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MISSING

THE O. A. C. REVIEW

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

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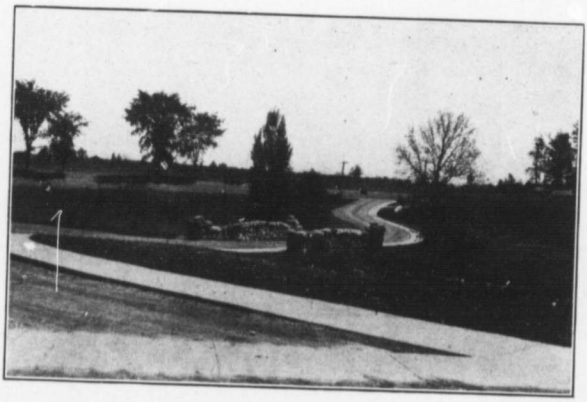
Summer Pruning the Young Apple Orchard

E. F. PALMER, Director, Horticultural Experiment Station, Vineland, Ont.

SHALL we summer prune our apple orchards? The question of summer pruning is a perennial one, and one that is far from being settled as yet. The writer does not feel competent to express an opinion on the summer pruning of mature apple orchards, but with young trees there are many possibly to whom the results to date of the experimental pruning at the Vineland Station, may prove of interest and value.



Driveway into the Experiment Station

The object of summer pruning is obviously to induce fruitfulness. Probably every fruit grower is familiar with the fact that fruit buds are formed the season previous to their expanding. It has been further determined that the fruit bud begins to differentiate from the leaf or branch bud early in July, the time, of course, varying with variety, weather conditions, etc. This also is about the time that wood growth shows up or stops on bearing trees and naturally we associate these two facts together—that the energies of the tree are used up until that time in making the vegetative increase or growth, and afterward the energies go to the formation of fruit buds, and maturing the wood and fruit. The object of summer pruning, then, is to anticipate nature a little, and by the removal of un-

necessary growth and more particularly by the checking of terminal growth to divert more food into the formation of fruit buds than would ordinarily be the case. At the same time it is evident that summer pruning must be done late enough to avoid the stimulation of new growth. A large amount of wood should not be removed, particularly if the pruning is done rather early, as such pruning will

Summer Pruned Wealthy Tree in Full Bloom. Vineland.

undoubtedly stimulate the development of secondary shoots which may produce quite as much growth as the original shoot would have done. But if pruning is delayed until growth has practically ceased, and if it then consists mainly in taking out the growing tips of the leaders, it ought to have a considerable influence towards fruit bearing. In other words, the part of the tree which was forming new leaves and new wood, and which was therefore using a large amount of plant food has been removed, and the tree can turn its whole energy into the development of strong fruit buds for next season's crop.

The apple orchard at the Experiment Station, in which the pruning work is being conducted, consists of 646 trees, including 170 trees of standard varieties: Hyslop, Spy, Greening, Baldwin, King, Hubbardston, Cranberry, Jonathan and McIntosh; and 476 trees of fillers, Dudley, Duchess, Wagener, Wealthy and Ontario. The orchard was planted in the spring of 1911 and the pruning experiment started in the spring of 1914. Three systems of pruning are being followed: winter pruning, summer pruning and little or no pruning.

WINTER PRUNING: These trees receive the usual treatment as practiced in Ontario, being severely cut back and

thinned out in March or April. The object is to form a framework that is pleasing to the eye, and at the same time will carry a maximum load of fruit without damage when the tree comes into bearing.

SUMMER PRUNING: The trees are well thinned out in August and cut back only enough to keep the tree within bounds, which usually involves simply pinching out the terminal buds from the higher branches. The object is as much as possible to admit a maximum of sunlight and air to develop as many fruit buds and fruit spurs as possible, but at the same time not to sacrifice the shape of the tree any more than is necessary. Early bearing is the object in view.

LITTLE OR NO PRUNING: These trees receive no pruning whatever except that a few cross and broken or otherwise injured limbs are removed. They are left as much alone as is conveniently possible.

Careful records are made of the size and vigor of the trees, blossoming dates, number of fruit spurs and fruit set, quantity of fruit harvested, and comparative size, color and keeping quality of the fruit.

RESULTS—

Table 1: Summary of Fruit Produced 1916. Pruning Experiment Section 7.

Method.	No. of Trees	Total Weight of Fruit	Total Number of Fruits	Ave. Wt. of Individual Fruits
Unpruned	207	3,260	14,416	.2261
Winter Pruned	228	227	781	.2906
Summer Pruned	20[illegible]	1,820	7,169	.2538

As will be readily seen from a careful study of the above tables, the results to date are very uniform throughout. The summer pruned and unpruned trees were loaded with fine marketable fruit both in 1915 and 1916, while the winter pruned trees, with the exception of two or three of the filler varieties, have borne practically no fruit. (In 1915, the winter pruned trees bore no fruit, the summer pruned trees 127.7 lbs., and the unpruned trees 209.4 lbs.) There appears to be no doubt that summer pruning, will bring the young orchard into profitable bearing much quicker than the plan usually followed of heading back severely each year. The unpruned trees, of course, have given similar results, but due to this lack of pruning the trees are not in as good condition for future bearing. They are more straggly, and have too many branches, thus not allowing of as free a circulation of air, or as much sunlight as is desirable for the control of insect pests and diseases and the production of the best quality of fruit.

Table 2: Average Diameter in Inches of Trunks of Two Standard and Two Filler Varieties:

Variety	Unpruned.	Winter Pruned.	Summer Pruned.
Wealthy	2.267	1,967	2,130
Duchess	2,093	1,703	1,942
Baldwin	2,369	2,062	2,337
Greening	2,489	2,052	2,393

The evidence presented in Table 2 is fully as marked as in the previous table, and is again strongly in favor of the Unpruned and Summer pruned trees. It is of interest also to note that the difference between Unpruned and Summer pruned is quite marked in the case of the earlier bearing, smaller growing varieties, Wealthy and Duchess, while in the case of the later bearing, larger growing varieties, Baldwin and Greening, it is comparatively small.

The differences in the average diameter of the trunks in the three systems of pruning is, of course, correlated with differences in the general size and vigor of the trees. The Unpruned and Sum-

mer pruned trees are, in all cases, far larger than the winter pruned trees as can be readily seen from the accompanying illustration.

CONCLUSIONS:

It is possibly too early to draw any definite conclusions from the foregoing experiment as to the best time and method for pruning our young apple orchards, yet the results obtained are so striking as to merit more than ordinary attention and study. It should be noted that fourteen commercial varieties are included in the experiment and the results to date have been in every case against our usual method of heavy winter pruning. (On account of space only four varieties are included in Table 2). Little attempt is made in this article to account for the evidence obtained. It is simply given as it is and the reader left to draw his own conclusions.

Thrift in Forest Fires

Sportsmen Can Help

THERE are estimated to be 10,000 forest fires in Canada every year of all sizes and descriptions. Nine tenths are set by human hands, and the damage runs from four to ten millions of dollars, not counting damage to soil, to the value of watershed areas and many other factors.

"Thrift in forest fires" is a new movement which the Canadian Forestry Association has started amongst the guides, and campers and sportsmen of Canada with a view to cutting down the country's timber losses in 1917. As is well known, the present-day causes of forest fires are not the railways as much as the settlers, campers, hunters and fishermen. Thoughtlessness in respect to camp fires, the throwing away of lighted tobacco, matches, etc., has caused some of the worst conflagrations in history. During the months of May and June, before the fire season is well under way this year, thousands of outdoors men are being asked by the co-operation of the newspaper publishers of Canada to make 1917 a year of thrift in the forest. Not only is Canada's exhaustible supply of timber seriously reduced in a time when it should be protected and improved by every possible means, but hundreds of miles of once excellent fishing and hunting and camping grounds are turned into blackened ruin.

No camp fire should be left this year until it is "dead out." A few extra pails of water or spades of sand will make this point certain. No fire should be set except among rocks or gravel, never in a bog or in leaves or needles. Throwing lighted tobacco or matches into the forest is conduct that is chargeable only to the amateur.

Literary Pests

By A. Bookworm

THE science of Parasitology covers a wide field and one which is being enlarged every year. A comparatively short time ago, for instance, the word "microbe" suggested some deadly hidden menace; whereas today, we consciously eat, sleep, drink, marry and are given in marriage, in the company of legions of germs. Nor does the thought ruffle our composure; for we know that all over the world large-headed scientists are pursuing the wily micrococcus to his lair, and we sleep the untroubled sleep of childhood beneath the wing of Mother Hygeia.

The progress of science is truly astonishing. We can now secure accurate information about the pests of orchards, beehives, dairies, farmyards and factories, restaurants and railway stations, schoolrooms and swimming-baths, poolrooms and picture-galleries, taverns and tabernacles. There is one department however, which has not been systematically investigated. I refer to those parasites which infest the library. This important branch has been practically neglected and for this reason the author considers the moment an opportune one for the publication of some observations on the habits and methods of certain notorious library pests. He does this in the hope that these few notes may indicate a field for future work.

The Scissor Bug. Mutilator periodicalium:

Turning over the pages of the daily paper or the current magazine, one may notice large gaps or lacunae, mostly regular in shape, square or oblong, with sharp corners. On closer examination it is possible to detect that the tissue here has been neatly excised and carried away, together with the superincumbent printed matter. A further examination of the surrounding tissue reveals the fact that the body of the article, or the most important part, has been removed, rendering the item useless. This is the work of the parasite commonly known as the "Scissor Bug."

Description and Control:

The outstanding feature of this insect is the epiderm, or perhaps more appropriately the pachyderm. This outer covering is of immense thickness and toughness, being almost entirely of a substance called Egoin, which is quite impervious to ordinary applications.

The only effective method of control is to spray heavily and frequently with about equal proportions of Altruin and Vitriol. The spray should be driven into all holes and corners where the parasite is likely to be hiding.

Commentator inanis. The popular name of this species is the "Pencil Bug." It is a common parasite in all libraries and most readers are familiar with its depredations. The insect seems to have a preference for new and valuable books. These it covers with marks of various kinds: sometimes five or six lines are heavily underscored, at other times queries, exclamation marks, or written comments are scattered along the margin of a page, It will be observed that the passages selected are usually the least important, and the comments themselves of a distinctly asinine nature. For this reason Dr. X—of Y—has suggested the name Asinus egotisticus.

However, we have adopted the recent naming as being more descriptive.

The insect is practically omnivorous; if it shows any preference at all it is for the more sensational forms of literature.

Description and Control: This pest is beyond description and almost beyond control.

In addition there are various parasites whose work is not so noticeable, but whose presence in any library is undesirable. Among these may be mentioned:

The Tardy Worm,—Cunctator prehensilis, so called from its dilatory methods and its habit of grasping and retaining any book wanted for examination purposes.

Streptocumulus immemor, or the "Absent-minded Collecting Beetle," and others too numerous to mention.

Lack of space and a rigorous editor preclude an exhaustive discussion; but enough has been said to point out the path for future research. It is high time that readers co-operated with a view to exterminating these pests of the library.

Mosquitoes

By Eric Hearle, B.S.A.

MOSQUITOES have at one time or another left their mark on most of us, and everyone realizes that they take a piercingly keen interest in humanity in general. It seems only fair that we should reciprocate this interest, and on our side seek to probe into some of the mysteries of their existence.

Few people, however, appreciate the mark that mosquitoes have left on the history of the world; and it is indeed almost incredible that such small, flimsy insects should mould and modify the destiny and population of whole continents. The fertile plains of Africa might have been the centre of the world's civilization; but, instead, the deadly swarms of mosquitoes, and the malaria carried by them, have shut Africa off from progress more effectively than the greatest natural barriers could have done. It is due to them that Africa has remained the "dark continent" and many of her tribes advanced no further than our ancestors of the stone age. Ross says: "for centuries the successive waves of civilization which have fertilized Europe and America have broken themselves in vain upon its deadly shores."

From the earliest historical times we find mosquitoes to have been of astonishing importance. Those who saw the seige of Babylon pictured in "Intolerance" can visualize for themselves the retirement of the army of Sapor, King of Persia, who was obliged to raise the seize of the city of Nisibia because of a "plague of gnats" that attacked his transport animals and caused his army to retreat.

Greece only degenerated after malaria had sapped her strength; and it appears that Alexander the Great, lamenting that there were no more worlds to conquer, was himself conquered by the bite of a mosquito. Probably from the same cause, Rafael met his early death, and the production of his masterpieces was untimely ended. The prevalence of malaria in Italy in early days is borne out by the fact that the great artist's

father also died from fever contracted among the marshes.

Coming to more modern times, it gives us a shock to find statistics from India show that in one year five million deaths occurred from fever, nearly all malarious and preventable by the extermination of anopheline mosquitoes. The casualties on the battlefields of Europe, which have appeared so appallingly high, are not nearly so great as the deaths normally occurring through the instrumentality of mosquitoes. It is interesting to note that thirty years ago, the life of a Forest officer in Burmah was estimated at seven years. Everyone knows that the cutting of the Panama Canal proved impossible until the relation between the mosquito "stegomyia calopsus" and the organism causing yellow fever had been established, and mosquito-study had enabled satisfactory control-measures to be carried out.

It is a far cry from the battles of Sapor, King of Persia, to the present war; but we find that the importance of mosquitoes in military tactics has again come to the fore. The quick termination of the campaign against the Germans in East Africa was claimed to be partly due to driving the greater part of the German forces into the valley of the Rufigi river, where malaria rendered the district untenable after the commencement of the October rains, and forced the surrender of the German troops.

Closer home, we find that Howard, head of the United States Department of Entomology, estimated the annual loss to the United States, through mosquitoes, at one hundred million dollars. We have no figures to show the amount of misery and loss caused by malaria in Ontario, but know that it levied a heavy toll during pioneer days. Even now occasional cases occur.

However, mosquitoes are becoming of less and less importance, as drainage removes their breeding places, and sanitary water-systems are installed in the towns; but in the Northern woods and more unsettled portions, mosquitoes are still to be reckoned among the foremost enemies of mankind. In some parts of New Ontario, settlement of the land is practically held up by them and human existence is almost impossible.

From what has been said above, it will be seen that mosquitoes are well worth studying. As soon as their true importance became known, an energetic army of workers of all nationalities turned their attention to the study of this subject, and few families of insects have been submitted to such searching investigation. How much work has been done will be understood when one finds that up to 1910 as many as 929 distinct species had been described from various parts of the world. Since that time, many more have been added. The State of New Jersey holds the record as the district which has had its mosquitoes more thoroughly studied than any other part of the world. Ontario, for some reason, stands at the other extreme, and the study of mosquitoes here remains practically an open field for whoever may become **bitten** by that fascinating line of research. For some time the writer has been suffering from an acute attack of mosquitoitis, and finds that the deeper one penetrates into the realms of mosquito-land, the more alluring the vistas that open up before one.

The most extravagant fairy tales can hardly vie in interest and romance with the almost incredible stories that are unravelled in the life-histories of some of our rarer mosquitoes. Every species has its own peculiar disposition,

as clearly distinguishable to the seeing eye as the character each man bears stamped upon his face. No one would confuse the delicate little wood nymph Protomacleaya triseriata with the clumsy, lumbering Northern mosquito Culicida cinereaborealis, or the alert and businesslike Anopheles maculipennis with the hesitating and undecided Culex pipiens.

Doubtless my readers would criticize the statement that mosquitoes contain some of our most beautiful insects; but perhaps they would allow that there was some foundation for it were they to examine a certain species which is endowed with a vicious bite, beautiful colouring, and the picturesque name of Janthinosoma sayi. The writer took one specimen last year (probably the only specimen that has been taken in Canada, although it is well known in New Jersey.) The beauty of colour was apparent even to the unaided eye, but under the microscope was enhanced ten fold.

Most of the body is clothed with scales of a rich, royal purple, flashing glints of metallic reflections in the sunshine. The head is a deep honey-colour, and the sides of the thorax and under part of the abdomen are silvery-white. The front and midlegs are brown and the hind ones vivid purple with snow-white tips. In the centre of the legs, the scales are thick and stand erect, giving a fuzzy appearance. The wings have purple scales along the veins, which are in high relief. The clear spaces give back the most beautiful, iridescent, mother-of-pearl reflections I have seen in any Canadian insect and only in a few Indian butterflies.

Another interesting and peculiar mosquito is Dendromyia smithii, the little dweller in the pitcher plant. The common pitcher plant of our swamps has its leaves developed to hold water for the purpose of entrapping and drowning small insects. These provide the plants with the nitrogen in which swamp soils are deficient. Most insects which enter the deadly leaves quickly perish and are digested; but the little bronze-brown mosquito lays her eggs in what would appear to be a death-trap for her wriggler offspring. The pitcher-plant, so dangerous to other insects, provides an excellent home and a well-stocked larder for the larvae of smithii, which feed on the debris of decaying animal matter accumulated at the bottom of the leaf-cup. The larvae spend the winter in cold storage—also provided by the pitcher-plant—for they are often to be found frozen solid inside the purple-streaked leaves, from which condition they emerge unharmed in the spring to continue their life-history from the point where it had been temporarily suspended by the coming of winter, feeding voraciously and reaching the pupal stage in time to change into adults about May. Finally, the charm of this model mosquito is not marred by any man-eating propensities, for it is a non-bloodsucker and strictly vegetarian in the adult form.

There are at present under twenty known species of mosquitoes in Ontario. Among the commonest of these, around houses, are the two kinds of spotted-winged malaria mosquitoes. These, however, are rarely observed, because they only fly at night and are extremely wary in their movements. The mosquito which everyone recognizes as such is Culex pipiens, the common rainwater-barrel mosquito.

In the swamps, Culex sylvestris is mainly found, and may be recognized by the stripes on its legs. In the same situation may be found Tiniorhynchus perturbans, the worst-biting

mosquito in America. This species is still more striped than the last, even the proboscis being so marked. It also possesses a nasty, sullen temper and a craving for human society which is seldom reciprocated.

In shallow ponds, Culex territans is the chief inhabitant. This is a small black mosquito found in Ontario for the first time last year, the habits of which are not yet known.

In open woodlands, Culex canadensis —a mosquito with striped legs, the tips of which are white—is the most abundant species; but in some localities we also find Protomacleaya triseriata, a beautiful little black and silver species which breeds only in hollow trees.

If the foregoing remarks tempt some adventurous spirit to invade the haunts of the wily mosquito, he will probably soon be grateful for one of the following recipes for mosquito "dope." The simplest is oil of citronella and vaseline. I have found the following formula of Oliver Kemp's very useful:

Oil of pennyroyal, 1 oz.; sweet oil, 6 ozs.; ammonia, 1 oz.

Miss Mitchell, one of America's foremost mosquito experts, recommends the following:

Cedar oil, 1 oz.; oil of citronella, 2 ozs.; spirits of camphor, 2 ozs.

She claims that a few drops of this on a cloth, hung on a bed, will keep mosquitoes at a distance, and that the efficiency continues for a long time.

Honey Sources of Northern Ontario

J. B. MUNRO, '19.

NORTHERN Ontario has an area of 330,000 square miles, a considerable percentage of which is arable and very fertile, but, as yet comparatively few acres have been brought under cultivation. It remains unsettled and untilled mainly because people do not know its possibilities—its hidden treasures. It is "a land flowing with milk and honey" and requires only cows and bees to make use of the abundant materials that lie ungathered.

Beekeeping in New Ontario is still in the experimental stage, but it is time that it advanced. For twenty years a few dauntless apiarists have faced disappointment and loss in the struggle against climatic and other conditions, but they have proved that the production of honey of the highest quality is possible when the peculiar conditions of the North are understood, and bees handled accordingly.

Practically the whole of this great area is admirably suited to the keeping of bees. Plenty of sunshine and abundant nectar sources are two chief requisites for the profitable production of honey, and both are abundantly supplied there. On account of our northerly location daylight is unequally distributed over the seasons; the short days of winter having as little as seven hours light while the long June days are bright for seventeen hours. This unequal distribution of daylight is of great moment to the apiarist, seeing that it is most continuous during the honey harvest which is mainly from June to September. The second requisite, "nectar sources," is the subject of this article and will be dealt with at length.

Our northern districts are abundantly supplied with nectar-secreting flowers, and, what is more important, the suc-

cession of flowers is continuous from early spring till the September frosts occur, and even later. The earliest sources are the flowering trees and are important in that the flow stimulates the rearing of brood and general activities within the hive. The Black Alder (Alnus incana), Willows (Salix sp.) and White Poplars (Populus tremuloides) all bear catkins and bloom in early spring and continue till the main sources are available. Wild Currants (Ribes triste and floridum) and Wild Gooseberries (Ribes cynosbati) grow in shady, damp locations and are of considerable value in spring. Saskatoons (Amelanchier canadensis) Wild Cherries (Prunus pennsylvanica and virginiana) and Blueberries (Vaccinium canadense and pennsylvanicum) are abundant and occupy various soils. The Native Spirea (Spirea salicifolia) bears beautiful white plumes of flowers and is visited by the bees. Mint (Mentha canadensis) and Buglewort (Lycopus uniflorus) are two very promising herbs which grow on river flats and beaver-meadows.

The above are only a few of our native flowers and may not be more valuable than many which we do not mention, but they are abundant and conspicuous and are frequented by bees. These, however, are not our principal sources. We have five dependable flowers which are main sources and produce honey of various flavors and colours, but all high in quality. These five will be considered separately in order of earliness, not of importance.

Dandelions (Taraxicum officinale) are as common in Northern Ontario as in some other parts of Canada and begin to bloom about May 20th. This source lasts two or three weeks and from it the bees gather considerable surplus honey if the weather is favorable. The honey gathered is of a dark amber colour and is of good consistency. It has a distinct individual flavour, peculiar but pleasant, and is bought by some customers in preference to milder flavors.

The Wild Red Raspberry (Rubus stragosus) is most abundant on open, rocky hillsides, but it thrives and blooms in almost every kind of soil, fence corners and margins of swamps being a favorite habitat. During the first two weeks of June honey of excellent quality is gathered from this source. Raspberry honey is of a dull amber colour and has rich pleasant flavor. It has a tendency to granulate with a rather coarse grain but is easily liquified and retains its fine flavor. Nectar is secured from this source for a considerable time owing to the variety of soils the plants grow on. Bushes on exposed rocky land come into bloom first and are followed by those growing in swamps.

Several species of clover abound in the clay areas of Northern Ontario and constitute one of our principal honey sources. The Common Red, Dutch and Alsike clovers (Trifolium pratense, repens and hybridum) grow well on the untilled soil. Pioneer agriculturists found these plants flourishing in the precincts of old camps and trails when they entered the new land, and since, they have been cultivated extensively. The clover-seed industry is becoming one of the leading features in some of our Northern districts, and will have a wonderful influence on the production of honey. The Kenora District has already shown what is possible in production of clover seed and other districts are following the example. The one great difficulty in the way of seed production is the lack of bees to pollenize the blossoms. That there are not enough wild bees in these parts to do the work is shown

by the fact that much larger returns of seed are got from fields of clover near an apiary than from those a distance away. An article in the Xmas 1916, number of the Review, by L. H. Hanlan, gives a clear idea of what the future of the clover industry in the North may be and, therefore, what the future of the honey industry can be.

Kenora District Alsike Clover Field.

As a natural source of honey the White or Dutch clover is more important than Alsike, but it is not developed agriculturally to any extent. It comes into bloom earlier that the Alsike, some heads appearing as early as May 25th, in exceptional seasons. The Alsike clover, however, is being extensively cultivated and is therefore of greatest importance to the bees. The main clover flow begins about June 20th and is continuous until late in July. Words cannot describe the activities of the bees, within the hive and without, during these weeks. Each colony is simply a seething mass for the whole seventeen hours of daylight and throughout the night a contented hum is kept up in the hive. The flow from clover is the most continuous of our five main sources and the honey produced is clear, transparent and mild.

The Willow Herb (Epilobium angustifolium) presents a gorgeous appearance as it blooms on fire-swept tracts of land. Each plant bears a raceme of showy red flowers and continues in bloom for a long time on account of the indeterminate character of its inflorescence. The Willow Herb grows well on any fertile, open soil, but is at its best when growing on recently burned areas. For several years following a fire these annuals hold undisputed possession of the soil though they are by no means hard to exterminate. They are easily eradicated by cultural methods. The fact that Willow Herb follows in the wake of forest fires is significant. It means that in districts where fires are as occurrent as they are in our northern wilds, great quantities of honey would be gathered if bees were there to harvest it. For several years the fire-swept areas of Temiskaming will be secreting wealth that will remain ungathered and wasted. The honey from

this source is very dense and almost as clear as water. It granulates with a very fine grain and when solid is snowy white and quite smooth in texture. Its flavor is even milder than that of clover honey.

Numerous species of Golden Rod (Solidago sp.) grow on much of our untilled land. They all bloom rather late, continuing from early in August till late in October. The honey from this source is similar in colour to that gathered from dandelions, but is milder in flavor. This source is not always reliable on account of fall frosts, but in open seasons a considerable quantity is obtained. Other fall flowers bloom at the same time as the Golden Rod and are of importance, but the amount of honey gathered from them is small and is usually blended with honey obtained from Golden Rod.

All things considered, Northern Ontario has great possibilities for honey production,—the half is still unknown —but success comes only to those who give the bees their undivided attention in season.

Turnips

By G. E. DeLong, '18.

WHEN the word turnip is mentioned the farm boy thinks of the burning sun beating down on his aching back as he thins the long rows across the fields. The stock man thinks of his sleek cattle in the spring and the housewife thinks of how she can substitute them for the more expensive vegetables. Due to the record price of potatoes this past year the value of the turnip as a human food has been realized to a greater extent than ever before. The bad flavor they impart to dairy products has caused them to be looked on with disfavor by dairymen, but they are the mainstay of the beef industry and are grown quite extensively for feeding fattening, and young growing animals. While much can be said for and against turnips we all must admit they are a profitable and important crop, and that every mixed farmer should devote at least a small area to them.

Turnips require the least attention of any of the root crops and the fact that they should be sown about the first of June gives the farmer a chance to rid his soil of couch grass and other weeds. This makes them important as a cleaning crop and for this reason they are often sown on land that is not the most suitable for them and the yield is accordingly low. A strong rich loam gives best results. As for all root crops the soil cannot be in too good shape. The more cultivation it receives before the seed is sown the less it will need after and the larger will be the yield.

The hoed crop usually follows sod in the rotation and for turnips it should be plowed early in the fall, well worked and ribbed up for winter. Any barnyard manure applied should be put on before ribbing up. If it is applied in the spring it should be plowed under. The ground is left ribbed up until about three weeks before seeding. It is then worked with a spring tooth cultivator first lengthwise and then crosswise the ribs until it is in good condition. If raw land is used it should be plowed at least once and some prefer plowing twice in the spring, so it will be in as good physical

condition as possible before seeding. The turnips may be sown on the level or on ridges, with almost equal results, but the latter method makes harvesting and thinning easier, consequently this method of growing them is usually adopted.

Of the two classes of turnips, the swede and the fall turnip, the swede is more extensively grown and is more valuable. When selecting a variety to grow, the type must not be lost sight of, as the ease of harvesting and the amount of waste depend to a large extent on the type of the turnip. One with a short thin neck, smooth outline, a single tap root and few fibrous roots is the best. As in all classes of crops, there is great variation in the yield of the different varieties. The Garton's Model, Steele Briggs' Good Luck, Garton's Keepwell and Bruce's Giant King are a few of the best yielding, standard varieties. Good seed is as important as a good variety. Greater differences in yield have been obtained by using good plump seed compared with small seed than there is in the different varieties. It is therefore necessary not only to have a good variety but good seed of that variety if the largest yields are to be obtained.

The turnips should be sown in drills 26 to 30 inches apart, and when about 2 inches high thinned to 10 to 12 inches apart in the row. If they are kept well-scuffled very little hoeing is necessary. The turnip patch should have plenty of cultivation during the warm weather. This serves a double purpose,—it not only keeps down the weeds but forms a dust mulch which retains the moisture in the soil and causes a larger yield, as turnips require a large amount of water to produce a heavy crop. It is during the cool weather after harvest that the greatest root development takes place. Very little or no cultivation is needed during this period as by this time the tops are meeting across the rows and this prevents drying out by the sun.

The old method of pulling and topping by hand has been generally discarded. The method in common practice is to top with a hoe, throwing the tops of two rows together, next running a plow with a wide winged shear along and cutting the roots off and turning them out, then harrow them with the harrows upside down. This knocks the dirt off them and leaves them in good shape to be loaded into the wagon and hauled away.

To the man who has only a small garden, the past year should be a lesson in teaching him to put in a few turnips. It takes from two to three pounds of seed to sow an acre and as they are only slightly bothered by insect pests and diseases a crop of good eatable turnips is assured. While rape and mangels have supplanted turnips to some extent with the stockman, a good crop of turnips is profitable and always means good healthy stock.

Quality Chicken Meat

CRATE feeding on milk mashes will do more to put quality in chicken meat than any other practice. The small portion of the consuming public that have eaten crate, milk-fed poultry have no desire to purchase the range and yard fattened birds, as there is such a great difference in the quality of the meat of the birds handled under the two different systems.

Crate feeding on milk mashes is a simple process that may be practised on few or many birds. At the Experimental Station for Vancouver Island, slat crates to accommodate eighty birds were prepared and five birds of an average weight of three and one-half pounds were confined in each section. These birds were fed for a period of fourteen days and made an average gain of two pounds per bird. The meal mixture used was sixty per cent. wheat middlings and forty per cent. corn meal. To this meal mixture was added three ounces of salt for each 100 pounds used. The birds were starved for twenty-four hours and given a mild dose of Epsom salts before feeding commenced. They were fed sparingly the first day and the quantity of feed increased at each meal until they were on full feed at the end of the third day. The allotted quantity of meal for each feed was mixed with sour skim milk to the consistency of porridge. Three feeds were given each day at intervals of six hours. Grit was supplied once each week and chopped green Swiss chard was given daily at noon.

The quantity of the meal mixture and skim milk required for a pound of gain was but one pound, thirteen and a half ounces of meal and three pounds, four ounces of skim milk. Valuing the meal at three cents per pound and the skim milk at fifty cents per hundred pounds, the cost of each pound of gain was seven and a half cents.

Starting with three and a half pound thin birds and increasing them to five and a half pound high quality birds at a cost of fifteen cents each, the five and a half pounds of first quality chicken meat was sold for twenty-seven cents per pound, which was an advance of nine cents over the ruling price for the not specially fed birds. Thin three and a half pound birds were selling at eighteen cents per pound or sixty-three cents per bird. The added fattening weight brought them up to the five and a half pound weight and increased the quality and value of the original three and a half pounds so they were sold for one dollar and forty-eight cents per bird. In other words, a sixty-three cent chicken was, by the crate milk feeding method, at a cost of fifteen cents, converted into a first-quality chicken that sold readily at one dollar and forty-eight cents. Quality in table poultry will sell it. Quality in table poultry will lift the industry to the level attained by other competing food product. Cull poultry will always be just as hard to sell as cull apples. Try crate milk feeding a few birds for your own table, eat them and you will not want any other kind. Quality will count with you ever afterwards.

Raising Young Chicks at the O. A. C.

By F. B. Hutt.

PROBABLY the greatest problem that a poultryman has to deal with is the raising of the young chicks. For those that hatch less than a hundred in a season the safest and most profitable way is to set enough clucking hens to raise the required number but anyone who wishes to raise more than a hundred chicks would find it to their advantage to do so by artificial incubation and brooding. It is much more difficult to raise chicks in brooders than with hens and in no part of a poultryman's work will careful attention to details bring greater results than in the rearing of the young chicks. Three of the most important things to guard against are chilling, over-crowding and over-feeding. The system at present in use at the poultry department of the O.A.C. has been giving good results and is employed by several other leading poultry farms in the country. A good percentage of the first lot of chicks hatched at the O.A.C. after the first of March were raised to the age of four weeks when the danger point is past. So in the following paragraphs I shall try to give an exact account of how that flock were fed.

They were hatched on the eleventh of March. There were eleven hundred and eighty in the lot of which number seven hundred and twenty were accommodated in hovers heated by the candle system, and the remainder were put under three electric brooders. The candle brooding system at the O.A.C. consists of thirteen hovers in a row, all of which are heated by four pipes from a small hot-water furnace. One of these hovers was already occupied by some chickens hatched in January and sixty chicks were put under each of the remaining twelve. Each hover has a pen about three feet by eight feet in the brooder house and a somewhat larger run outside. The electric brooders are heated by coils of wire through which the current runs, and are so adjusted that they are automatically kept at the require temperature. Once they are connecte up they require practically no further attention as long as the power is on. In addition to having the brooders themselves heated, the whole building was kept at a temperature of from seventy to eighty-five degrees by an auxiliary hot-water furnace. The temperature required for young chicks is ninety degrees at the chick back level and when the bulb of the thermometer is higher than that level the temperature must be kept a correspondingly higher figure.

While the young chicks were still in the incubators the brooder house was prepared for their reception. The candle hovers were heated to the required temperature, the current was switched into the electric brooders and the drafts were opened on the auxiliary heater till the temperature of the building was up over seventy degrees. A litter of cut straw was put around each hover in the pens and a drinking fountain containing lukewarm water was placed close to each hover. Everything being ready, on the afternoon of the thirteenth of March, when they were almost two days old, the chicks were carried to their new home from the incubator cellar, in boxes well-lined with flannel and covered with burlap bags. For the first twenty-four hours, till they learned to run under the hovers, they were confined to a

small space so that they would not get too far away from the heat. For the first couple of nights it was necessary to see that all the youngsters were under the hovers but by the third day they had all learned where to go to sleep.

Till two o'clock the next afternoon, when they were not quite three days old, they were given nothing to eat except a little fine grit which was put on a board in front of them soon after they were moved down. Their chief feed till they were ten days old was a mixture made up as follows:

2 parts bread crumbs; 2 parts rolled oats; 1 part hard boiled eggs; ground charcoal; half a cup to a pailful of the mixture.

This was given them on a clean board six times a day at the rate of one ounce to sixty chicks. My instructions were to feed them as early as possible in the morning and as late as possible at night and to divide the remainder of the day into four more feeds, so after considerable figuring a schedule was drawn up and the chicks were fed at the following hours: 7.00, 9.15, 11.30, 1.30, 3.45 and 6.00. Grit was given every day along with the oat, egg and bread mixture at the first feed in the afternoon. On the third day of feeding or when the chicks were six days old, each pen of sixty, after every regular feed, were thrown about a teaspoonful of commercial chick feed in the litter to keep them scratching till the next feed and thereafter they were given this extra pinch of chick feed after every meal till they were three weeks old. This commercial chick feed consists chiefly of cracked corn, cracked wheat, millet and one or two other small seeds.

When the youngsters were ten days old a new feed was introduced into the bill of fare, this being a mash composed as follows:

100 lbs. bran; 100 lbs. feed flour; 100 lbs. corn meal; 100 lbs. fine beef scrap; 25 lbs. bone meal.

These ingredients were thoroughly mixed and before feeding the mash was moistened with sufficient buttermilk to make it crumbly—not sloppy. Each pen of sixty chicks was given almost all they could eat of this at 9.15 and 3.45 in place of the oat, egg and bread ration. At the same time chick feed was substituted for the other feed at 11.30 and at 6, each pen of sixty being given an ounce and a quarter of chick feed. When they were about two weeks old a small amount of sprouted oats was given to each pen right after the regular feed at 1.30. The quantity of green feed was increased as they learned to eat it. From the tenth day till they were three weeks old the schedule was as follows, the quantities quoted being the amounts given to sixty chicks:

7.00—Oat, egg and bread crumbs, 1 oz.
9.15—Mash, all they could eat.
11.30—Chick feed, 1¼ ozs.
1.30—Oat, egg and bread crumbs, 1 oz.; grit and green feed.
3.45—Mash, all they could eat.
6.00—Chick feed, 1¼ ozs.

After they were three weeks old, the oat, egg and bread mixture was discontinued and the chicks were fed five times a day instead of six. This necessitated some changes in the time-table so, from the end of the third week till they were moved out to the colony houses a week or more later, the meals were given as follows:

7.00—Chick feed.
10.00—Mash.
1.15—Green feed.
3.00—Mash and grit.
6.00—Chick feed.

This system of feeding has been used with all the chicks raised at the college

this year except that some of the later hatches have been given, in place of the oat, egg and bread mixture, an equal amount of a soft food specially prepared by an American firm for feeding to young chicks. This gave results equally as good as did the other mixture. It must not be supposed that the candle hovers and electric brooders are the only ones in use at the O.A.C. Other hatches of chicks were accommodated around brooder-stoves, which have a capacity of over five hundred chicks and thus eliminated much of the extra labour entailed when chicks are kept in small flocks.

Thirty Acres of Glass

By R. D. Allan, '19.

FOR those who have never had the opportunity to visit a large commercial greenhouse there is indeed something in store. There are many phases of greenhouse work which require careful attention as we observed at Dale's large establishment at Brampton. But in this short article I shall endeavour to guide you, as we were guided, from spectacle to spectacle.

After preliminary introductions and regulations the small party from Guelph were given the key to this city of flowers and allowed to enjoy the privileges as sight-seers.

Although the day was a bitterly cold one in March, yet in the elapse of a few minutes we were rather inclined to imagine ourselves somewhere in the tropics, for surely no such heat prevailed in this low temperature of an Ontario town. After wending our way through underground passages we suddenly burst in upon a solid mass of bloom. I believe our thoughts were in accord with Wordsworth who wrote of the Daffodils:

"Ten thousand saw I at a glance,
Tossing their heads in sprightly dance."

This large population representing many varieties of Orchids was indeed a sight to behold.

'I gazed—and gazed—but little thought
What wealth the show to me had brought."

These flowers were not growing in ordinary potting soil but they were planted in swamp moss. The method of obtaining their food was exceedingly interesting. They absorb the moisture from the atmosphere. The flowers were arranged in tiers and banked up on either side of two paths which extended the full length of the house. Hanging from each pot were long white aerial roots, some extending from the highest tier to the ground a height of ten feet. They are not provided with water in the ordinary way but only the foliage and aerial roots are sprayed. Simply as a matter of interest we ascertained the price of the most valuable plant in the house. The man who was in charge of the Orchids informed us that during the previous week four individuals plants were sold for fifty dollars each. These were exhibited at the New York Horticultural Show. There was one particular plant whose blooming season was completed, but we were assured that during the season eighty-three flowers had been produced.

It is a pleasure to observe that in such a large establishment they consider it advisable to spend time in originating new varieties and attempt-

ing to improve the stock by careful selection. An examination was made of a new hybrid which was the result of "crossing" and a more delicate flower I have never seen. The sepals were fringed and the flower was exceedingly delicate with its beautiful inter-mingling of shaded hues of creamy pink.

Owing to lack of time we found it necessary to spend no more time in these houses; so very reluctantly we passed on to wonders unknown.

Orchids at the Dale Greenhouses.

We have all observed roses growing either indoors or out; but possibly we have not seen a field of roses growing in houses three hundred feet long and about fifty feet wide. Roses are beautiful wherever they are found, but I believe their beauty is intensified when they are growing in the natural state as we found them at Dale's. American Beauty roses which command such a fabulous price in our large cities were growing there with stems three and four feet long. All the roses were trained on stakes and one would wonder where the available labour could be obtained in these times of scarcity. But the roses were excellently cared for, not only in training them, but also in preventing disease and reducing insect pests.

When the roses are cut, enough flowering stem is left to insure another crop of flowers which, under favorable conditions, will be produced six weeks after cutting. It was quite a task to determine the best individual variety, but there was one in particular called the "Russell" which was decidedly striking, and which would no doubt command a good market.

We were especially fortunate in watching the process of mixing the soil for one of the beds in a rose house. The care and accuracy with which the work was done was very interesting and it clearly signified that one of the principles of success was based on this apparently menial task of mixing soil.

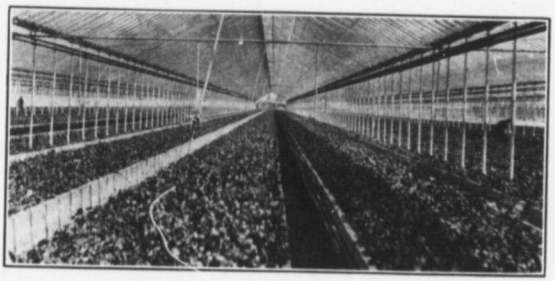
Carnations and sweet peas demanded

our attention next, and being personally interested in the culture of that delicate little flower, the sweet pea, I found much enjoyment in studying the various types which were being cultivated. Like the Orchids the sweet peas were being improved by scientific methods of plant breeding, both in selection and hybridization. The result was apparent because the size, height and delicacy could hardly be surpassed. In an enthusiastic amateur's garden such types would probably be found, but it is scarcely conceivable for the high attainment of these flowers in a commercial greenhouse of such magnitude.

Among the other flowers which were growing indoors were tulips of the beautiful flowering Darwinian type. Easter lilies were growing in individual pots in very great numbers, most of which were being held back from blooming until the season opened. The method which was adopted to keep them from blooming was to place them in a house with a low temperature.

Before completing our day of wonders we were privileged to gaze upon a scene soothing to the eye and wonderful in its reality, for there before us were no less than fifteen thousand violet plants. One would almost imagine oneself revelling in a field of violets in the spring, but the bare reality confronted us in an unwritten sign: "Do not pick!"

Now that we have had the extreme privilege of seeing these varied varieties growing we ended our beautiful scenic trip by examining the shipping department. In the basement there is a large room in which all the flowers freshly cut from the houses are placed. This room is kept very cool so that there is every opportunity for the flowers to keep fresh until they are ready for shipment. Quite an extensive staff is employed in the shipping department, and, needless to mention, it was kept busy. We were informed that the shipping list extends from Montreal, in the east, to Winnipeg, in the west, thus showing the extent of their trade.



Dale's Violet House.

Returned Soldiers and Land Settlement

Recommendations of the Ottawa Valley Agricultural Alumni Association

THE problem of finding suitable employment for the returned soldier is one of paramount importance, not only to the returned soldier himself, but to the nation at large.

In view of the fact that the recommendations of various organized scientific bodies have been of much practical value in solving problems arising out of the war, the Ottawa Valley Agricultural Alumni Association believes that the following statements and recommendations should be submitted to the authorities having this matter in charge. In presenting them, the method adopted is as follows:

Clauses 1, 2 and 3 prepare the ground for the subsequent recommendations of clauses 4 and 5 by briefly reviewing certain factors which require consideration in the planning of any specific and practicable scheme for settling returned soldiers on the land. Clause 5 contains in brief outline the recommendations of this Association.

1. Notwithstanding the many earnest desires that returned soldiers in general shall settle on the land and be employed in agricultural pursuits, it is not to be expected that a large proportion of those who have had experience of life in cities and towns, and particularly those who have had very little experience in agriculture will be inclined to make agriculture their permanent vocation. Many who have no knowledge of agriculture may be induced to accept the benefits of training and partly-prepared homesteads, and to commence operations with good intentions, but there is a probability under existing social and economic conditions that only a small percentage will remain on the land after the results of their own efforts cease to be supplemented in substantial amount from the funds of the State.

2. The theory that military training and discipline improve the ability of the average man for those kinds of employment in which the duties of the individual consist largely in carrying into effect with precision and despatch, instructions that are provided, such as are to be found in railway and other transportation organizations, and depreciate the ability for those vocations that are necessarily dependent on the personal initiative of the individual, such as agriculture, will likely prove to be applicable to many of our returned soldiers. A number will, of course, have their initiative developed by certain operations at the front.

3. There are now employed in towns and cities, particularly in munitions factories, large numbers of men who before the war were engaged in agriculture. A large proportion of those will, for social and economic reasons, be inclined to continue in industrial employment, and will find it less difficult to secure and retain positions in towns and cities than will many of the returned soldiers. It is believed that until the economic advantages that may accrue to the vocation of agriculture become such as to attract those who are well experienced in it away from industrial life in the cities, it can scarcely be expected that returned soldiers, with little or no experience in agriculture will settle and remain on the land.

4. This Association, therefore, advises that consideration be given to ways and means whereby the vocation of agriculture may provide social, educational and financial advantages equivalent or comparable to those enjoyed in towns and cities and, furthermore, recommends that returned soldiers who may elect to take up the vocation of farming, be given assistance in accordance with any one of the general equitable plans which they may select as follows:

PLAN (A)—LOANS FOR THE PURCHASE OF IMPROVED FARMS.

5. (a) This Association understands that there are between forty and fifty thousand Canadians on overseas military service whose former occupation was farming. It is believed that a large proportion of these will wish to return to their former homes and occupations. Subject, therefore, to proper regulations, such returned soldiers with experience in agriculture, should under this plan (a) be permitted to select and purchase available farms to their liking. Loans should be provided on first mortgage amounting to not more than $5,000 at 4 per cent. interest, $2,000 to be exempt from interest during the first three years. Many returned soldiers will doubtless have capital sufficient to provide for one-third of the total investment, which might be required under this plan.

PLAN (B)—PREPARED FARMS FOR GROUPS OF SETTLERS.

(b) Some, however, who have had experience in farming, particularly as farm labourers, may not be inclined to return to their former positions. These men, therefore, might be organized into groups of settlers and a farm prepared for each member of the respective groups, with improvements to the extent of $1,500 and stock and implements to the value of $500; the cost of such improvements and equipment only to be assumed by the returned soldier settler with payments spread over a number of years, without interest for the first three years, afterwards at 4 per cent. per annum. Such community settlers should be under the supervision of a counselor located at a central demonstration farm.

PLAN (C)—BONUS TO UNSKILLED LABOUR.

(c) In view of the shortage of farm labour and the great need for increased production, this Association is profoundly impressed with the necessity of encouraging unskilled labour to go to the land, and of providing means for agricultural training for such labour, in order that it may become of a permanent nature and lead to further settlement and cultivation. It is recommended, therefore, that under this plan (c) for those returned soldiers, inexperienced in agriculture, who may be disposed to train with bona fide approved farmers, there should be provided a scheme whereby, while they are actually engaged in farm work for wages, their earnings shall be supplemented to the extent of $9.00 per month for the first year; $7.00 per month for the second year; and $5.00 per month for the third year. At any time after the first year, and subject to proper supervision and approval, they shall, however, have the opportunity of transferring the balance of the benefits that would accrue to them under this plan, by the acceptance of either of the plans mentioned under (a) and (b), with the exemption benefits for the remainder of the period of three years.

It is considered expedient that, in

co-operation with municipal, provincial, and federal governing bodies, special bureaus for agricultural labour be established at central points and that data relating to farms available for purchase or tenure be collected for the information of returned soldiers, and that an advertising scheme, commensurate with the urgency of this problem, be at once inaugurated by the proper authorities to set forth clearly the advantages of the plans herein recommended or of other plans which may be considered suitable.

Legal Requirements for Fruit Packages to be Enforced

At the request of some fruit growers and shippers certain manufacturers have been induced to make fruit baskets which were not in accordance with the requirements of the Inspection and Sale Act, Part IX. This has created a condition which was unfair to the honest grower and shipper as well as to the consumer.

The sizes of the eleven and six quart baskets, the two most popular sizes used in eastern Canada, are specifically defined in inches. The eleven quart basket is required to be 5¾ inches deep perpendicularly, 18¾ inches in length and 8 inches in width at the top of the basket; the bottom shall measure 16¾ inches in length and 6 7-8 inches in width. The six quart basket is required to be 4½ inches deep perpendicularly, 17 3-8 inches in length and 7 inches in width at the top of the basket; the bottom shall measure 13½ inches in length and 5 7-8 inches in width. All measurements to be inside the veneer proper and not to include the top band.

The packages which have been found in violation were made so as to contain less fruit than the standard although having the appearance of holding an equal quantity.

The Fruit Branch at Ottawa has endeavoured to secure compliance with the law by pointing out the advantages and desirability of uniform packages, but unfortunately it has not been able to obtain the desired result.

Instructions have been issued to the staff of fruit inspectors to enforce the Act in this regard and to recommend prosecution in every case of violation. The penalty provided is a fine of 25c for each package so found.

It is therefore necessary for growers and shippers to exercise great care in purchasing their supply of fruit baskets to see that they are in accordance with the requirements of the law.

THE OAC REVIEW

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A. W. GUILD, '17, *Experimental*
H. NEFF, '17, *Horticulture*
R. J. ZAVITZ, '17, *Poultry*
H. J. SULLIVAN, '18, *Query*
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MARY BIRKETT, '17, *Macdonald*
MILDRED RUTTAN, '18, *Macdonald*

EDITORIAL:

THE SALVATION OF THE CROP.

The response to the call for increased production has indeed been noble. The campaign has been so well organized that every one thinks, speaks and reads of this topic. Whether or not the best results have been obtained is very questionable. Many acres of ground have been broken up and sown with seed only to result in failure, largely owing to the fact that these good-meaning people have the idea that soil is soil no matter where found, and the more important side of the question as the physical and chemical properties of the soil were entirely ignored. This has no doubt caused a considerable waste of seed, especially of beans and potatoes. No blame for this can be attached to those who met with failure in their efforts to increase the supply of foodstuffs. Proper supervision and education was not forthcoming, with the above result.

But now that crops are growing and being cared for, especially those of vegetables, an effort should be made to instruct the people in preserving these vegetables for winter use by proper methods of storing, canning and pickling.

Since most vegetables usually keep best if put into storage comparatively late, and since the best stored vegetables are those that mature at a late date now is the time to learn of proper methods of caring for the products and thus eliminate waste when harvest time comes.

COME BOYS,—GET BUSY.

Review up your form, fleshing and quality reasons for the placing of livestock; study your types and breeds of farm animals; search away back in your field husbandry notes for charts on judging grain; get down the Standard of Perfection and use it because

there are to be judging competitions at the Canadian National Exhibition in a few months time. Here is an opportunity for the college boys to not only do something for themselves but also uphold the honor and reputation of our college.

Competitions will be held under the supervision of the Agricultural Department of the Ontario Government, open to farmers or farmers' sons under 26 years of age. Contestants will be permitted to enter in one class of Live Stock (including poultry) and either fruit and vegetables, or grain and roots. Prizes will be awarded on a basis of 100 points: Placing, 50 points; Reasons, 50 points.

There are 16 prizes for live stock, 1st prize being $20, then each successive prize decreases by $1. For poultry, grain and roots, fruit and vegetables, there are also 16 prizes, 1st prize being $15, decreasing by $1 for each successive prize for 15 prizes, the last prize being 50c.

Class A—Heavy Horses.
Class B—Beef Cattle.
Class C—Dairy Cattle.
Class D.—Sheep.
Class E.—Swine.
Class F.—Poultry.
Class G.—Grain and Roots.
Class H.—Fruit and Vegetables.

The competition for these prizes will undoubtedly be keen as the district representatives will have the county men whipped into line, so get busy boys, as entries close on Tuesday, August 14th. Write J. O. Orr, Manager, 36-38 King Street East, Toronto, for entry forms and further particulars.

WHAT ABOUT THE FARM TRACTOR!

Some years ago this question occupied the minds of the western farmers, but to the farmer of Ontario the use of the farm tractor did not appeal. Conditions at the present time are so changed that its use on Ontario farms is being put to the test. Owing to experiments carried out in the Western provinces the farm tractor offered to the farmers of Ontario is a very much improved type to that on the market some years ago. The use of these tractors as sent out by the Government has been to serve perhaps more largely as a demonstration than to increase the acreage under crop this season. If these demonstrations of the work done have proven satisfactory to the farmer a big difficulty will be overcome in solving the problem of this season's fall ploughing.

"He met her in the meadow
As the sun was sinking low;
They strolled along together
In the twilight after-glow;
Patiently she waited
As he lowered all the bars;
Her soft eyes beamed upon him,
As radiant as the stars;
She neither smiled or thanked him,
Because she knew not how,
For he was but a farmer's boy,
And she a Guernsey Cow."

—United Briefs.

You men who have left your Alma Mater look first at this column when you receive your magazine, do you not? We try to get the news, but we get only a small part of it. Help us out. If you have taken a new position or have done anything that might be of remote interest to some other fellow, write and tell us about it. We promise not to make known the fact that you are advertising yourself. In fact, if you desire, we will go so far as to make it appear that it was actually by accident that we got the news. If news about yourself is scarce perhaps you know something of interest about some other O.A.C. man. Address your communications to: Alumni Editor, O.A.C. Review, Guelph, Ont., and watch the next issue.

The Honor Roll at the O.A.C. now contains the names of 470 students and ex-students. Of these 119 are commissioned officers. Forty-two are listed among the killed, died and missing.

KILLED IN ACTION.

At Vimy Ridge, where so many Canadians fell, Major Malcom A. Neilson '17 met his death. In 1915 he was wounded five times. In August of last year he presented himself before a medical board and was passed as fit for service. At Vimy he was wounded in the head and shoulder and was taken to the rear where his wounds were dressed. After a little he inquired how things were going and insisted on rejoining his men and leading them. While doing this he was shot through the heart.

Major Gordon D. Lee, '17, reported killed in action, was leading his company, which had made an advance of 1,000 yards, when he fell, on May 3. Major Gordon Lee had been in khaki since he was sixteen years of age. He joined the 77th Wentworth Regiment as a private six years ago. When the war broke out he took a course at Niagara camp, where he qualified for the rank of Captain in July, 1915, and was given a commission in the 84th Battalion. After a few months in England he was sent to France as Captain of a Toronto unit. He served with honour in the Somme fighting and sustained his first injury on November 2, being hit by gunshot in the leg. Upon his return to the front in January Capt. Lee was promoted to the command of his company. He was only twenty-two years of age.

Lieut. N. H. Pawley, B.S.A., '15, who was recently awarded the Military Cross is now listed among those who have given their lives for their country.

"Do you know him—if not, why not?"

Pte. C. T. Walker, '12, who was drafted to France early in February of this year was killed in the action of April 9.

REPORTED WOUNDED.

Word has been received that Lieut. G. V. Cooke, B.S.A., '13 has been officially reported seriously wounded in the face, chest and legs from gunshot received on May 10. He is said to be doing nicely.

Lieut. J. F. Henderson '18, son of Mrs. J. E. Henderson, 308 Crawford Street, Toronto, is reported wounded.

Pte. R. C. Copeland, '18 who left Canada with the 29th Battery C.F.A. is ill.

"Barney" Raymond '18 of the Royal Flying Corps is suffering from wounds and is in the Military Hospital at Boulogne.

ENLISTMENTS.

Since our last issue was published the following college men have joined the colors:

Geo. Callister, '11—64th Battery, Guelph.

H. J. Shaw, '18—Army Medical Corps, London.

C. W. Stanley, B.S.A., '14—64th Battery, Guelph.

Percy Vahey, '16—Army Service Corps, Toronto.

Ptes. O. McConkey, B.S.A. '17 and I. B. Martin, B.S.A. '17, who have been taking an officer's course at Kingston, have returned to the 64th Battery at Guelph.

Gunner H. S. French, 66th Battery, C. F. A., Witley Camp, Eng.

It is expected that the 64th Battery which has been stationed at Guelph will proceed overseas in the very near future. Seventeen students and ex-students from the college are found in its ranks.

Capt. J. E. Lattimer, B.S.A. '14, enlisted when District Representative at Port Arthur, and went overseas with the 4th Canadian Mounted Rifles. In May 1916 he was taken prisoner by the Germans and has been until recently in a German hospital. A short time ago a letter was received stating that he is now out of the hospital and is recovering nicely. His address is: Capt. J. E. Lattimer, Canadian Prisoner of War, Offiziergefangenenlager, Crefeld, Westphalia Germany.

W. R. Reek, B.S.A., '10, who was recently appointed Assistant Commissioner of Agriculture for Ontario has resigned. He is now Secretary of Agriculture for Prince Edward Island.

Justus Miller, B.S.A., '14, until lately editor of "The Canadian Countryman" has succeeded Mr. Reek as Assistant Commissioner of Agriculture.

Mr. Miller's position on "The Canadian Countryman," has been taken by H. S. Fry, B.S.A., '14, late lecturer in Horticulture at the Ontario Agricultural College.

Mr. Fry's position here at the college has not yet been filled.

College Life

RESULT OF FIRST YEAR EXAMINATIONS, ARRANGED IN ORDER OF PROFICIENCY.

YEAR STANDING—APRIL, 1917.
MAXIMUM, 2,500.

SUBJECTS:

1.—Eng. Literature.
2.—Eng. Composition.
3.—Arith., Elem. Drainage, Farm Accounts.
4.—Hydrostatics.
5.—Soil Physics.
6.—Mechanics.
7.—Manual Training.
8.—Chemistry.
9.—Geology.
10.—Botany.
11.—Zoology.
12.—Horticulture.
13.—Field Husbandry.
14.—Animal Husbandry.
15.—Dairying.
16.—Poultry.
17.—Apiculture.
18.—Vet. Anatomy.
19.—Vet. Materia Medica.

	Nos.
1.—Hopper	1,983
2.—Lindsay	1,954
3.—Thompson	1,903
4.—Murdoch	1,898
5.—Watson	1,883— 7
6.—Maynard	1,850
7.—Harris	1,818
8.—Currier	1,804
9.—Zavitz, C. H	1,794
10.—Frey	1,697
11.—Hall	1,646
12.—Brickley	1,620— 7
13.—King	1,610— 7
14.—Mead	1,609
15.—McKay, H. T	1,600— 7
16.—Johnson	1,583
17.—Jamieson	1,582

18.—Clarke.....1,579
19.—Smallfield.....1,577
20.—Pawley.....1,557
21.—Bouis.....1,549
22.—Marritt.....1,538
23.—Quirie.....1,533
24.—Pegg.....1,528
25.—Patchett.....1,496
26.—Leitch.....1,485
27.—Silcox.....1,480
28.—Broughton.....1,478
29.—Porter, A. M.....1,450— 7
30.—Arnold.....1,447
31.—West.....1,431
31.—Beatty.....1,431
33.—Carnochan.....1,426— 7
34.—Whillans.....1,412
35.—Fraser.....1,398
36.—Scott.....1,393
37.—Leavens.....1,385— 7
38.—Williamson.....1,347— 7
39.—McGuigan.....1,321
40—Nixon.....1,316—19
41.—Porter, H. F.....1,299— 7
42.—White.....1,273
43.—Spofford.....1,270— 7, 10
44.—McKay, J. W.....1,250— 8
45.—Brown.....1,245
46.—Misener.....1,233— 7
47.—Whiteside.....1,207— 2, 8
48.—Sheppard.....1,166
50.—Kernohan.....1,053— 8, 11

RESULTS OF SECOND YEAR EXAMINATIONS, ARRANGED IN ORDER OF PROFICIENCY.

YEAR STANDING—APRIL, 1917.

MAXIMUM, 3,200.

SUBJECTS:

1.—Eng. Literature.
2.—Eng. Composition.
3.—Public Speaking.
4.—Economics.
5.—Thesis.
6.—Surveying and Drainage.
7.—Agr. Engineering.
8.—Electricity.
9.—Farm Mechanics.
10.—Organic Chemistry.
11.—Soil Chemistry.
12.—Animal Chemistry.
13.—Bacteriology.
14.—Entomology.
15.—Horticulture.
16.—Botany (Xmas.)
17.—Economic Botany.
18.—Physiological Botany.
19.—Field Husbandry.
20.—Animal Husbandry.
21.—Feeding and Management.
22.—Principles of Breeding.
23.—Judging Live Stock.
24.—Horse Judging.
25.—Dairying.
26.—Poultry.
27.—Vet. Pathology.
28.—Vet. Obstetrics.
29.—Forestry & Farm Accts.

1.—Shales.....2,489
2.—Atkin, E. J.....2,463
3.—Grant.....2,418
4.—Campbell.....2,397
5.—Musgrave.....2,359
6.—Odell.....2,338
7.—Brink.....2,332
8.—Oliver.....2,299
9.—Gunn.....2,294
10.—Jackson.....2,225
11.—Kezar.....2,223
12.—Quail.....2,207
12.—Hunter.....2,207
14.—Gowland.....2,202
15.—Barber.....2,188
16.—Steckle.....2,187
17.—Munro.....2,165
18.—Clark.....2,144
19.—Kimball.....2,138
20.—Matheson.....2,113—29

21.—Peters.....2,103
22.—Goudie.....2,100
23.—Toole.....2,094
24.—MacKenzie.....2,078
25.—Stewart.....2,075
26.—Almey.....2,041
27.—Frost.....2,015
28.—Atkin, R.....1,994
28.—Delamore.....1,994
28.—Way.....1,994
31.—Rutter.....1,991
32.—Scouten.....1,990
33.—Aylesworth.....1,982
34.—Allan.....1,974
35.—Caldwell.....1,970
36.—Lamont.....1,960
37.—Ziegler.....1,954
38.—Mason.....1,931
39.—Jones.....1,905
40.—McLean.....1,892
41.—Wadsworth.....1,891
42.—Crews.....1,880
43.—Sibbick.....1,875
44.—Higgins.....1,874
45.—Stillwell.....1,861
46.—Tice.....1,854
47.—Minielly.....1,850—12
48.—Stover, E.....1,708—18
49.—Cook.....1,705

RESULTS OF THIRD YEAR EXAMINATIONS, ARRANGED IN ORDER OF PROFICIENCY.

YEAR STANDING—APRIL, 1917.
MAXIMUM, 2,300.
SUBJECTS:

1.—English Literature.
2.—Public Speaking and Journalism.
3.—Economics.
4.—French.
5.—Heat.
6.—Meteorology.
7.—Cold Storage.
8.—Inorganic Chemistry.
9.—Qualitative Chemistry.
10.—Quantitative Chemistry.
11.—Organic Chemistry.
12.—Geology.
13.—Cryptogamic Botany.
14.—Physiological Botany.
15.—Systematic Entomology.
16.—Economic Entomology.
17.—Bacteriology.

1.—Geddes.....1,860
2.—Wilson.....1,801
3.—James.....1,766
4.—Patterson.....1,757
5.—Arnold.....1,738
6.—Maxwell.....1,727
7.—O'Neill.....1,726
8.—Ferguson.....1,719
9.—Elder.....1,714
10.—Snyder.....1,703
11.—Sullivan.....1,698
12.—Hempsen.....1,696
13.—Robinson.....1,686
14.—McCulloch.....1,685
15.—Davis.....1,678
16.—Cooper.....1,633
17.—Heimpel.....1,617
18.—Timns.....1,606
19.—Newton.....1,537
20.—Gandier.....1,532
21.—Hamilton.....1,520
22.—DeLong.....1,500
22.—Parfitt.....1,500
24.—McBeath.....1,493
25.—Michael.....1,475
26.—Wallace.....1,333—10
27.—Scales.....1,259
28.—Munro.....1,255
29.—Mann.....1,188
30.—Hawley.....1,166
31.—Richards.....1,132—14
32.—Edgar.....1,055—10, 13

DEGREE IN AGRICULTURE.

The following candidates for the degree in Agriculture have successfully passed the examiner's requirements, and are recommended for the degree:

Aiton, R. R.	Fleming, R. R.	Merkley, F. K.	Neff, J. C.
Austin, W. J.	Gardiner, W. F.	Murdoch, F. G.	Redmond, A. A.
Clark, H. W.	Guild, A. W.	McConkey, O.	Schurman, D. C.
Davey, A.	Hearle, E.	McCready, S. B.	Skinner, A. G.
Elliott, D.	Lawson, E. V.	MacKenzie, A. W.	Slack, P. B.
Evans, O. C.	Marritt, W. G.	McKillican, L. W.	White, A. H.
Fancher, P. L.	Martin, I. B.	Neale, J. C.	Zavitz, R. W.

INITIATION.

The initiation for the New Short Course Class consisting of eleven girls, took place on the evening of Thursday, April twenty-sixth. The students of the Junior Associates and the Homemakers classes, dressed as ghosts were in charge. The freshies, having been previously notified of the character they were to represent, came suitably attired. Led by one of the ghosts who constantly admonished "silence" the class made the circuit of the shady corners of the basement where groaning or weirdly gesticulating spooks were met at every turn.

All classes then assembled in the gymnasium when each freshie was called upon to take part in the program. The Debutante very uniquely rendered "A Rose in Bud." The English Dude, who accompanied on the piano, won the hearts of all the girls.

Sis Hopkin's speech on her first impressions of Macdonald Hall showed deep study. Her main thought seemed to be that the best part of Mac Hall was the road leading out.

The Suffragette came prepared to uphold woman's rights and seemed quite capable of smashing windows and otherwise assisting the cause.

Miss Watson was well represented by a good likeness, carrying keys and wearing low heels, who ably conducted her class.

The Vogue Fashion Plate, in a little cerise creation, displayed the new dances most effectively.

The Ballet Dancer, in a charming costume, delighted the audience by her imitation of Mrs. Vernon Castle.

Charlie Chaplin was quite himself, hat, cane and walk all being very true to life. As usual he succeeded in having a good time with the girls.

The Old Darkey Mammy tried to sing her baby to sleep but the noise and the ghosts frightened sleep away.

The Old Maid, who was quite shocked at the whole performance, even after singing "I'm Tired of Living Alone," failed to capture either the Dude or Charlie Chaplin.

Back to the Front seemed to have difficulty in keeping to the straight path. She was inclined to wander all over the place displaying her beauty.

At the close of the program the Freshies were commanded to assemble before the initiating class and, with

heads bowed to the floor, pledge themselves as follows:

"We, the members of the Freshman class do solemnly swear faithful allegiance to Macdonald Hall. We promise to obey the rules and regulations and to respect the Students' Council."

After the serving of ice cream the gathering was brought to a close by the singing of Auld Lang Syne."

JUNE

June—How much the word expresses. It means all the joy of looking forward to home and a happy holiday, and also the sorrow of parting from all with whom we have worked and played and who have become very dear to us. Though many of us will wander back in the fall and be Juniors no longer, we shall miss our Graduating Class, who were ever ready to help us out of difficulties; and we wish them all success when they begin their new work as Dietitians and Housekeepers. In the years to come we shall recall with a smile many little episodes of our life at Mac Hall, and the friendships formed here will be a source of lifelong pleasure.

We wish to thank our House Superintendent, Director, and other members of the Faculty for the kindness they have shown us and the encouragement and aid they have given us. We also appreciate the work of our able House President and Students' Council who have helped to make life run smoothly at the Hall.

To everyone—success in exams and a happy holiday!

Senior Normal (conducting a class in gymnasium.)—We shall now take deep breathing exercises. Class, breathe in 1, 2, 3, 4, 5, 6. Breathe out 1, 2, 3, 4, 5, 6. Stop—breathing.

(To same class.)—Advance slowly backwards.

Zieg.—I hear that Kimball is becoming a female pugilist.

Almey.—How do you make that out?

Zieg.—Why, they say he's on a fruit-farm down at Vineland "boxing peaches."

Illsley.—Do you know fellows, it's going to cost me twice as much to come back from N. S. as it will to go there.

Scotty.—How are you coming back, double track or tracking double?

Munro (to Mr. Pettit as they were passing a vineyard near Niagara.)—"Oh, Mr. Pettit, what are all those crooked little trees?"

Mr. Pettit.—"Ask Professor Crow!"

Pat and Mike were discussing the war. "Well, now," says Pat, "I'll set you a question. Do you know what," says he, "there'll be no horticulture or agriculture if the German nation is beaten."

"Fhy is that?" says Mike.

"Arrah, begorrah," says Pat, "because there'll be no germin-a-tion."

WHY WORRY?—Another home problem is solved by a firm of cleaners in Grinnell, Iowa, which advertises: "Notice—ladies— why worry about your dirty kids when we clean them for fifteen cents?"—Chicago Tribune.

PROFESSING TOO MUCH.—"My dear lady, I go further than believing in woman suffrage; I maintain that man and woman are equal in every way."

"Oh, professor! Now you're bragging."—Life.

ALL SETTLED.—Nodd—"Are you sure your wife knows I'm going home to dinner with you?"

Todd.—"Knows! Well, rather! Why, my dear fellow, I argued with her about it this morning for nearly half an hour."—Life.

HIS SHARE.—Officer (to private)—"What are you doing down that shell-hole? Didn't you hear me say we were out against four to one?"

Geordie (a trade-unionist)—"Ay. Aa heard you; but aa've killed ma fower."—Punch.

BUYING TROUBLE.

"I'm afraid," said the junior member of the new law firm, "that we are causing our client unnecessary trouble."

"Oh, that's all right," rejoined the senior member; "we'll charge him for it."—Boston Transcript.

RAISE.

"I don't know what I'm going to do. My cook, won't stay unless I raise her wages."

"Can't you manage to raise part of them?"—Judge.

Increase Your Profits From Horses

STRENGTHEN THE ECONOMIC POSITION OF THE PROVINCE—BREED, THIS YEAR, EVERY *GOOD* MARE OF *PROPER TYPE* IN ONTARIO. IT WILL PAY YOU.

Despite the disappointments in 1913—and since—this is a fact. Those disappointments may be analyzed—there were definite reason for them. There are reasons just as definite now for success. It will pay you—and the nation—to breed every good mare this season.

Reasons For Past Disappointment

There are three of these all related. The period of unparalleled prosperity from 1901 to 1912 created an abnormal demand for horse flesh—and inflated prices.

The situation placed a premium on the scrub. Small misfits, the products of indiscriminate mating, brought from $300 to $400 a pair. Hence cheap sires—perhaps unsound—and equally inferior mares were too often used. It was a policy, wise perhaps for that time, but foolish for the future.

Then in 1913 the financial depression checked business development, construction work slowed down and the demand for horses fell away. Teams that in 1912 brought $700, sold for $350. And the scrub which abnormal prices had encouraged had little or no market. Buyers didn't consider him or the districts where he prevailed.

The Demand Strengthens Now

Our home demand increases—will continue to increase. We must maintain production; wider machinery and more horse power will do it. Ontario will employ still more horse power during the war—and after.

British Army buyers are again buying; a couple of French commissioners continue to purchase horses.

Westerners are now buying our good horses. During the first four months of this year 8,434 horses were shipped to the St. Boniface Union Stock Yards. At least 60 per cent. of these were right good young breeding mares—the West has faith in the future of the horse industry.

The Eastern States offer market possibilities. Before the McKinley Tariff of 25 per cent. checked Ontario exportations, the commercial market lying east of Buffalo was a valuable outlet for our surplus. That tariff is now reduced to 10 per cent.—and the United States horse population is depleted, 1,000,000 horses have gone to the war.

Allied countries will buy our horses after the war. Large numbers of good breeding mares of France and England have been sacrificed while the Belgian horse industry practically has been wiped out. We must not overlook the after-war European demand.

Australia is looking to us for pure-bred foundation stock. She will be in market after the war for good Clydesdale stock—and the distance between Canada and the Commonwealth is much shorter than that to Great Britain.

Our Supplies Are Low

Many farmers have sold their mares and a serious depletion and a sure scarcity are before us.

Buyers who are looking for the big, good ones, complain that it is almost impossible to pick up anything, even in those districts where once a carload for the dray could be secured. A

scarcity exists, also, of good, clean, sound agricultural horses, weighing from 1,400 to 1,600 pounds.

A surplus of horses exists, it is true, in many districts but they are not wanted by buyers—they are small misfits that have no profitable markets under any but abnormal conditions.

ONTARIO CAN MAKE GOOD.

Because the quality of stallions is steadily improving.

Because, despite the scrubs, Ontario has the reputation of being a Province which breeds the finest types of high class horses.

Because Ontario still has a great deal of high-class foundation stock, both imported and home-bred.

Because with this stock Ontario can supply exactly what the market demands.

THE DEFINITE MARKET DEMANDS

(1) The good draft horse, sound, of good conformation and of great weight.

(2) The clean, well set-up farm horse of from 1,400 to 1,500 pounds.

(3) The big, square, trotting roadster, of from 1,050 to 1,250 pounds.

(4) A limited number of good hunters and saddlers.

HOW TO SUPPLY DEMAND

Breed only for the drafter or utility horse—the former preferred.

Breed that type consistently which best agrees with the conditions of farm and community, the character of the soil and the necessities of the home work—but always have the market demand in view.

In heavy clay districts the drafter will be preferred; on lighter soil, more mixed with limestone, the utility horse will be chosen.

Community breeding always makes for keener interest, better horses, more ready sales and larger profits.

THE STALLION THAT PAYS

Use only that stallion which is pure-bred, a proved breeder, sound, of good breeding and marked individual excellence—the best, in short, in the district.

When in doubt of breeding ask for his enrollment certificate.

Beware of the grade stallion. His offspring may look well as yearlings—but as three-year-olds they usually fail. They haven't the blood and blood always tells—figs can't be gathered from thistles.

A saving of $5 in the service fee usually means a loss of $40 in the foal.

THE MARE AS IMPORTANT

Every good, sound, young draft mare should be bred this season. It will pay.

Not a single mare should be bred this season that is unsound, faulty in conformation, worn out or of nondescript type and breeding. It will not pay. The good influence of the high class sire will be minimized or obliterated when mated to such a mare.

Don't cross the breeds. If Clydesdale blood predominates in the mare breed her to a Clydesdale Stallion; if Percheron blood, use a Percheron stallion; if Shire blood, use a Shire Stallion or failing that a Clydesdale.

Crosses are uncertain and lead to disappointment. Return her consistently to stallions of the same breed—and stick to one breed. Increased profits will be the reward.

The 1,400 or 1,500 pound mare should be bred to a draft stallion in every case where draft blood predominates in her breeding, but to a stallion of a light breed where light blood predominates. The lighter mare should be bred to the light stallion—crosses bring disappointments.

The light mare should be bred to a stallion of the lighter breeds—never to the heavy draft stallion. Violent crosses bring disappointments.

Again—be consistent, stick to type, don't cross breeds recklessly; choose pure bred stallions always—the best in the district; never breed the scrub, unsound or worn-out mare under any consideration.

THIS IS NOT ENOUGH

It guarantees only the breeding of the foal. The latter may have every hereditary advantage and still be a failure. The environment—feeding, care, management—determines its development.

Horses of good inheritance are made or marred by the usage they receive until they reach maturity. Good feeding and management must follow careful mating to produce the outstanding profit—making horse.

Locals

MAINTENANCE RATIONS.

Doctor (making Sunday morning visit at Hospital.)—"Well, Mac how are you this morning? Have you had breakfast yet?"

MacK.—(Who is on 'light diet' and has just devoured all the edible contents of his tray.)—"Not yet Doc.,—I've just been taking communion though."

ANOTHER GUESS.

Fair Visitor, (pointing to 'weather shelters' near Physics building.)—"What kind of birds do they keep in those houses?"

Mr. P.—"No birds at all. They have thermometers in them."

Fair Visitor.—"I am sure they have birds in them too for I saw a man feeding them yesterday."

ANXIOUS—Crewe—"Good heavens, how it rains! I feel awfully anxious about my wife. She's gone out without an umbrella."

Drew—"Oh, she'll be all right. She'll take shelter in some shop."

Crewe—"Exactly. That's what makes me so anxious."—Tit-Bits.

TRY THIS.—Mrs. Crawford—"Haven't you ever discovered a way to get money out of your husband?"

Mrs. Crabshaw—"Oh, yes. All I have to do is to threaten to go home to mother and without a word he hands over the railway-fare."—The Lamb.

PEACEFUL MAN.—A man in Louisville, arrested on suspicion, was found to have three loaded pistols in his pockets, but the judge released him. Three revolvers are not suspicious in Louisville unless accompanied by a couple of daggers and a time-fuse bomb.—San Francisco Chronicle.

AN EXPERIENCE MEETING.—JOE Stein, of Sheboygan, divorced for wife-abandonment, is serving two years in jail for the same reason. Thomas Wagner, who married the former Mrs. Stein, has been sent to jail for non-support. Stein and Wagner occupy the same cell.—Fond du Lac Reporter.

Cholly—Do you think it would be foolish for me to marry a girl who was my intellectual inferior?

Dolly—More than foolish—impossible.—Cleveland Leader.

INCOMPREHENSIBLE.

"Maggie, how was it that I saw a young man talking with you in the kitchen last night?" asked the mistress of her cook.

The girl pondered for a few moments and then answered, "Faith, an' I can't make it out mesilf; you must have looked through the keyhole."—Harper's.

Mrs. X.—Bothered with time-wasting callers, are you? Why don't you try my plan?

Mrs. Y.—What is your plan?

Mrs. X.—Why, when the bell rings, I put on my hat and gloves before I press the button. If it proves to be someone I don't want to see I simply say, "So sorry, but I'm just going out."

Mrs. Y.—But suppose it's someone you want to see?

Mrs. X.—Oh, then I say, "So fortunate I've just come in."—Pittsburgh Dispatch.

She had only become engaged the previous evening and the glamour of love's young dream still enfolded her like a November fog. She was bashful, was Bertha, and blushed whenever Clarence's name was mentioned.

"D'ye know, Bertha," he said casually, 'I did want to come and peep through the parlor key-hole while you were there with that young man last night."

"But like a good boy you didn't, did you?" she asked, her face crimson with confusion.

"No; I was too late, was the youngster's sad reply. "Pa was there first."

A school-teacher in one of the counties of New York State recently received the following note from the mother of one of her pupils:

"Dear Mis, you writ me about whipping Sammy. I hereby give you permission to beet him up eny time it is necessary to learn him lessons. He is just like his father—you have to lern him with a clubb. Pound nolege into him. I want him to git it and don't pay no atenshion to what his father says. I'll handle him."

Once an old lady was being shown over Nelson's ship, the "Victory." As the party approached the spot where Nelson met his death, an attendant pointed to the brass plate fixed in the deck and said:

"That is where Nelson fell."

The old lady was impressed, but not in the right way.

"No wonder!" she said, "I nearly tripped over that thing myself."

A young teacher whose efforts to inculcate elementary anatomy had been unusually discouraging, at last asked in despair:

"Well, I wonder if any boy here can tell me what the spinal cord really is?"

She was met by a row of blank and irresponsive faces, till finally up piped one small voice, in great excitement:

"The spinal cord is what runs through you. Your head sits on one end, and you sit on the other end."

Tommy (in the trenches, observing the sky above him thick with aeroplanes): To think that I paid 'arf-a-crown at 'Endon to see two of 'em. Bust it!—"Tatler."

INDIRECT TAXATION.

Brinker—Yes, your wife's clothes have cost me a good bit of money.

Tinker—My wife's clothes! What do you mean.

Brinker—Why, every time your wife gets a new gown, my wife must have one just as expensive!—Judge.

IF THE GREAT WERE GRATEFUL.

Kings would give daily thanks that they do not have to earn their salaries.

And philosophers that the world does not yet see through them.

And editors that their predictions are so soon forgotten.

And statesmen that their constituencies are too busy.—Life.

Could Suit Her.—"Do you guarantee these colors fast?" asked the customer at the hosiery counter.

"Certainly not, madam," replied the new clerk, in the fullness of his knowledge. "Black is never considered a fast color, you know, but I can show you something pretty swift in stripes."

Still Conscious—The man of great financial prominence had met with an accident.

"We'll have to probe," said the doctor.

Just at that moment the man recovered consciousness, and exclaimed: "If it's a surgical operation, go ahead; but, if it's another investigation, give me an anaesthetic."

Puzzled—"I've got a letter from my son out West."

"What is Tom doing now?"

"That's what I can't make out. He says he is engaged in the destruction of weeds. Now, that may mean he's smoking a good many cigars or that he is trying to induce some widow to make a second venture, or may mean that he is doing farm work."—New Orleans Times-Picayune.

RAPPING SOMEBODY.

Citizen—"I see we have ordered a new aeroplane for our army."

U.S.A. Secretary of War—"Why, I thought we had one."

DODGING TROUBLE.

Spokesman—We have pleasure in informing you, Rev. Mr. Jones, that we have decided to increase your stipend from $700 to $800 a year.

Rev. Jones—I refuse to accept it. I've enough trouble already trying to collect the $700.—Judge.

"VERS LIBRE" AS IT IS LIBERATED.

How I wish,
Rita,
I were a microscopic organism,
Sitting
On your eyelash
And laughing at my brothers
Drowning in your
Tears!

—Record.

"Miss Norah, if it wasn't for Tirrence O'Brien that do be coortin' ye, I'd be after having somethin' to say to ye mesilf th' night."

"It's very considerate ye are, Mr. Mulligan, but did ye niver hear that prisint company is always accipted?"

TRUE PITY.

Hostess—Doesn't it seem a shame, Mr. Jones, that this poor little lamb should have to die for us?"

Mr. Jones—Ah, yes, indeed! It is rather tough.—Ideas.

"People should marry their opposites."

"Most people are convinced that they did."—Louisville Courier-Journal.

THE MADDING CROWD.

Newcomer (at resort)—Is this a restful place?"

Native—Well, it used to be until folks began comin' here for a rest.—Boston Transcript.

MAKES A DIFFERENCE.

"What do you charge for rooms?"

"Five dollars up."

"But I'm a student."

"Then it's $5 down."-Cornell Widow.

He Could Supply Specimens—"And what did my little darling do in school today?" a mother asked of her young son.

"We had nature study, and it was my turn to bring a specimen," said the boy.

"That was nice. What did you do?"

"I brought a cochroach in a bottle, and I told teacher we had lots more, and if she wanted I would bring one every day."

A new dish for the menu. Two bluejackets entered a restaurant the other day and asked for "Some Zeppelins in a cloud." "Some what?" said an astonished waitress. And the blue jacket pointed to a card on which was printed, "Sausages and mashed potatoes."

THE LIMIT OF JAYHAWKER PATIENCE.—Joshua Pringle, whose wife went away a year ago last October to stay till Saturday, and who has not yet returned, has sued for divorce. Joshua says a woman is always late in keeping an appointment, but if she doesn't show up in a year there's no use waiting for her.—Topeka Capital.

IN OLDEN DAYS.

An irate Neolithic man,
His anger to assuage,
Once stoned a peaceful mastodon—
('Twas in the stony age).

His simply-costumed lady-love,
Who dearly loved to pun,
Remarked, with sparkling, roguish eyes,
"What has the mastodon?"

—Chaparral.

CAUTIOUS MOURNER.—Walking through the village street one day, the widowed Lady Bountiful met old Farmer Stubbs on his way to market. Her greeting went unnoticed.

"Stubbs!" said she, indignantly, "You might at least raise your hat to me!"

"I beg your pardon, m'lady," was the reply, "but my poor wife ain't dead more'n two weeks, and I ain't started lookin' at the wimmen yet!"—New York American.

FRICTION.—An old guide at Yellowstone Park was minus the first finger of his right hand. An inquisitive tourist noticed this and became curious:

"How did you lose your finger, my good man?" she asked.

"Well," he replied slowly, "I've been a guide in this park for twenty-five years and I jist naturally wore that finger off, pointing out places of interest to the tourists."—The Lamb.

THE SIMPLE TRUTH.

Mabel—"I'm going to get married next month, Lizzie, if Jim can get a week off from his job. I think he'll be able to; yer see, it isn't as if 'e was asking for a vacation to have a good time."—Vanity Fair.

Employer (to applicant for post as office boy).—"And now, my lad, do you know what the motto of the firm is?"

Boy—"Yes; 'Push,' I saw it on the door as I came in."

Caught in the Trap.—He: "Didn't some idiot propose to you before you married me?"

She—"Certainly."

He.—"Then you ought to have married him."

She.—"I did."