to ascertain, because of the great variety of conditions under which the work is carried on. It is however well known that most syrup makers are able to show a satisfactory credit balance, and this at a time when other farm operations are at a standstill. These facts show that the old and romantic industry of making maple syrup is entitled to a place on a well-conducted farm.

The future of the industry is assured. The demand for high class maple syrup exceeds the supply and is growing rapidly. Maple syrup is a luxury much sought after by well-to-do people in our large centres of population. Great Britain is ready to take a liberal supply of choice goods, and for this purpose a syndicate of Canadians has been formed in London to handle Canadian maple syrup and sugar. Last spring Canadian syrup makers sent gifts of maple syrup to wounded Canadian soldiers in hospitals in England. This action was immediately followed by large orders for syrup from the English people. The food product of the tree, whose leaf is Canada's emblem, is evidently as popular in England as are the boys wearing the maple leaf among the soldiers of the Empire.

It is ill work fighting against heaven. Certainly not by dint of sowing and planting what he himself desires will he meet the needs of life more fully than by planting and sowing what the earth herself rejoices to bear and nourish on her bosom.

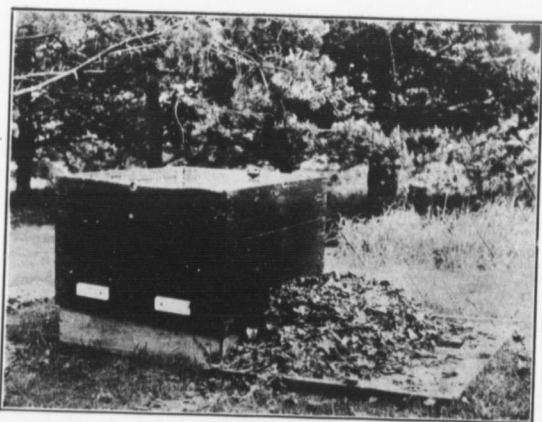
—*Xenophon, 434-355 B.C.*

Spring Work in the Apiary

By W. A. Weir, '18.

THE expectancy of the average bee-keeper towards spring surprises many who are not familiar with the profession of bee-keeping. Almost without exception the approach of spring develops a form of fever in the blood of the enthusiastic bee-keeper. This "spring fever" shows well marked symptoms. The amateur can hardly restrain himself from having a look at the bees during February or March

of March tell the tale. From the strongest hive more bees are flying than from the weaker colonies and probably there are a few from which no bees emerge. The measure of strength in each case can nearly always be traced back to the fall management of the apiarist. Neglect at this time cannot always be overcome in spring and never without considerable expense.



Four-hive wintering case in Spring. Note—Entrances easily controlled. Depth allows for first super. Cover light and easily handled.

and as a result usually does more harm than good. The experienced bee-keeper is more or less curious; he moves restlessly from hive to hive, observes that the entrances are clear and recalls the past records of each special colony. As the season advances all bee-keepers look with anxious eyes for the result of their "fall exams." The bright, warm days toward the end

Profitable bee-keeping, however, begins in January and ends in December. There is some work for every month. January, February and March are quiet and the large scale bee-keeper spends the most of his time between the honey room and the wood working shop. A few orders for honey come in for attention but the sorting of combs, the repairing of fixtures, the sawing,

nailing and painting of hives, frames, etc., take up a goodly portion of his time. The bee-keeper who cuts out his own material for frames, hives, etc., must, however, be of a mechanical turn of mind, because the workmanship must be accurate and uniform. There are many who prefer to buy their necessities from a good supply dealer but this does not do away with the nailing and painting work.

The forming of definite plans for the management during the summer is also a feature of winter and spring work. The reason for this is obvious, as plans must be known before supply needs can be estimated, and the perfection of the management can only be obtained by learning from time to time and altering the system sufficiently to meet the needs.

With the coming of April, bees which have been wintered outside become active and demand slight attention. Some care must also be taken with cellar-wintered bees. The first flight of out-door bees develops into a habit, and finally we detect worker bees flying home with their loads of pollen. After the first flight or two it is advisable to make sure that each hive contains a living colony of bees and the entrances of dead colonies should be tightly closed. All weak colonies are closely watched to see that they too do not dwindle away. Spread of dangerous bee diseases is often due to lack of care in this respect.

As the weather becomes warmer a noon day examination for general condition is in order. Great care must be taken to prevent "robbing" and chilling of brood. This is only a rough examination to see that plenty of stores are present and to ascertain how many bees there are in the colony. It is not usually necessary to manipulate the frames for this purpose, as

both sealed stores and bees may be seen from the top of the hive. The presence of two or three frames of sealed stores reassure us, otherwise feeding is necessary. Some thick granulated sugar syrup similar to that fed for wintering is advisable. The feeding of stores at this time should always be done so as to avoid possible robbing. Several methods are in use, but the most common seems to be the use of a 10-lb. honey pail with cover perforated. Soon after filling the pail with syrup it is inverted over the frames and an extra super (box) is put on to accommodate the depth of can and the packing is arranged so as to prevent any great loss of heat.

The aim of the bee-keeper from now on is to conserve the strength of his bees and to keep the colonies building up vigorously. Spring always finds the colony workers fewer in number and older than in fall, so that easy access of food and sufficiency of food are the essential factors to watch. The inflow of nectar, pollen, water and salt into the hive stimulates the queen to lay and the worker bee's feed the developing bees liberally when there is sufficient of it. If plenty of sweet is in the hive the inflow of other foods is usually all that is required, and where pollen is not coming in early in April, it pays to put a supply of nitrogenous substances like peameal flour for them to gather. When this is considered advisable shallow vessels are used, the substitute is placed in same and covered with a light layer of planer shavings or grass. The bees are thus enabled to gather freely and without danger of being smothered. Water is also provided where bees have to travel any distance, by placing it in large vessels and throwing a handful or so of cork dust to float on the surface. Salt can be placed under slight

cover within easy flight of bees.

This care should be sufficient until fruit or dandelion bloom opens, when

the hives are unpacked and given their first overhauling in accordance with the summer system of management.

Gumption in Poultry Feeding

By "Jimmy" Balfour

Editor's Note.—From speech delivered to the Poultry Short Course in January.

GUMPTION is the "get up and go to it" feeling, which is very useful in feeding poultry. Some of the old hens possess this feeling for the granary, and put it into practice every time they see the door left open. Gumption is sometimes defined, as getting there first. A leghorn rooster has lots of gumption, as he always gets there first when anything good is going. The barred rock in the same pen uses gumption in a different way; he gets there second and brings a husky kick with him, which he lands while the other has his head down. The result is that for a few minutes the leghorn thinks in circles, and when he gets to the point of thinking in a straight line again, there is nothing left to think about.

Coming down to poultry feeding, it is very simple. A child of ten years can feed as well as any one if he has enough gumption to "get out and get at it" when the time comes. Hens are like people, they hate to be kept waiting at meal times. They walk up and down the pen grumbling a little; later they begin to cuss and when one old hen says, "I hear him coming," and it turns out to be only a visitor looking around, they get so mad that they go at the old hen and pull her feathers out. They are in such bad humor that they kick the food around and wont eat it when you do give them some, so you must use your gumption in a get out and get at it way when you are feeding poultry.

In feeding, one of the great points is keeping in touch with young birds' appetites. Each bird has likes and dislikes of its own, and breeds have peculiar characteristics in this respect.

LEGHORNS OR HEAVY BREEDS

Feeding leghorns is like feeding school boys. When you go in with the feed, they all give a cheer, dive into the trough, and come out with their faces full, swallow hard a couple of times and dive in again.

Feeding some of the heavy breeds is just the reverse. You go into a pen gently and put the mash into the trough, and they stand in a row and watch you. After you go out, one walks up to the trough and takes a sniff at it.

"Oh, dear," she says, "cabbage in the mash to-day smells bad. I wont eat any. It's hard on my complexion."

The rooster takes a taste. "Come on ladies, the beef scrap in it tastes fine."

"Don't want beef scrap," says one of the stout old dowagers, "makes you fat, and I've nearly reached the limit now."

"Well," says the rooster, "take a taste of the rolled oats; they will make you as lean as a Scotchman."

"Don't like rolled oats," says another "the hulls stick in my oesophagus and make me sneeze."

So they eat a little here and there, and waste half of it, and then climb up on the perch and think what a painful thing it is to have a gizzard.

So you see how hard it is to feed with gumption, or to quickly see the right thing to do at the right time.

GENERAL RULES OF FEEDING

In feeding, you don't want to be stingy but you must be careful. One of the hardest things a man in the poultry business has to do is to keep his granary full of feed. It is good practice to use the cheapest food to be found in your neighborhood, if it is wholesome and in good shape, and to feed it in the easiest way.

The usual method of feeding falls into either the "feast and famine" or "too much of a good thing" class. The "feast and famine" style consists of trying to make a hen lay one day and trying to stop her laying the next, with big odds against you that any change you make will stop a hen laying and very few things will make her start again. The "too much of a good thing" style is feeding too much at a time, and there are two ways of doing this. One way is to feed a dozen hens a pail of wheat every day. Another way is to throw several pailfuls into the pen and say that will do them for a week anyway.

One of the great advantages of scattering grain in deep litter once, twice or three times a day, is that it gives the birds exercises and, in winter, keeps them stirred up and warm. An old proverb says, "when cold, warm yourself by exercise and live long." You can also study the birds' dispositions and table manners. A well bred rooster will call up each hen and hand her a kernel of corn before he will eat one himself. It is said that if you do not feed enough, the rooster will go without until all the hens have eaten, but some are not like this. Some are sour and sluggish, some are so snappy and quarrelsome that they

would fight with a door knob if they thought it winked at one of the hens. Some are so proud and stuck up that they are always falling over the water dish. You will find every character from the little sneak of a rooster, who kicks a hen to make her look round, while he swipes the corn she was going to eat, to the proud and dignified one that will not eat until all the hens turn their backs and shut their eyes.

In going round the pens, you sometimes get a chance to use gumption in the way of quickly seeing the right thing to do at the right time. You may find an old hen choking herself on a corn-cob and there are lots of things a man with gumption could do to help, while a man without gumption would go on with his work and let the old hen cough it up herself, when she got tired trying to swallow it.

FEEDING MASHES

Turning from grain feeding to the feeding of wet mash, wet mash feeding needs careful handling. If it is fed too wet, it will ball up inside and be poorly acted upon by the digestive juices. If fed too dry, the hens have to run to the water dish every minute to keep from choking to death, and in this way waste a lot of time. If they are fed too much, they will run away from you the next time you go to feed them. If fed too little, they will crowd at the trough and crush each others' slats in.

It pays to feed wet mashes to young growing stock, as it will hasten maturity. You can help along any bunch of chicks that are backward, owing to weather conditions, or some other cause, by an extra feed of wet mash every day. It is a cheap way of feeding as you can use up stale bread and other waste that has not spoiled.

Wet mash feeding increases the labor and you read in some poultry papers that by cutting down labor and saving steps you increase your profits. This is a dangerous doctrine, as a man who follows it will get to the point where he will save steps by leaving undone something he should do, and lose most of the profit. Poultry always pay good wages for the work you give them.

Some meals used in dry mash feeding, like cornmeal and bran, are very good for wet mashes, but they cannot be used alone or even together, as they have no stick-to-it-iveness. They need middlings of low grade flour to make them stick together. Green food should also be used in the wet mash, as a filler, as it is cheap and it adds bulk to the mixture. Green food should also be fed in the middle of the day, as it assists digestion. It also contains a lot of salts and minerals in which grain and seeds are generally deficient. But feeding green feed needs a lot of gumption, as if it is stale or frozen or old and tough or mouldy, it may be very harmful.

Some poultrymen advise mixing oyster shell grit and charcoal with the mash, but it is better to let the hens use their own gumption in taking it out of a box when they need it. In moistening the wet mash, do not use too much moisture. We all know that a hen's body contains over fifty-five per cent of water but the wet mash is not the place to supply it. Use the water dish.

Speaking of the water dish, it may become a very dangerous utensil, as a lot of disease germs are carried from one fowl to another in the drinking water. If you are using butter-milk,

it is so highly charged with lactic acid bacteria that no disease germ gets a chance to live, but water is different, and the germs swim and sport about and increase rapidly, especially if the water gets warm on a fine summer day. A good thing is to put some potassium permanganate into the water—enough to turn it red. This is also a test for organic matter. If any organic matter be present, the water will turn clear again, in which case it should be thrown out and the dish washed.

CONCLUSION

To sum up, success in poultry feeding depends on gumption in the form of good quick judgment on the part of the feeder, and in never making the same mistake twice. Feeding should be done quietly and quickly, noting the appearance of the birds while they are feeding. Any bird that is off its feed should be examined and if you think it should be out of the pen, take it out. Don't *think* about it, as the first thing we *think* is the last thing we *do*.

Given the same kind of feed, stock and housing, no two persons will get the same results. Some are always blaming hard luck, but hard luck and hard work seldom go together. To men who are interested in agriculture, gumption is one of the best crops to cultivate for poultry feeding or the feeding of other stock. It is good to have around the house, church or village, and I hope you will take a few seeds home with you when you leave College to plant on your native soil, though it is likely that if you look carefully, you will find a lot of it there already, growing wild.

Queries

QUESTION: Will you please send me information on how to treat smut of oats?—W. A. B.

Answer: Smut of oats may be prevented by treating the seed with formalin. Two methods are in common use: dipping in a formalin solution, and sprinkling with a formalin solution. Experiments here at the College have shown that dipping in a formalin solution gives the best results.

The materials needed for the carrying out of the operation of dipping in a formalin solution are as follows: Formalin (which should be guaranteed 40% formaldehyde), a barrel, water, coarse sack, and a clean floor or canvas on which to spread out the treated seed.

Mix one-half pint of formalin in twenty gallons of water. Place the seed to be treated in a coarse sack (a bran sack is excellent for this purpose), fill the sack about three parts full, and immerse in the formalin solution for twenty minutes. During the treatment raise the sack up and down several times in the solution to insure wetting every grain that it contains.

After treating, spread the grain out thinly on a clean floor or canvas where it can be stirred and allowed to dry sufficiently to be sown. The sooner it is sown after treatment the better. Twenty gallons of the solution will treat about twenty bushels of grain. Several treatments may be made with the same solution; each lot will require to be immersed for twenty minutes.

Directions for sprinkling with formalin solution—Mix one pint of formalin with forty gallons of water. Place the grain to be treated in a heap on a clean canvas on floor. Sprinkle the formalin solution over the grain,

then shovel the grain over into another pile so as to mix it thoroughly, then sprinkle and shovel again. Repeat this until every grain is moistened by the solution; then cover the pile with sacking and leave for three or four hours. At the end of this time spread the grain out thinly to dry; shovelling it over three or four times will hasten the drying. Forty gallons of the formalin solution is sufficient to sprinkle between thirty and forty bushels of grain.

QUESTION: We have been reading a little lately with respect to dust sprays for apple orchards. Have you had any experience with them in Ontario, or could you give me any information or suggestions where I could obtain definite and reliable information.—A. P. M.

Answer: I cannot give you a great deal of information on the new dust spray. I have not tried it myself, nor has it been tried in Ontario, but we are planning to have it well tested out this coming season. It has been used in New York by the Cornell men for several years in an experimental way. The Niagara Spray Co. has also carried on some spraying experiments with it for at least one year. It looks as if this is going to be a very useful method of spraying for a good many parts of the province; that is for the parts where there is no San Jose scale. No powder has yet been tested which will fill the scale, though there is some hope of obtaining a powder that will do this work as well, or nearly as well, as a liquid.

The substances used for controlling scab and other diseases and biting insects are a very fine grade of sulphur

and a dry or powder form of arsenate of lead. The spray machines or dusters are of two kinds so far yet used: one, a large one costing about \$220.00 and consisting of a large blower and a $3\frac{1}{2}$ h.p. engine; the other a much smaller machine, costing about \$130.00, and consisting of a blower and a $1\frac{1}{2}$ h.p. engine. The former will, it is claimed, cover forty acres a day, both sides, the latter fifteen. I do not know how large the trees in such cases would be. One would think that the sulphur would not remain

on the foliage, but it is claimed that it does stick to it even though put on when the leaves are dry. The total cost is about the same as for the liquid sprays, but there is a great saving in time and in ease of operation. In districts where there is scale it will still be necessary to use the liquid spray.

I should not advise anyone purchasing one of these new machines until next year so that a great deal better knowledge may be obtained before any expenditure is incurred.

L. Caesar.

Good provender, laboring horses would have,
Good hay and good plenty, plough-oxen do crave,
To hale out thy muck, and to plow up thy ground,
Or else it may hinder thee many a pound.

Thomas Tusser, 1557.

THE O. A. C. REVIEW

REVIEW STAFF

J. C. NEALE, *Editor-in-Chief.*

D. M. McLENNAN, *Agriculture.*

J. COKE, *Experimental*

C. C. DUNCAN, *Horticulture.*

W. STRONG, *Poultry.*

W. J. AUSTIN, *Query.*

H. H. SELWYN, *Alumni*

C. M. NIXON, *College Life*

A. H. WHITE, *Athletics.*

D. C. McARTHUR, *Artist.*

H. J. SULLIVAN, *Locals.*

MARGARET SAXTON, *Macdonald*

M. BIRKETT, *Macdonald.*

Editorial

THE COLLEGE LIBRARY

Nowhere else in Canada can be found a collection of books upon agricultural topics which compares with that in the stack-room of our own College Library. Do the students make the most of their opportunity of easy access to these volumes? We would venture to say that a large majority do so only when it becomes an unavoidable necessity.

It is probable that most students have not the time to peruse many of these books very extensively, but would it not be wise to make a note of the name, author and publisher's address of all books which may be of use to them after their graduation. The student going out on District Representative work will surely be asked to recommend books dealing with various phases of agriculture. A list of some of the best and most practical books may save him from many an embarrassing situation, and incidentally increase his influence over those with whom he is in contact. This matter is worthy of consideration.

GETTING THE MOST FROM YOUR COLLEGE COURSE

How often is heard, throughout the College halls, the expression "Don't let your studies interfere with your College course." It is usually spoken jestingly or ironically; yet, to a certain degree, there is much truth hidden in these same words. Does the man, who spends every spare minute of his time poring over text books, references or notes, obtain as much benefit from his four years at College as does the man who spends a portion of that time in cultivating a wide acquaintance with his fellow students? We believe not. He probably gets as much or more book knowledge, especially upon some particular subject in which he is interested. But by keeping more or less aloof from his fellows, he cannot "get the rough edges ground off." He does not acquire the art of mixing and hence is handicapped later in life, for as surely as he has attended College, will he be called upon to mix with and express his views to others when he goes out into the world.

He is a loser in two ways. An

eminent authority states that "Education consists of knowing everything about something and something about everything." He may attain to the former requirement, but without mixing with others and hearing matters discussed from different men's viewpoints, it is impossible to acquire the latter. Again, he gives nothing to others and loses in this respect the rich rewards of service. The man who does try to benefit others by his ideas—unconsciously perhaps—may not at first have much to give, but he is rewarded for his efforts by getting, in turn, their viewpoints. He gets a bigger, broader view of life, until as he grows older, he develops into an unquestioned leader among men.

There is, of course, a limit to the time spent away from the study-table. A man who neglects his studies so much that he does not get a comprehensive grasp of his work is losing as much or possibly more than the other. There is no need for an apology when someone finds a fellow studying, provided that he is doing his share of the voluntary executive work in connection with the various student activities. There is always a happy medium.

SIGNS OF SPRING

From now on, we begin to look forward to the coming of Spring. "Our

Lady of the Snows" is already losing her mantle of white and soon we will be on the *qui vive* for the coming of the first robin—that storied harbinger of Spring. In a remarkably short time, everything will be pulsating with renewed life. Even now, when on a Sunday morning ramble, we can, if we pause for a moment on the south side of a wood, almost feel that restiveness which precedes the breaking of bonds. The same feeling is transmitted to ourselves. Some of us begin to dream of the trout stream or the canoe, others, looking not so far forward, to the pleasure of a "feed" of hot maple sugar. We picture in our imagination a scene of bubbling kettles, crackling fires, shining sap pails, a soft south wind blowing through the tree tops and a warm sun causing the tracks in the snow to gradually disappear. But scenes such as this are becoming scarce, especially in the older parts of Ontario. The extension of agriculture is marking the passing of the sugar bush. Even where it yet exists, the old fashioned, picturesque, though perhaps unsanitary method of kettle boiling has passed into oblivion before the advance of science and has given place to the modern evaporator.

In this issue an article by J. F. Andrew gives an account of the commercializing of this old-time industry.



College Life

RAYMOND ROBINS

The students of the Ontario Agricultural College and Macdonald Hall were exceedingly fortunate in having with them on Saturday and Sunday, February 5th and 6th, Mr. Raymond Robins, of Chicago. He spoke to the students and faculty at seven different meetings, two general meetings, once to faculty only, once to ladies only and three times to men only. Those who had the pleasure of hearing him will never quite forget the impression of his strong, sincere, manly personality.

Sincerity and power are the words which, perhaps, best describe the outstanding characteristics in the life and message of Raymond Robins. As Theodore Roosevelt says: "In an age when so many men preach internal and international reforms which they make no effort whatever in practice to reduce to deeds, Raymond Robins preaches nothing which he does not in his own life try to make a deed."

The Young Men's Christian Association, on hearing that Mr. Robins was to visit Canada invited him to come to Guelph and was fortunate enough to be one of three Associations selected for the visit; the other two being Toronto and Queen's University Associations.

Mr. Robins for fifteen years has been fighting the battle for social justice and righteousness in the seventeenth ward in Chicago. His experiences in rooting out political corruption and vice were thrilling in the extreme. Every illustration he used in making his points were drawn from his own life experiences, which added greatly to the interest.

It would be somewhat hard to apply all his illustrations to the life that the

students of this College will have to meet after graduation, but there are a few that directly apply. For instance, the story of the conditions in mines where labor was unorganized and that where labor was organized typifies agricultural conditions where co-operation is unknown and exploitation of farmers by corporations, combines and individuals has full opportunity for success. With co-operation or organization or unionism that exploitation is made impossible.

It is not the purpose of this short appreciation of Mr. Robins to enter into any detailed application of his message, but we, as men, should learn to face the facts of life wherever we are and stand for truth, no matter what the cost to ourselves—and rural Canada calls to-day for men of such conviction and sincerity.

Mr. Robins came to Guelph as a stranger, but left as a friend of every student who heard him. Our good wishes will follow him wherever he may be, and we can assure him a hearty welcome and crowded meetings if he ever returns to visit us.

—A. M.

ST. VALENTINE'S DAY

The old adage, "the way to a man's heart is through his stomach," is worn threadbare. There are other ways just as pleasing, and successful. This was borne in upon every student who entered the dining hall, for his evening meal, on St. Valentine's Day.

Everywhere the simplest, yet most effective decorations met the eye. Hearts great and small, hung by slender cords from every doorway, and window, while round the walls, those pierced by cupids' arrows were arranged

in twos. Even the salads, cakes, cookies, in fact everything seemed to have assumed a heart shape for the occasion.

The old regime in the cramped quarters of the old dining hall has passed. Under newer, modern methods, not only the student's appetite, but also the home-loving sense of his nature is catered to, by efficient scientific knowledge. Seldom, if ever, do the powers that be forget, on days such as these, the extra touch that savors of home fires, and tends to bind more closely in true friendship those who gather in our Hall day after day to partake of their daily bread.

RED CROSS DANCE

An account of the College Red Cross Dance, held on February 4th, is given in the "Macdonald" section of this number.

THE ATHLETIC CONCERT

On Friday evening, February 11th, the Athletic Association entertained a large audience of students and outsiders at a concert in the gym. No efforts had been spared to make this one of the best athletic concerts which had been given for some years.

The Gym. team were trained to the last degree and performed some truly wonderful feats in both bar and mat work. Their mass formations were difficult, requiring in several instances almost a superabundance of both nerve and muscle, but they were carried off without the slightest flaw and drew enthusiastic applause from the audience, especially in their formation of a human "O. A. C." toward the end of the concert. The fencing, boxing and wrestling exhibitions were at once novel and entertaining, while the actions of the seemingly double-jointed Mr. Strong left the onlookers in open-mouthed wonder.

The college orchestra proved again that there is no dearth of musical ability within the student body, giving several beautifully rendered selections. The Maple Leaf Quartette of Galt, the only outside talent, also added greatly to the evening's enjoyment, the audience several times calling for second encores.

The most mirth provoking feature of the evening was, undoubtedly, the "Old Maid's Convention." It seemed almost incredible that the fantastically arrayed aggregation of spinsters disclosed to view as the curtain rose could be the pretty Mac. girls with whom we had danced but a week before, for most truly, "Solomon in all his glory, was not arrayed as one of these." Never once was interest allowed to wane or laughter cease until Professor Pinkerton's "Transform-Her" came to grief in a last valiant attempt to change one of the militant spirits of the convention into a man.

The last event of the evening, "A Night on Grub Alley," was, to say the least, realistic of events as they happen in the old residence, and perhaps, acted as an eye-opener to those from the other side of the campus.

President Martin and the members of his executive are worthy of great credit for their work of preparation and for the splendid manner in which everything was conducted.

SOPHOMORE BANQUET

In order that those members of Year '18 who are enlisting might have an opportunity to participate in their farewell banquet, instead of its being held at the end of the term as formerly, it was held on the evening of February 14th in the banquet chamber adjoining the Canadian Cafe. At 6.30 in the evening the class mates assembled at the hall, where tables were already

magnificently arrayed with fruits and the air fragrant with the scent of roast turkey. With the spirit of good fellowship uppermost and a kind regard for his classmates each sat down to do justice to one of the most daintily prepared, rich and appetizing menus it was ever the good fortune of any man to look upon.

After having satisfied themselves with the delicious delicacies, the students leaned back to enjoy, in the truest sense of the word, the programme prepared for the occasion. With Mr. James, the year president, acting as toast master the following toasts were proposed and responded to in a pleasing, interesting and inspiring manner:—

"To the King"—Proposed by Toast Master; Response, "God Save the King."

"To Our Soldier Boys"—Proposed by Geo. Knowles; response, by R. C. Merrick.

"To Our Alma Mater"—Proposed by A. V. Mitchener, B.A.; response by Prof. J. W. Crow.

"To Our Guest"—Proposed by V. C. Lowell; response by Mr. Peter McArthur.

"To Our Year"—Proposed by A. T. Brown; response, "We're all jolly good fellows."

As the programme would seem altogether incomplete without music that necessity was supplied by:—

Solo by G. A. Ames.

Mill Street Quartette—Messrs. Heim-pel, Jakes, Lowell and Ferguson.

Mr. Sullivan, in his entertaining manner added mirth to the evening's proceedings with dry reminiscences of Arkansas life.

Mr. McArthur, as guest of honor, in his reply to the toast "To Our Guest" was not only jocular, but drove home a very significant point, which in such times of turmoil is liable to be overlooked. Although he realized, to the maximum degree, that one of the most brutal and sanguine wars ever fought rages at the present time, yet he pointed out that Canada in her historic records had failed to note, perhaps, a greater war—that of the white man with Nature. He would have us realize that our fore fathers received this broad Dominion as a natural gift from God in all its privation and desolation. With brawny muscles and determined minds they contended with the primeval hardships, cleared the land and sowed the seed, while to-day it has come down to us as a natural inheritance from our forefathers, a land worthy of our adoration.

After the singing of a number of College songs the sophomores, of one accord, blended their voices in the singing of the National Anthem. We wish those who have donned the khaki "God Speed" and would suggest a reunion of year '18 when they return to proceed with their work in agricultural pursuits.

—G. R. Wilson



Alumni

SOMEWHERE IN THE MUD IN BELGIUM

A letter from "Big Mac." of '12 which will prove of special interest to Alumni readers.

Dear Creelman:—

It was a very pleasant surprise for me on New Years' Day to receive the very welcome package of cigarettes and tobacco from the boys of Class 1915. I can assure you the smokes were appreciated for their intrinsic value, and also to a far greater extent for the kindly spirit which prompted the gift.

War in itself is a sordid and ultra materialistic sort of affair, but strangely enough (or perhaps to maintain the balance of reason) it seems to promote sentimentalism in the individual and all the little tokens from home folk, and friend folk are appreciated by us boys in the trenches, in a way that only the experienced can appreciate.

You can judge then that anything coming from the old College to me is just like a bunch of heather to a Highlander or of shamrock to the lad from Erin.—resurrection of the best thing in life to me, pleasant memories of the past.

Christmas Day was spent in the first line trenches, and things were quiet, though the Prince of Peace did not reign supreme as there was some intermittent firing and our Battalion had two casualties, I think. We had some plum pudding just to let us know the date, but though the experience of Christmas in the trenches may be very unique and romantic, I would rather have had my feet under a groaning table back in "Auld Reekie" or Old Ontario.

We have had about four months of actual service here now and though we have not had the fierce engagements

which cost the First Contingent such a terrible toll, we have had a very hard time—fighting the elements has been with us a greater handicap than fighting the Huns. We have endured hardships and done hard work, but the perpetual wetness of everything was the worst of all. We were, 'tis said, the first brigade to be sent straight into the first line immediately on our arrival in France, and have been the recipient of the unwelcome compliment of receiving the worst stretch of trench in the country to hold. I saw "Bunny" Wearne the other day, and Bunny is just the same old cheery individual as an artillery linesman as he was when bustling around keeping everybody on the *qui vive* in College. He is in the pink of condition.

I saw a good deal of Ken. Stairs at Sandling, but have not seen him in France or Flanders.

I was taking a fatigue party up to an Engineer's Camp down at the Base at Le Havre some months ago when I passed an open air veterinary operating theatre. I saw one man step back and face about, "Hello, Tommy Clarke," I jerked out. It was the same effervescing, irrepressible Tommy, but Tommy the Sergeant, who entertained me royally that day with the assistance of "O. C." White, who is Q. M. S. of the Vet. Hospital outfit. Both were very well, their only grievance being that they could not get up nearer the front, try as they would.

I doubt not a few months up here would make them think lovingly of their cosy camp at La Havre.

I also met Scotty Lawson at Hasfleure. The mighty little sprinter is a Lieutenant in the Army Service Corps, and was just the same in khaki as on the

campus. I didn't notice if he was eating chocolates as of yore, but I know he was smoking a cigarette. If you remember that used to be Scotty's training diet—chocolates and cigarettes.

I also saw Mollison at Sandling. Allan Bland tried to locate me there, too, several times, but I missed him—I am told they have both received commissions. Is that so?

The only O. A. C. man I know of in our Battalion is Captain Shuttleworth. I served under him in London in the famous cup-winning Base Company, and he is still here with "C" Company. He also is in the best of health and spirits.

We have lost, killed, only one Guelph boy that I can remember now—Wm. Ryde. He was a fine young fellow and considered one of the best soldiers in his Company, "A," by Major Price and the Company Officers. He had just that morning joined the machine gun section and, strangely enough, the man who was sent back to Company duty from the machine gun, in his place, was killed also that day—coincidences are common here.

Lying back in so-called Rest Camp I met a man at twelve noon who hands me two francs he owes me—in less than three quarters of an hour he has his head blown off by a shell on the road. During the same bombardment I met a lad only newly arrived out from the Base who had three fingers taken by shrapnel—he had only been a matter of hours with his Battalion here. "If this is the sort of thing in rest camp, what must it be in the firing line," he muses. I see Charlie Chaplin dodging bricks and swinging his inimitable trousers on a screen in a splendid little improvised theatre in a large barn which as yet has escaped the shells.

Three things your British and Canadian Tommy must have if he possibly can are: first, his smoke (chiefly cigarettes), secondly, his beer, and third, his sport of some kind, even if the last is only an improvised concert or a kidding match.

I fear me some of our good people at home would grudge him one or all of these if they saw him and heard him at them at times, but if they lived with us for a time the necessity of a little harmless license would penetrate even their heavy hides of smug virtue. Everything, of course, is very thoroughly controlled, and excess is very exceptional and a soldier's life in Belgium is much less prone to real vice than in camp in England or Canada.

Well, and what of myself, for the first three months out here I was doing my "bit" in and out of the trenches. I have, as would seem to me, put a large portion of Belgium into sand bags, so much trench work have we done. I have felt the bullets pass very close, as we all have seen the shells burst within nice convenient killing distance and had a taste of most things except a bayonet charge. We have never yet had to get over the parapet.

At the present, I am attached to our Brigade miners so I am helping do a little subterranean warfare now. It is a change, and a change is as good as a rest, therefore, I am resting Q. E. D.

Well, I won't be sorry when it is all over and a few million soldiers will say amen to that. This long, rambling epistle has got but little in it of much interest, but I felt I could not but write a line to thank the boys of our year for their kindly remembrance and trusting that Dr. and Mrs. Creelman and all of you are well, and with kindest

regards to all my many, many friends on the hill, believe me,

Your friend, aye,

Ronald Macdonald, "1912"

Address—

L.-Corp. R. Macdonald, 54035,

"B" Company, 18th Battalion,

2nd Canadian Division, B.E.F.,
France.

P.S.—Would it be possible for you to send me THE REVIEW from time to time. I saw one once since I came to France.

BH. C. Blanchard, of '14, suffered very severe wounds in one of the earlier battles of the War when the Canadian Division first came into action. He has recovered in a most marvellous way and has written the following letter with details as to how the doctors patch one up. Mr. Blanchard was on the REVIEW staff during his term at College. We would recommend you to read it and learn what a true optimist is:

Westcliff Canadian Hospital,

Folkestone, Kent Co.,

England.

January 11th, 1916.

Dear Prof. Le Drew:—

I was certainly pleased to receive your last letter and I assure you I appreciate it deeply.

I am now at the special eye and ear hospital to have a glass eye put in and also have my right ear examined. The right ear is still deaf, although the operation just back of it is completely healed. The operation back of the ear was a splendid one. An ear specialist from London performed it. He took three small pieces of shell out, one of them one and one-half inches straight into the head just behind the ear. I'm glad to say that the operation

healed without a bit of pus coming out. It pays a man to leave the booze alone. My right hand is coming along splendidly. I play the piano a bit, but of course, not as well as I used to. In fact I never was an expert. I was really surprised myself though, when at an evening outing that a number of the patients were invited to about a week ago, I was able to play for a set of lancers. My thumb and two fingers are a long way from useless.

The eye doctor here is a splendid man. He has been over in France a while and he realizes exactly what the men are up against. I'm sorry to say that one or two of the doctors I have met, men who have never been near the front, are inclined to treat the patients to a certain extent as though they were sick puppy dogs that had got run over by an automobile or something of that nature. I am glad to say, however, that, judging from my own experience, the number of such doctors is small.

To-day I am to have my eyes and ears well examined and will then go up before the Board. Of course that means that my discharge may possibly soon come, but just when, of course I can't say.

I took a stroll the other day through Kensington Gardens and also around old Kensington Palace where Queen Victoria was born. Adjoining the palace are the old fashioned gardens which are still handled in the same old fashioned way. Of course that is merely to give the public an idea of the difference between the new and old fashioned methods. I enjoyed the scenery very much, in spite of the fact that this is certainly not the best season.

I'm glad that the College is taking such a deep interest in this conflict. It means terrible sacrifice I know, but

if it is not fought to a finish now, I firmly believe that the descendants of this generation will be obliged to fight it all over again.

With kindest regards, I am,
Yours most sincerely,
Corp. B. H. C. Blanchard,
15th Canadian Battalion

THE following letter, received some little time ago, by Mr. Wm. Hunt, of the Horticulture Department from Eric Western, gives some news of Western, Percival, and Clarry, three '17 men who enlisted about a year ago as drivers in the Army Service Corps.

No. 1 Reserve Park,
First Canadian Division,
France.

January 24th, 1916

Dear Mr. Hunt:—

I am sorry to have delayed over a week in answering your letter of Dec. 14th, and thanking you for the pretty card, which I much appreciate.

Your letter took rather a long time to come as it had to be sent from Shorncliffe back to the record office in London before terminating its sea voyage.

Clarry, Percival and I were lucky enough to be sent on draft together as we still remain. Percival and I don't see much of Clarry as he is in a different section which is stationed some distance away from here.

We have seen very little action so far but hope that a break in the monotony may come soon as the time seems to hang longer when one has practically nothing to do.

We had very disagreeable weather here all last fall, as it was one almost continuous rainfall, seldom abating for more than a day or so at a time. Up till the present there has been no cold weather to speak of and the only

fall of snow was early in November, amounting to about one inch.

Erving Fairclough, of '17, is also in the 19th Battalion (A Co.).

We had a good deal of "roughing it" for the first four months that we were here, but since the end of October have been in very comfortable billets. I will close now with regards to all.

Ever sincerely yours,

Driver Eric A. Western.

No. 3068.

OBITUARY

LANCE CORP. J. CUTHBERT SHIPTON

It is with sincere regret that we have to record in this number of the REVIEW the death of J. Cuthbert Shipton, B.S.A., '15, who enlisted with the 38th Battalion for Overseas service. Death was due to an attack of cerebro-spinal meningitis contracted in the trenches in France.

His father, Geo. W. Shipton, writing from Annapolis Royal, in regard to Cuthbert's death, says:

"Cuthbert has written from time to time of very dear friends made in Ontario who have been very good to him. But with boyish reserve and shyness he gave but little of names and no addresses."

For those of our readers who knew him here we would then extend these last thoughts of friendship which, owing to the rapidity of the disease he has been unable to communicate in writing.

Mr. Shipton was born in Round Hill, N.S., where he took his primary education. He then went to a Grammar School in England for two years. Shortly after his return to Nova Scotia he entered the Agricultural College at Truro, where he took the two year course. His inclinations seem to have been toward entomology for he joined

the staff of the Federal Department of Entomology and during the period he was engaged at this work he won the approval of his chief, Dr. C. Gordon Hewitt, Dominion Entomologist.

In 1913 he came to the Ontario Agricultural College to complete his course in Biology, entering with year '15. During the summer of 13-14 he worked for Mr. Caesar, Provincial Entomologist, on investigational work in regard to Cherry Fruit-Flies.

The following quoted from Mr. Caesar's bulletin, issued later on the subject, will show the esteem in which

he was held by the Dept. of Entomology at the O. A. C.

"To this second year's study the junior author, who had done the larger share of the work in 1913 was unable to devote more than about seventeen days, consequently the senior author obtained the assistance of Mr. J. C. Shipton, a fourth year student in Entomology at the O. A. C., Guelph. Mr. Shipton proved a valuable helper, being energetic, persevering, thorough and possessed of no small amount of initiative and originality."

OTTAWA VALLEY ALUMNI ASSOCIATION

The annual reunion of the Ottawa Valley Alumni Association O. A. C. was held in the University Club Rooms, Ottawa, on January 19th, 1916. The gathering, informal in character, was in every way a success, over 40 graduates and associates of the O. A. C. being present. After an informal smoker, chat and songs, light refreshments were served, followed by brief speeches by Dr. G. C. Creelman, President, O. A. C., Dr. James Mills, Chairman, Dominion Railway Commission and ex-President of the O. A. C., W. B. Roadhouse, Deputy Minister of Agriculture for Ontario, W. Squirrel, A. Leitch, O. A. C., Geo. G. Clark, Dominion Seed Commissioner, Prof. E. J. Zavitz, Toronto, Norman Ross, Indian Head, Sask., P. L. D. Campbell, Vankleek Hill, who attended College in '79 and '80, A. W. Mason, Ottawa, and others.

Attached herewith is a list of those in attendance:—

- | | |
|--|--|
| Dr. G. C. Creelman, President, O. A. C.,
Guelph, Ont. | A. J. Craig, Kinburn, Ont. |
| Dr. James Mills, Ottawa. | R. C. Treherne, Ottawa. |
| W. Bert Roadhouse, Deputy Minister
of Agriculture, Toronto. | J. B. Spencer, Ottawa. |
| Prof. E. J. Zavitz, Forestry Branch,
Toronto. | P. S. McLaren, Perth, Ont. |
| Norman Ross, Indian Head, Sask. | A. J. Logsdail, Ottawa. |
| Geo. H. Clark, Ottawa. | E. P. Bradt, Morrisburg, Ont. |
| E. D. Eddy, Ottawa. | A. W. Mason, Ottawa. |
| L. H. Newman, Ottawa. | S. E. Bergey, A. E. McLaurin and J. W.
Tawse, of Macdonald College. |
| F. E. Doherty, Ottawa. | F. C. Munnick, Ottawa. |
| W. J. Squirrel, O. A. C., Guelph. | W. M. Croskery, Kinburn, Ont. |
| T. G. Raynor, Ottawa. | R. H. Grant, Hazeldean, Ont. |
| Mr. Bell, Toronto. | R. S. Hamer, Ottawa. |
| A. Christie, Winchester, Ont. | R. S. Beckett, Brighton, Ont. |
| W. G. Parker, Cass Bridge, Ont. | A. E. Leitch, O. A. C., Guelph. |
| Geo. H. Parr, Ottawa. | P. L. D. Campbell, Vankleek Hill, Ont. |
| | G. Le Lacheur and J. A. Simard, Ottawa |
| | W. Dawson, Ottawa, Ont. |

D. M. McRae, Alexandra, Ont.
 G. B. Curran, Napanee.
 P. H. D. Harding, Perth.
 M. C. McPhail, Port Hope.
 N. W. Ross, Indian Head, Sask.

T. H. Mason, Ottawa.
 R. E. Mortimer, Toronto.
 W. D. Jackson, Carp, Ont.
 W. A. Dryden, Brookline, Ont.

CARSON GETS BIG JOB IN NEW JERSEY

HAS BEEN APPOINTED PROFESSOR OF DAIRY HUSBANDRY IN RUTGER'S COLLEGE

WJ. CARSON, B.S.A., Guelph, who has been for a number of years resident in Winnipeg, has been appointed professor of dairy husbandry in Rutgers College, New Brunswick, N. J., and also dairy husbandman in the experimental stations of the state.

Professor Carson has a distinguished career in dairy work in Canada. He spent eleven years in charge of a cheese factory and three years in inspecting factories and lecturing in the Kingston dairy school. For one and a half years he was assistant of the famous Dr. Babcock, inventor of the Babcock test at Wisconsin experimental station. At the opening of the Manitoba Agricultural College he was appointed professor of dairy husbandry and also dairy commissioner of the province. After leaving the College he was for five years the director and general manager of the Carson Hygienic dairy.

His new work will be of a very interesting character, as New Jersey is one of the very advanced states in regard to dairy husbandry.

WEDDING BELLS

DUFF-DRENNAN

A very pretty though quiet wedding with a military atmosphere took place at the home of Mr. and Mrs. John Drennan, near Alliston, on Wednesday afternoon, December 22nd, 1915, when their daughter Elizabeth ("Betty") became the wife of Lance Corp. George

Clarke Duff, 76th Battalion, C.E.F., younger son of Hon. Jas. S. and Mrs. Duff, Cookstown.

Rev. G. N. Grey, pastor of Alliston Methodist Church, officiated at the ceremony in the drawing room, which was decorated with holly, red roses, and evergreens. Only the immediate relatives were present.

To the strains of Mendelssohn's "Wedding March," played by Miss Lillian Oliver, of Toronto, the bride, who was given away by her father, entered the drawing room becomingly gowned in white silk chiffon over net and Juliet cap of net and orange blossoms and carried a bouquet of shell pink roses and lily of the valley. Her only ornament was a peridot and pearl pendant, the gift of the bridegroom.

The bride was assisted by her sister, Miss Emma Drennan, who wore silk embroidered organdy with satin trimming and carried red roses, and to whom the groom's gift was a cameo ring. Pte. Norris Hopper, cousin of the groom, also of the 76th Battalion, who acted as groomsman, received a pair of military brushes.

After a delightful wedding breakfast the happy couple left via C. P. R. for a short honeymoon in Toronto, and Woodstock. The bride travelled in a green velvet dress with picture hat to match, and coat with fur trimming.

On their return from their honeymoon Lance Corp. Duff rejoined his Battalion, which is in training in Barrie for overseas service.

NEFF-STEWART

A pretty house wedding took place on Wednesday, December 29, at Elfrida, when Margaret Allen, youngest daughter of Mr. and Mrs. Frederick Stewart, and Mr. Ernest F. Neff, B.S.A., eldest son of Mr. and Mrs. C. W. Neff, of Barton, were united in marriage. Rev. W. W. Prudham, of Wiarton, officiated, and Rev. Mr. Kitching assisted. The bride looked very pretty in white silk, trimmed with lace and pearls, and wore a veil and orange blossoms, and carried a bouquet of white roses. She was attend a bouquet of white roses. She was attended by Miss Vera Lottridge, of

Stoney Creek, who was gowned in blue silk and carried pink roses. The groom was attended by his brother, Mr. Harry W. Neff. At 4 o'clock the bride entered the parlor with her father, Miss Gladys Minnis, of Hamilton, playing the wedding march. The bride also wore a pearl necklace, the gift of the groom. The bridesmaid and pianist each received a pearl brooch and the best man a set of cuff links and tiepin, the gifts of the groom. A number of beautiful and useful presents showed the high seteeem in which the young couple are held. Mr. and Mrs. Neff left for London and will later reside in Simcoe.

Athletics

BASKET BALL

GALT Y. M. C. A. vs. O. A. C.

Basketball has been booming around the College for the past month. We have played three games and won two of them.

On January 26th, the team travelled to Galt to play a return game with the Y. M. C. A. boys. The game was interesting from a spectator's viewpoint, for the score was close and play was fairly fast. The College boys, however, again demonstrated their superiority and won the game by a score of 44 to 33.

Lineup of teams were as follows:—
Galt: Blain, Hines, Forwards: Irwin, Hammond, centre; Ira Hammond, Storms, guards.

O. A. C.: Forman Rowland, Wilson, forwards; White, Centre; Raymond, Michael, Lambert, Brissette, guards.

HAMILTON ROVERS AT O. A. C.

The College gymnasium was the scene of our next game when the team lined up against Hamilton Rovers in

our first league game on January 29th. Before the game the boys from the Ambitious City looked formidable, but it was probably because of their clean, white uniforms.

As soon as the game started it was easy to see who was going to win. The College team had combination, speed and shooting accuracy during this game and at half time the score was quite one-sided in our favor, being 28-7.

The second half started and just as soon did the College boys begin their bombarding of the Hamilton basket, and the boys with the nice, clean uniforms found the going rough. The game ended with the score 49-12 in favor of the College.

In this game the boys played as a team, not as individuals, and it showed what could be accomplished when everybody played the game for the team and not for himself.

Lineup of teams:—

Hamilton: Philpott, Jeffries (10), forwards; Isard (2), centre; Cameron, Dynes, guards.

O. A. C.: Forman (17), Rowland (15), forwards; White (15), centre; Michael (2), Raymond, guards; Carncross, Wilson, spares.

O. A. C. AT HAMILTON

Everybody has an off day and February 10th seemed to be an off day for the O. A. C. basketball boys. The boys journeyed to Hamilton for the return league game, but they looked like a bunch of play ground boys learning the game, instead of an intermediate team. The Hamilton boys, on their own floor and with a changed lineup, took a new lease of life and played good ball.

At half time the score was 13 all, and although the College boys started in the second half to score, and even managed to obtain a lead, they blew up in the last few minutes of the game and Hamilton scored several baskets in quick succession. The final score was 29-25.

The game was a disappointment for the College team, as they expected to win easily, and it looked as though over-confidence had been their undoing. The team will surely redeem themselves in the play-off.

Lineups:—

Hamilton: Jeffries (1), Philpott (12), forwards; Bolton (10), centre; Isard and Cameron (6), guards.

O. A. C.: Forman (13), Rowland (2), forwards; White (10), centre; Michael, Raymond, guards; Cameron, Wilson, spares.

HAMILTON vs. O. A. C. AT BRANTFORD

On Saturday afternoon, February 12th, the team and a bunch of rooters went to Brantford to play off with Hamilton for this district. The boys

were out for blood and it was a great disappointment to find that Hamilton had misunderstood the agreement and had failed to show up.

It was hard on the boys who travelled as rooters to be disappointed, but it showed the team the students were behind them and ready to support them. A strong bunch of rooters will often make the difference of winning or losing a game, and it is to be hoped that the boys will still support the College team in its remaining games.

BASEBALL

SENIORS vs. JUNIORS

One Friday afternoon in January "Bob" Skelton and his cohort lined up in battle array to meet "Bill" Bissette's Braves of the third year in a game of baseball.

There has always been considerable rivalry between the years '16 and '17 when it came to baseball and this game was not lacking in enthusiasm. The third year started out well and held the fourth year scoreless for two innings. Then the heavy hitters of the Seniors began to bombard the opposing pitcher and the score increased quite rapidly in a couple of the remaining innings.

For the Seniors, Rowland, Bryden and Wilson played good ball, while Cudmore was the star of the Juniors.

Lineups:—

Seniors: Griffin, Rowland, Bryden, Burrows, Skelton, Carncross, Jackson and Lackner.

Juniors: Cudmore, Bird, Bissette, Hill, Wiggins, White, Van Every, Richardson, Guild and McKillican.

SOPHS. vs. FRESHIES

The Freshmen showed a big improvement in their play during the base ball game with the Sophs. on January 29th,

and no doubt they will continue to improve under the coaching of Ferguson.

The Sophs., however, were able to go one better, with "Bill" Michael and W. R. Brown playing a strong game. The game ended with a score of 7-1 in favor of the second year men.

"Bud" Fisher, the all round man of the Soph. team, was absent, having gone to London to train for Overseas service. His absence will be felt considerably by the Sophs. when they play with the two Senior Years.

Lineups:—

2nd Year: W. R. Brown, McEwen, R. Brown, Michael, Newton, Malyon, Wallace, Jakes, Lavis, Stoddard.

1st Year: Gardhouse, Maine, Ferguson, O'dell, Atkin, Whitlock, Buchanan, Matheson, Higgins.

JUNIORS vs. FRESHMEN

The Juniors took the Freshies into camp on Friday afternoon, Feb. 18th. The Freshies presented an entirely new lineup, having lost a number of men during the last couple of weeks.

With a fairly strong team in the field the third year had no trouble to keep the first year men away from the plate, and at the same time score a number of runs. The score at the end of the seven innings was 19-4.

Lineups:—

3rd Year: Cudmore, Bird, Bissette, Hill, White, Richardson, McKillican, Wiggins, Neale, Campbell.

1st Year: O'dell, Buchanan, Atkins, Zeigler, Hammersley, Hetherington, Matheson, Musgrave, Wood.

AQUATIC MEET

The "water" men had their annual gala day on Saturday afternoon, February 19th, in the College pool. Although the College does not now possess any men of the calibre of Davies and

Fitzpatrick, the meet was a success if enthusiasm is an indication.

All the events were closely contested and caused some fun and excitement for the spectators. Cudmore, of '17, was the best man in the tank, winning three of the championship events, and thereby winning the grand championship.

The Third Year won the meet by a good margin, having 32 points to their credit, while the First Year was second with 22 points. The Seniors were next in line with 19 points and the Sophs. were last with 17 points.

RESULT OF EVENTS

52 Yard Swim—(1) Cudmore, Allan, Langley. Time 33 1-5 sec.

104 Yard Swim—Cudmore, Allan, Costague. Time, 1 min., 21 1-5 sec.

208 Yard Swim—Cudmore, Stalsey, Mason. Time, 3 mins., 16 secs.

Long Plunge—Mason, Campbell, MacWhinney. Distance, 45 ft., 7 in.

35 Yards Swim (Beginners)—Buckley, Watt, L. W. Karn. Time, 26 3-5 secs.

52 Yards Back Swim—Cudmore, Davis, Allen. Time, 52 1-5 secs.

52 Yards Swim (Novice)—Lackner, Reilly, Delamore. Time 42 4-5 secs.

Novices Relay—(1) 4th Year, (2) 2nd Year, (3) 1st Year. Time, 1 min., 48 3-5 secs.

Senior Relay—(1) 1st Year, (2) 3rd Year, (3) 2nd Year. Time, 1 min., 37 3-5 secs.

Fancy Diving—(1) Allen, (2) MacWhinney, (3) O'Dell.

Grand Champion—Cudmore, '17, 15 points.

Standing of Years:

- (1) Third Year, 32 points.
- (2) First Year, 22 points.
- (3) Fourth Year, 19 points.
- (4) Second Year, 17 points.

Macdonald

GEMS OF TRUTH

On the night of February 10th, 1916, A.D., two Juniors sat in their room at Macdonald Hall. Before them on the table lay several books, among them "Gems of Poetry," "Wit and Humour," "Birthday Books," and a Bible.

"Now, Jean, here's our material; let's just try to turn out something real original."

"Yes," answered Jean, "and, in this case, the nearer we stick to the truth the more original the result will be. They asked us to do their 'writeups' and for once in the history of Year Books the unvarnished truth shall shine forth."

"Well, let's begin on the quotations. Half our task will be accomplished when we have found verse suitable for our various characters. Who's first on the list?"

"Kate Percy, she has so many outstanding characteristics, it ought to be quite a simple matter to find something suitable."

"Yes, she has curly, black hair, she chatters a good deal, and, Oh! there heaps of things about Kate. Let's each take a book and read till we find her in poetry."

Silence for a few moments, then Jean glanced up, her countenance beaming with satisfaction.

"I have it—Tennyson might object, but—"

"Oh, never mind Tennyson. What's the quotation?"

"I babble, babble as I go—"

"Good for Alfred. Couldn't be better. But here's one from Shakespeare that might be good—"

"Let me have men about me who are fat."

"Fine, we'll decide on one of them. Now, who's next?"

"Eleanor Hopper."

"Let's see—she belonged to the Zoo last year. She weighs quite a bit, too. Oh, say, Hamlet may have been an idiot but he knows a thing or two; listen—"

"Oh, that this too, too solid flesh would melt." "Next."

"Marjorie Williams—a good debater, auburn hair—a cinch. The poets all rave about golden locks. We'll try 'Gems of Poetry.'"

Pages were hurriedly turned. Then with a sigh of relief one of the girls exclaimed:

"Wee, modest, crimson tipp't flower." "Proceed with the roll call."

"Nellie Wells—What is the first thing you notice about Nellie?"

"Her eyes, of course—a blind man could tell you that."

"Well, here we are—"

"I cannot make my eyes behave."

"Good; and Frances Beven is last on the list. I saw something the other day that described her perfectly—you know—"

"Divinely tall and so divinely fair."

"Good, gracious, Jean, that was in Adam and Eve's Year Book."

"Well, then, let's try the Bible—Oh, I know—" "How long, O Lord, how long!"

THE RED CROSS DANCE

It is an old saying that "anticipation is greater than realization," but the happy throng of brave and fair that gathered in Macdonald Hall on the night of February fourth proved that realization is greater than anticipation. For it was the College Red Cross dance,

the fame of which had gone abroad, attracting back to their Alma Mater many of her graduates.

Shortly before eight o'clock, the fussers who had fussed, thronged to the well, greeting old friends, and when not eagerly filling programs, eagerly besought by dainty maidens to "buy their wares." We waited for the bugle to sound but the electric bell, which usually calls to work, on this festive night called to play, and soon all were tripping the "light fantastic" to the strains of the first waltz.

In the gym. all was light and joy and mirth, the rosy-hued light casting bewitching shadows over the dancers and attracting stray couples to the near-by cosy corners. Overhead guarded the Union Jack and twined in and out among the beams were streamers of "Red, White and Blue."

But time, as it is wont to do, took unto itself wings and all too soon, the hour of midnight struck. But dainty refreshments of ice cream and cake only served as further inspiration for the waltz and two-step and for another hour the strains of music called forth, enticing even the onlookers to an occasional indulgence.

Down stairs the Y. W. and Y. M. combined their forces and by frolic and fun, play and pantomime succeeded in giving the boys and girls gathered there a desire to return again the next night.

The committee which so ably arranged and managed this dance are to be greatly congratulated on the success, and from all sides comes the same verdict. "It was the best ever."

We only hope that the powers that be, may be prevailed upon to grant another night that we may make another two hundred dollars for the Red Cross.

AT THE ATHLETIC CONCERT

The Macdonald girls have always had a reputation for putting on good things and they certainly maintained it in "The Old Maid's Convention," their contribution to the Athletic Concert on Feb. 11th. The doings of the old maid's matrimonial club provided much food for laughter and the marvelous transformations were thoroughly appreciated. The reading of the eligible list provoked much mirth, even though one never knew when one's own turn was coming.

The *dramatis personae* :

Maribah Lovejoy—Frances Beven.
 Amarilla Heywood—Kate Percy.
 Priscilla Hope—Helen Easton.
 Anxiety Doherty—Eleanor Hopper.
 Augusta Prim—Reba Campbell.
 Faithful Blossom—Elizabeth Langford.
 Fredora Bobbins—Mabel Rumball.
 Rhoda Larkin—Marion Shannon.
 Selina Baxter—Edith Elliott.
 Susanna Smith—Nellie Wells.
 Miranda Price—Helen Turner.
 Mary Ann Barnes—Laura Nixon.
 Sarah Jane Springster—Marjorie Williams.
 Esther Snyder—Beatrice Watson.
 Marion Perkins—Eleanor Smith.
 Asenath Baker—Alice Murray.
 Amanda Horn—Victoria Marsh.
 Amy Little—Dorothy Chown.
 Sophia Potter—Annie Scott.
 Professor Pinkerton—Bob Sutton.

The girls thank Miss Dora Adams very heartily for her kind assistance which went far towards making the entertainment the success it was.

MACDONALD LOCALS

Miss O'F—n.—"Mr. Heatly, have you that anthem 'The Radiant Morn'?"
 Mr. L—w—ll—(leaning forward very excitedly)—"Do you find it too warm?"

Mr. Michael—"Have you any hair the same color as mine?"

Barber—"Do you require it for a wig, sir?"

Mr. Michael—"No, I want a small piece to give a lady."

Question—How can one tell whether a girl's hair is fast to her head or not?

Answer—Pull a hair out and see if she squeals.

Question—Could you please suggest a good pose for my picture so that my face may be seen to good advantage?

—Sullivan.

Answer—Open your mouth, the picture will be characteristic at least.

Locals

WHEN '16 GRADUATES

W. H. Scott (walking into outer office)—to office boy—"Say, sonny, do you think there is a position here for an O. A. C. graduate?"

Office Boy (savagely)—"Dere will be tomorrow, if de boss don't raise me pay to t'ree dollars a week."

Later—in inner office, to manager—"Is there an opening here for an O. A. C. graduate?"

Manager—"Just behind you, close it as you go out."

Prof. Harcourt—"Gentlemen, next week you will be given an examination in Animal Chemistry."

William James Benny Kay—"Do you mean the week after next?"

A certain eccentric gentleman was somewhat cranky and had a horror of draughts. If, perchance, one happened to leave a door open, he was greeted by a peevish "For heaven's sake shut the door, and keep that draught off of me." Finally the old man died and his body was sent to a crematory. It was put into the crematory oven and left to burn. The attendant coming round to take his ashes out of the oven, opened the door, and was greeted by a peevish "For heaven's sake shut the door and keep that draught off me."

Miss Mutrie—"Why do all the boys come down our way on Sunday?"

Shields, '19—"To see the chickens, of course."

Carncross (putting on Art. White's cap)—"I always look good in a cap."

Peter Robert Skelton—"You look good in anything that covers your face."

Eccentric Eric—"Is that why you look so well with a mustache?"

Mr. McLaren (leading Y. M. meeting)—"We will now close the meeting with prayer. Mr. Richardson, will you lead?"

Richardson (waking out of a sound snooze)—"It isn't my lead, I just dealt."

We find that Moses, like most fellows, had indigestion. The Good Book says that the Lord took Moses up on the mountain and gave him two tablets.

A certain henpecked husband died, and his wife put the following epitaph on his tombstone:

"Rest in peace

"Till we meet again."

VERY BADLY MIXED UP

The make-up man in a rural weekly newspaper office got full of hard cider

a fortnight ago and mixed up items reporting an auction sale and a wedding ceremony. The description ran as follows:

William Blank, the only son of Mr. and Mrs. Theodore Blank, was disposed of at public auction to Margaret Dash, daughter of Mr. and Mrs. Theodore Dash, of lot 14, sixth concession, in

The groom is a well-known young man, popular in society circles of about thirty-eight Berkshire hogs, while the bride is an accomplished and talented teacher of a splendid drove of Poland China shoats, pedigrees furnished if desired.

Among the many presents were one hundred bushels of potatoes, one drag-

SCENES FROM THE
LIVES OF GREAT MEN:-

PROF. W. H. DAY AS
A BOY, PLAYING
WITH HIS TOYS-



the presence of eighty guests, including two mules and nine head of horned cattle. Rev. J. Binks tied the nuptial knot, averaging 1,200 lbs. on the hoof.

The beautiful home of the bride was tastefully decorated with one set of double harness, nearly new; before the ceremony Mendelssohn's Wedding March was given softly by twenty-one five-year-old milch cows, looking perfectly charming in a light spring wagon, top buggy open buggy and wheelbarrow.

harrow, hay fork, rope and pulleys, also other articles too numerous to mention.

The bridal couple left on yesterday morning's boat on an extended trip, six months on approved joint notes, Four per cent. off for cash.

Dr. Creelman—"What's the matter, Fancher, you don't look well?"

Fancher—"I'm about all in with a cold in my head."

Dr. C. (consolingly)—"Well, that's better than nothing."



"SAFE FROM FIRE, WIND, RAIN, SNOW AND THE HAND OF TIME."

Modern farming stands for Economy and Efficiency, and these are only attained in farm buildings by using fire-proof and weather proof materials.

The days of wood construction are numbered. The day of metal building is here. Wood is positive extravagance any way you look at it. Means extra labor cost in erecting—means annual paint and repair bills—means, above all, big insurance bills and the ever-present threat of fire, which makes life one long nightmare on many a farm.

"METALLIC"

Make your home and plant the "show place" of the neighborhood. Make it more—make it an object lesson of thrift, neatness and common-sense by using "Metallic" materials. Made in Canada for over thirty years under the motto "Quality First."

"Metallic" Building specialties include "Eastlake" Galvanized Shingles; "Empire" Corrugate Iron; "Metallic" Ceilings; "Metallic" Siding; "Empire" Silo Roofs; "Acherson" Roof Lights; "Halitus" Ventilators; Eave-troughing. Send for particulars, prices, etc., on the line you are interested in.

When we see more and more farm plants sheathed in "Metallic" fire-and-weather-proof materials like the above, we'll see in

like proportion—

the present colossal loss from fire and wind-storms go down year by year. Canada's farmers must do their part to save the Empire's resources. "Metallic" construction is a money-saving duty that farmers owe to themselves, their families, and the country. Our Service Department gives you building suggestions and advice free of charge.

Metallic Roofing Co. Limited, Mfctrs., Toronto and Winnipeg

"Carry your grip, boss?"

"No."

"Paper?"

"No."

"Shine?"

"No."

"Den gimme a cent an' I'll wiggle me ears fer yuh."

Bremner—"I can say one thing—I'm a self-made man."

Moore—"Are you boasting or apologizing?"

A RARE SPECIMEN

"Waiter, bring me half a dozen fried oysters."

Colored waiter, apologetically—Ah's berry sorry, suh, but we's out ob all shellfish 'ceptin' aigs."

"Now, Pat," said the magistrate to an old offender, "what brought you here again?"

"Two policemen, sor," was the laconic reply.

"Drunk, I suppose?"

"Yes, sor," said Pat, "both av thim."

A FOREBODING SOUND

"Is it a sign of death," said she, when a cat in the night howls ominously?"

"Yes," he replied, "a fateful one—if I hear it in time to get the gun."

Bill Bissette—"Jack Bird, if my feet were as big as yours, I'd hate to be seen on the street."

Jack—"Now, Bill, what are you always picking on *my* weakest spot for? I never said anything about your head."

LIAF IN THE TRENCHES

(as seen by Rastus)

Yah, suh, Ah wuz right in de trenches
 Yuh cud heah de bullets hum,
 Yuh cud see de Allies' firin'
 An' watch dem Gummins run.

An' dat grea' big, long lean canyon
 It 'ud shorely git yoah goat
 Fuh to watch em press 'at button
 An' see th' fiah jump from his throat.

One tiahm a big Jack Jonsing
 Cum loping long toward me
 Say, you should a seen this niggah
 Go climin' up a tree.

Then they wuz the snipahs,
 Who climbed up in th' trees
 An there they'd set, real still like
 Their rifles on their knees

Twell purty soon you'd see
 A snipah raise his gun
 An' ping! then he laugh back an' say
 Anuthah on de bum.

Ef yuh goes tuh the trenches
 An' gits out safe and soun'
 Doan' fergit tuh thank th' Lord,
 That yuh're still abuv th' groun'.

"Was your garden a success last year?"

"Very much so, my neighbor's chickens took first prize at the poultry show."

GOING SOME

Two negroes were discussing the war. One of them said: "Ah heard dem Gummins got some cannon whut ken kill a man dat's fifteen miles away."

The other replied, "Das nothing, niggah, dem Frenchmen's got some guns too. All dey got tuh know is yoah address an' dey'll git yuh."

WANTED TOO MUCH

Guest (calling to clerk at two o'clock a.m.)—"There are two mice fighting in my room. What kind of a cheap place is this?"

"What price did you pay for your room?" asked the sleepy clerk."

"Fifty cents," replied the irate guest.

"Well, what do you expect for fifty cents, a bull fight?" asked the clerk.

"Oh, Professor Graham," exclaimed the wit among the short course students, "do your hens 'sit or 'set'?"

"To tell the truth, madam," replied Prof., "I don't give a rip which they do. What I want to know is whether they are 'laying' or 'lying'."

Martin—"I hear there was an accident in Grub Alley the other night and that Sullivan sprained his wrist and Waterman had his lip badly cut."

Skinner—"Yes, I wish it had been the other way round."

Martin—"Why?"

Skinner—"Because Waterman owns a fiddle and Sully is trying to play the cornet."

WHAT'S THE USE?

A man who saw how the farmers were cheated

Showed them the game and how they could beat it;

Some of them laughed and others looked grim,

But all asked: "What is there in it for him?"

At last he got sick of his foolish campaign

Since no one would act there was nothing to gain;

Then the farmers all wakened and started to scoff:

"Just what we expected! They've bought him off!"