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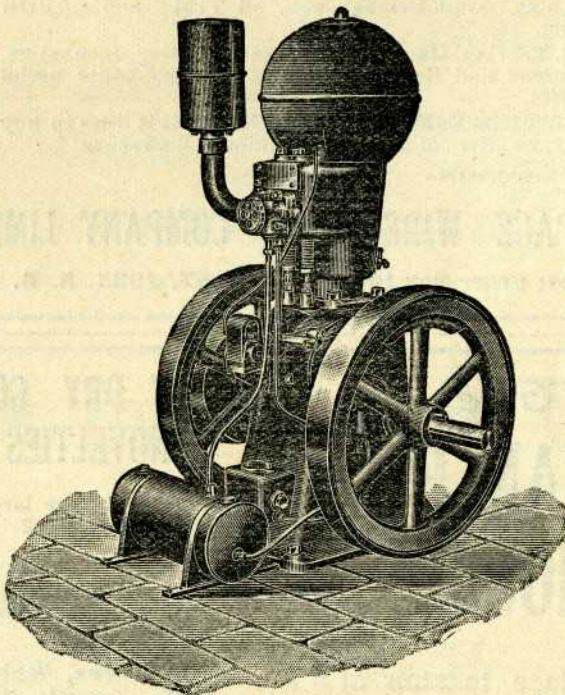
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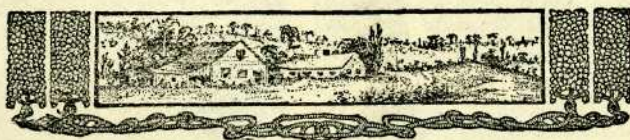
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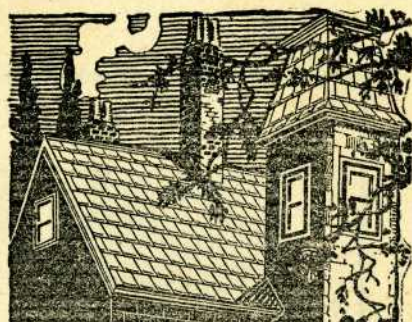


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The
Maritime Students Agriculturist

VOL. IX

TRURO, N. S., MARCH 1917

No. 3

Issued by the Students of the Nova Scotia Agricultural College.
Yearly Subscriptions 60 cents, payable in advance to Subscription Manager,
M. S. A., Box 100, Truro, N. S.

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EDITORIAL.

To the efforts that have been put forth for the development of agriculture in the Maritime Provinces during the last number of years, perhaps no branch of agriculture has responded quite so strongly as did the Dairy Industry. Recognizing the influence that dairying has brought to bear on the development of other lines of agriculture wherever dairying has been established, it is sincerely to be hoped that it will continue to improve in the years to come as it has done in the past.

In Nova Scotia the development has been chiefly along the lines of Cream Gathered Creameries. The value of the co-operatively manufactured dairy produce made in the year 1908 was \$46,000. In the year 1916 the amount had been increased to \$525,000. Besides the increase in the output a decided increase in the quality of the product was made. In Prince Edward Island more attention is being paid to cheese-making than in any other of the Maritime Provinces, and many factories are practically equipped to manufacture both cheese

and butter. Dairying having been started at an earlier period in Prince Edward Island and the territory having been fairly well covered, the attention of the dairy superintendents has been directed to getting factories better equipped and increasing the quality of the butter and cheese manufactured. This has, to a large degree, been accomplished through the introduction of cream grading, for especially where cream grading has been taken up a decided improvement resulted. In New Brunswick the development of the dairy industry has not been quite so marked as in Nova Scotia and Prince Edward Island. This may be, in part, attributed to the lack of interest manifested in live stock in many sections of the province. Another condition which effects dairying to a large degree is the fact that many farmers devote their attention to raising cash crops for immediate market. The latter condition is affected to a large extent by the fact that a great many farmers carry on some occupation other than farming as a side issue, such as fishing, lumbering, etc., besides their foundation occupation. The effect of this is to detract in a high degree from the interest which should be brought to agriculture. Notwithstanding this, a considerable increase in quality and quantity is recorded.

The advancement above noted has been the means of getting some cow testing work started and getting the Live Stock Branch of the Federal Department of Agriculture interested in Record Center work. The value of this movement can best be exemplified by quoting some of its effects. Some of the results obtained are as follows:

In one Record Centre 224 cows of which full records were kept gave an average of 5,760 lb. of milk and 250 lbs. of fat where the average production six years ago was less than one half of this. In another centre where almost an equal number of cows were kept, and where cows were put to a yearly test one herd of seven cows produced 10,216 lbs. of milk and 350 lbs. of fat, and in the centre there was a difference between the highest and lowest cow under test of \$197.17. Many more fully as striking results are recorded, all of which go to show what can be done when some system is followed in feeding and selecting live stock.

In view of furthering the development of dairying, it was decided that a Maritime Dairy School be formed, where special courses in butter and cheese making should be given. The best possible instructors obtainable were secured, and the first session which lasted during almost the entire month of March was a decided success. In addition to the instruction in dairying, practical lectures were given the dairymen on feeding; care of live stock; chemistry; and bacteriology, by the professors of the Agricultural College. Much interest was brought to the various subjects, and it is felt that a course of instruction such as this cannot fail to stimulate good results.





AGRICULTURE



THE DRAFT HORSE.

The raising of horses for the market has always been an important and remunerative branch of mixed farming. Of the total number of horses sold on the market the lighter breeds greatly exceed the heavier in Nova Scotia. Farmers have always been trying to get speedy stock, and as most of them were unable to keep both heavy and light horses they decided they would raiselight ones only. Times have changed, however, and they are beginning to see their mistake. Automobiles have taken the place of the carriage horse and roadster, and so it is becoming more difficult to dispose of them on the market.

As it became more difficult to sell the light horse, farmers began crossing their light breeds with the heavier, in order to produce the so-called "general purpose" horse. As a rule they were not successful. The general purpose horse is usually a misfit, and is classed under this heading because he will fit nowhere else.

We might say that the light horses have had their day. It is a common saying, which often proves true, that a man only gets "speed" once in a lifetime. This had discouraged the farmers, for they began to realize that it would scarcely pay for their trouble, and the number of poor ones which they sold at a sacrifice.

The draft horses are now coming into prominence, and there are great possibilities in store for them in Canada. At the present day the heavy draft is an absolute necessity on the farm where labor is scarce, and in the city there will always be a demand for truck horses.

The main requirements of a draft horse are weight and action. They have to be strong and heavy. The drafter does his work at the walk, and so must have a long, swinging, even stride so that he can steadily cover ground. He must have conformation that will enable him to grip the ground with his feet, and at the same time be easy on them. The conformation which gives

the desired characteristics, is the long, sloping pastern and sloping shoulder.

The most common breeds of draft horses are: Clydesdales, Percherons, Shire, Belgian and Suffolk. Any of these breeds are good, but the Clydesdale easily leads in Canada as a draft horse. The native home of the Clydesdale is in Scotland, where the country is hilly and stony. Under these conditions it takes a good horse to stand the strain. The Scotchman has bred this horse almost to perfection. Clydesdales as a class are sound and have the required action. The breeders in endeavoring to develop the sound horse with a good pastern, have somewhat neglected the superstructure. Many specimens lacking heart-girth and length of rib at the flank.

The Percheron is a close rival to the Clydesdale. They have better bodies, but as a rule have not such perfect limbs. Being a beautiful horse they attract the eye of the farmer. They have good action and are what may be called nervy horses. They are more short lived than the Clydesdale, seeming to wear out quicker. The other breeds of drafts, are not very common in Canada, and do not need mentioning. They are all good horses but do not seem to gain popularity.

In raising the draft colt, he requires a good ration and plenty of exercise. If they are fed heavily and confined to a box stall there is bound to be trouble. Therefore it is necessary to have the colt running in the open at least eight hours every day of the year. The colt should be fed more heavily the first year than the second, as he makes the most of his growth then; and as it takes less pounds of feed to produce a pound of gain, then at any other period of his life.

The draft horse may be broken to harness at about two and a half years, and in some cases younger. He requires little training as he knows his place and goes right to work. Of course the two year old cannot be expected to do the work of the mature horse, but at five years they can hold their own and are ready for the market.

C. M. '18.

THE SYSTEMS OF BREEDING.

The systems of breeding that are used in the improvement of live-stocks are grading, line-breeding and in-breeding, the value of any system depends on conditions under which it is used.

The breeder should first of all have a clear idea of what he is trying to do, and then an accurate knowledge of the various systems that can be employed to achieve the purpose. When the purpose of the breeder is known it is not hard to decide the system to follow. If the purpose is to improve the herd, that is, the home herd of the farmer, then use grading. If the farmer's stock is pure-bred and he wants to improve the breed the best system to follow would be line-breeding.

All forms of breeding are costly, whenever the purpose is to produce something better than ever before. But if the purpose is only to multiply excellence then it is comparatively cheap, as in the case of grading up a scrub herd.

Grading is the mating of an unimproved parent and one that is highly improved, that is, a "pure bred". The mating might be done either way, but the most economical way is to take the male for the pure-bred parent.

Diaspearence of unimproved blood by the continuous use of pure-bred sires.

Generations.	Sire	Dams	Offspring	
	Per cent. Purity	Per cent Purity	Per cent Purity	Per cent Unimproved
1	100	0	50 ($\frac{1}{2}$)	50 ($\frac{1}{2}$)
2	100	50	75 ($\frac{3}{4}$)	25 ($\frac{1}{4}$)
3	100	75	87.5 ($\frac{7}{8}$)	12.5 ($\frac{1}{8}$)
4	100	87.5	93.75 ($\frac{15}{16}$)	6.25 ($\frac{1}{16}$)
5	100	93.75	96.88 ($\frac{31}{32}$)	3.12* ($\frac{1}{32}$)
6	100	96.87	98.44 ($\frac{63}{64}$)	1.5* ($\frac{1}{64}$)

It will be seen by this table that the unimproved blood

soon becomes insignificant and rapidly disappears. In six generations the stock has changed from being scrubs to high-bred grades.

For milk productions in most cases the high-bred grades are just as good as pure-breds. This is the best way for the average stockman to build up his herd, if he has not much capital. If he buys a few pure-bred cows and a sire he will not likely get any better milk producers than if he bought good grades. And he will, as a rule, keep all the calves, whether they are good or not, because they are pure-breds. In this case there is no selection, and the herd fills up with both good and bad and the average remains low. On the other hand, if he is breeding grades he can afford to throw out a few of the poorer ones, thus improving his herd by selection. Grading is the safest beginning, even for the prospective breeder of pure-bred stock.

This should not discourage the ambitious farmer, who understands the systems of breeding and the laws of heredity and will go into the raising of pure-breds intelligently, systematically and persistently. The chief draw back in grading is that it is likely not to be followed up.

Davenport in his principles of Breeding, page 604, says "the breeder is almost certain to choose some promising half or three-quarter blood for a sire, because he "looks as good" as a pure-bred, and then by the law of ancestral heredity all improvement stops except the little that can be done by the slow process of selection."

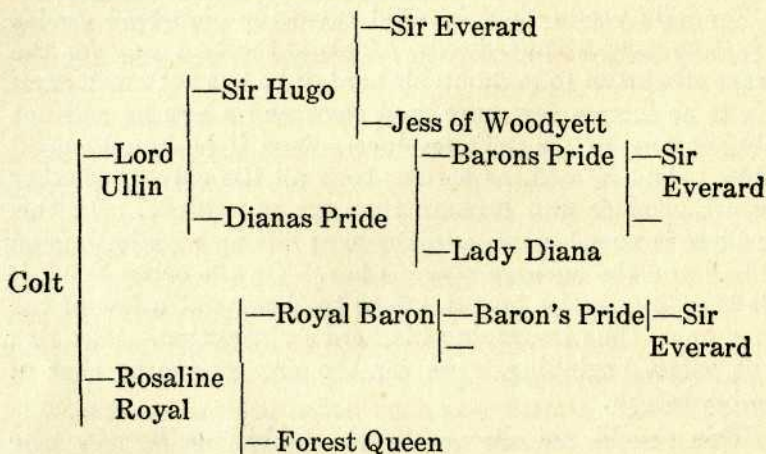
Line Breeding:

Line-breeding is, breeding along family lines, or in other words, it is getting one great animal in the pedigree as often as possible, without breeding sire to daughter, mother to son or brother to sister.

It is the highest type of scientific work in the breeding of animals, and is the best known method of improving cattle. It does not only combine animals very similar in their characters, but it narrows the pedigree to few and closely related

lines of descent. This "purifies" the pedigree rapidly and gives the ancestry the largest possible opportunity.

The following shows a line-bred colt.



In the pedigree of this colt we see that the name of Sir Everard appears twice on the sires side and once on the dams side. Baron's Pride, the most famous Clydesdale ever bred in Scotland, appears once on each side, and yet nowhere in the pedigree is there a case of in-breeding. The main point is that a large percentage of the blood of Baron's Pride is found in the colt. When Baron's Pride himself is not in the pedigree, a half brother, Sir Hugo comes in and thus some more of the same blood as that of Baron's Pride is used.

If this colt is a female and is to be used as a breeder, in order to carry on line-breeding she should be bred to another son or grandson of Baron's Pride not out of her sire or dam.

Line-breeding calls for the most discriminating care within the line, and it will not replace selection. The one disadvantage of line breeding is, that the stockman selects just by the pedigree and abandons real individual selection. If the breeder selects only by paper and not in the yards, and a few generations of inferior animals creep in, then line-breeding is going to destroy the whole plan quicker and more certainly than will any other known system, except in-breeding.

In-breeding

When line-breeding is carried to its limits it involves the breeding together of individuals closely related. When it involves the breeding together of sire and offspring, or dam and offspring, or of brother and sister, it becomes in-breeding.

There are three forms of in-breeding:

1st. Breeding the sire upon his daughter. This form of breeding is used when it is desired to secure all that is possible of the blood of the sire.

2nd. Breeding the dam to her own son or sons successively. This form is practised when it is the dam's blood that is to be preserved and condensed.

3rd. Breeding together of sister and brother,—a form of breeding which preserves the blood lines from both sire and dam in equal proportions.

In-breeding has its advantages and its disadvantages. If the animals that you are going to breed are perfectly vigorous, possess a high degree of fertility and have most of the characters that you want, then there is no harm in in-breeding. The offspring will have these characters intensified all the more in its make up. If persisted in, the outside blood disappears by the same law that governs grading, and the pedigree is speedily enriched to an almost unlimited extent by the blood of a single animal, in practise generally the sire. There is no other method of breeding equals this for intensifying blood lines and making the most of valuable strains.

But if the animals that you are going to in-breed have not good vigor, constitution, fertility and the characters you are looking for; then, these defects are going to be more intensified in the offspring, and you will get an animal that has little or no constitution and lacks in fertility, and if this is carried on to the second generation the offspring is liable to be worthless. Therefore great care should be taken in in-breeding; because very few animals are perfect.

Some people think that these bad results are caused by some organic injury from close breeding. But that is not so. It is owing to this fact that lack of vigor and fertility are common defects are intensified in the offspring. J. C. S. '17

FEEDING AND CARE OF DAIRY COW.

In the Maritime Provinces dairying is considered one of the most important, if not the most important branch of farming. To my mind this is rightly so, as the dairy cow is the one farm animal that suits our conditions and enables the farmer to build up his farm in the shortest possible time into a high state of fertility.

Of late years this industry has made some progress, not only in the line of production, but also in breeding. Possibly more of the progress is due to breeding, than feeding. You have only to go round among the farmers and inspect their herds during the months of April and May to prove this to your entire satisfaction. This is not the best practise, however, as no matter how well bred your cow may be, if you do not feed her you cannot expect any returns. The average cow in Nova Scotia to-day is so poorly wintered that when she goes on the grass in the spring, it takes her a good part of the summer to gain enough strength to do her work as a manufacturer of milk. Feeding alone is not all to blame for this condition, very often she is wintered in a filthy barn, with no light, no ventilation, except what comes through the cracks and a square hatch, by which means the manure is thrown out. Her care also must be considered, you cannot expect a cow to give milk if she is fed at all hours of the day and watered in the morning one day and not until the evening of the next day.

In order to make the dairy cow pay, first of all you must have suitable quarters to keep her in. The stable must be well ventilated, well lighted, kept clean and moderately warm.

Feed:

The table below will show what is required to maintain every 100 lbs (live weight) of a dairy cow, also what is required to produce one lb. of milk.

Feeding standard for dairy cows:—

	Digestible Protein lbs.	Total Digestible Nutrients lbs.
For maintenance for each 100 lbs. of live weight.....	0.07	0.7925
To the allowance for maintenance add:		
For each pound of 3.5% milk	0.061	0.319
" " " 4.0% "	0.065	0.350
" " " 4.5% "	0.069	0.379
" " " 5.0% "	0.073	0.405
" " " 5.5% "	0.077	0.431

If the cow weighs 1000 lbs. multiply the maintenance standard for 100 lbs. by 10. If the animal weighs 1200 lbs. multiply by 12 and so on.

By this standard a cow weighing 1000 lbs. would require 0.7 lbs. of protein and 7,925 lbs. of total nutrients for maintenance. If she were given 30 lbs. of 4% milk per day she would require in addition to the allowance for maintenance 1.95 (30 times .065) pounds of protein and 10.50 (30 times .350) pounds of total nutrients. Adding these to the requirement for maintenance we get a total requirement of 2.65 pounds of protein and 18.42 pounds of total nutrients for one day for a cow weighing 100 lbs. and giving 30 lbs. of milk daily.

The following ration would supply this amount of nutrient:—

Ration No. 1.	Digestible Protein lbs.	Total Digestible Nutrients lbs.
18 lbs. Mixed Hay.....	0.846	8.55
50 " Turnips.....	0.500	4.70
2 " Wheat Bran.....	0.250	1.22
2 " Wheat Middlings.....	0.268	1.39
1 " Crushed Oats.....	0.097	0.71
2 " Cotton Seed Meal.....	0.740	1.56
	2.70	18.13

This is only one of the many combinations that may be made up to give the same results. They may also be changed to suit the supply and price of the different feeds available. Of course this ration will have to be changed to suit the time of year. In the spring when the cow goes out on the grass, the hay and turnips may be cut out, and very often, if pasture is good, the mill feeds also. Coming on towards fall when grass begins to get short you should have a piece of O. P. V. ready to feed. This can be fed to the best advantage right off the field. During the month of October corn fodder may be fed with excellent results. If frost comes on before it is all fed, it may be cut and shocked up in the field. In this way it can be kept away on in December. If your local conditions are not suitable for growing corn, white feed turnips give excellent results. There is no trouble in getting as high as 30 tons per acre, and under good conditions, even forty. After your corn fodder and white turnips are gone, you should have a supply of sweet turnips for your succulent feed during the rest of the winter and spring. Or if you have a silo you should have it filled with corn, or O.P.V., or both. In this way you supply a succulent palatable food for your cow all the year around. This coupled with good clover or mixed hay and concentrates enough to make up a balanced ration should give excellent results if fed properly.

Care.

The dairy cow should be fed and milked twice a day at regular intervals. Water, if possible, should be kept in front of her all the time. If not, water her twice a day as in feeding. Surroundings should be made as agreeable as possible. She should be kept clean and dry and when on pasture should never be left out in cold wind or rain.

T. C. M. '17

ADVANTAGES OF SHEEP DIPPING.

An important factor in the success or failure of the sheep industry, and one which will well repay the time and money in-

vested is the dipping of the farm flock at shearing time and in the Fall.

Under the usual close housing conditions of the winter quarters parasites increase at an alarming rate and unless something is done to lessen their ravages it will be found that they will exact their toll, regardless of the detriment to the flock, or the loss to the farmer.

When dipping is carried on, (if at all) by the small flock owner, it is generally practiced twice a year, in the spring after shearing and again in the Fall before going into winter quarters. Dipping at this season is usually directed against the sheep tick. There is, however, a very small louse which attacks the sheep and when established, it becomes very troublesome, causing great irritation to the animal. They will quickly show their discomfort by rubbing themselves and biting out tufts of wool, and whenever they show these symptoms the wool should be opened and a close examination made for the small, white lice, which are not over one-sixteenth of an inch long.

If these are found the sheep should be dipped at once, but when a flock is regularly dipped, Spring and Fall, they rarely cause any trouble.

Most farmers appear to realize the necessity of dipping in the Spring, merely from the fact that the ticks are plainly visible when the fleece has been removed, but as they are hidden in the Fall, by the heavy coating of wool, he fools himself into the belief that he has, once and for all, destroyed the "free boarders" of his flock.

This is to be regretted as it is generally of more importance to dip in the Fall than in the Spring, because if the sheep go into winter quarters badly infected with ticks, they lose flesh and will come out in a poor, unthrifty condition the following Spring, while at the shearing season, if early, cold weather will often kill many unprotected ticks.

Supposing at this point that the farmer has decided in favor of dipping, let us consider the advantages or disadvantages of different classes of dips, and finally, the most successful means of application.

The following quotations are taken from "Damaged Wool and its Relations to Sheep Dips, from the Bradford Standpoint," a small booklet written by S. B. Hollings, the Bradford wool expert, who is, perhaps, one of the highest authorities on small matters, and who sets out in a brief and concise form the results of his wide investigations:

"The greatest curse of the wool trade is the presence of lime in the fleece, due to the pernicious effects of the lime and sulphur dips. Lime in the wool in any form makes the fibre brittle, stints its growth, saps its elasticity, causes difficulty in scouring, disqualifies it altogether for taking certain dyes and finally, weaves it into an altogether inferior article. It is not too much to say, that the use of this objectionable compound by the farmers of South Africa has not only lowered the price of South African wools but has inflicted a blow upon their reputation, from which it will take many years to recover." Reporting his investigations on the use of tobacco dips he states that, "tobacco-dipped wool is not infrequently stained and is highly unsatisfactory in dyeing bright or delicate shades, and it has also been reported that ewes will forsake their lamb owing to the strong odor after dipping."

"Carbolic dip caused such mischief that Scotch wools tottered and for a time were refused on the markets, while a high percentage of Russian wool has been ruined by their persistent use."

"Another evil, from the manufacturers point of view; is the fashion some farmers have for mixing their own dips, using for the purpose some strong alkali or caustic soda, which undermines and practically ruins the wool fibre."

Giving his opinion on the proper dip to use, he writes:—"It is a well known fact that Tasmania, New Zealand, Australia, with Ireland a close follower, produce the highest grade wools in the world and the ranchers of these countries, with few exceptions use prepared *Arsenical Dips*, manufactured by some reliable firm."

Several dips which have given good results at Ottawa are: Zenoleum, McDougall's Dip and Creoline, and one strongly recommended in the Nova Scotia Agricultural Report for 1917,

is a kerosene emulsion, prepared after the Riley-Hubbard formula:—

Kerosene Emulsion.

Kerosene.....	2 gals.
Rain Water.....	1 gal.
Soap.....	$\frac{1}{2}$ pound

Dissolve soap in the water by boiling, take from fire, and while hot, pour in kerosene and churn briskly for five minutes. Dilute before using with 9 parts of water.)

The above criticisms meet with the approval of Mr. Walter Leach, F. C. S., expert chemist to the Yorkshire Wool Comber's Ass'n Ltd., and the Sheep Dip Commissions of the Board of Agriculture, for Great Britain, which should be sufficient recommendation.

For a small flock an expensive dipping equipment is not necessary, and a trough or large tub with a draining pen in connection might prove satisfactory, but right here is where co-operation might be successfully carried on by the farmers of a progressive community. Suitable steel or concrete tanks might be erected at a nominal outlay, and with a fair sized draining pen would easily accommodate upwards of 500 sheep.

A minute and detailed description of such a tank and draining pen is given in Pamphlet No. 6, of the Live Stock Branch of the Dominion Department of Agriculture, Ottawa, which may be had for the asking.

This pamphlet may also be procured from the Agricultural College, Truro, N. S., on request.

B. F. T. '18.



HORTICULTURE



WINDOW BOXES FOR SUMMER.

For the city or town with its closely built streets, where no garden space is available, the importance of window boxes for floral decoration, during summer, cannot be too strongly impressed upon the public. Besides being a source of pleasure to the owners themselves they help to brighten up and relieve the dead monotony of the streets. And even in the country districts their use in the windows gives the dwelling house much more attractive appearance. None need be deterred from attempting window gardening of this kind on the ground of expense, for the very cheapest kind of box will serve the purpose, and as regards the supply of plants a few of the least expensive varieties, with which the boxes may be planted, may be easily raised from seed. Besides the attention to watering at the proper time the care of the boxes after planting will give little trouble.

Kind of Boxes. Permanent boxes of terra cotta or concrete of any ornamental design with supports of ornamental wrought iron brackets may be bought. But the cheap wooden box answers the purpose quite as well. It may be made of cedar or pine, and may be painted green or white. Instead of being painted, it may be covered with birch bark, which gives it a rustic appearance.

Size of Box. For outside sills, the minimum depth and width is 6 inches inside measurements in sizes up to 3 feet long, and 7 to 8 inches depth and width for boxes longer than 3 feet. If the window is of suitable size, the best depth is 8 inches and the best width 10 inches, which will give plenty of root space. The length should be that of the window sill. If, however, the latter is longer than 6 feet, it is better to use 2 boxes of 3 feet or 2 boxes of 4 feet or so, as one long box is rather unwieldy to handle. When the 2 boxes are fitted close together, they look like one long box. Instead of making the box rectangular, it may be so constructed that the front slants out. This will al-

low of more room for the front row of plants, and the box will then be 2 or 3 inches wider at the top than the bottom. If trellises are fixed at each end of the box 36 to 40 inches high—and painted white or green—climbing plants may be used.

Supports. All window boxes must be kept level. If the sill is level and wide enough, all that is required is to set the box on 2 or 3 one-inch strips (which allows for free passage of air underneath), or if the sill slopes to the street, as is generally the case, small wood wedges may be used instead, to keep the box level. To keep it in position and prevent it from being pushed off the window sill, fix screw eyes in the window frame and in the box, and fasten them together with copper wire passed through the eyes. But if the sill is narrow, it may be advisable to use brackets fixed to the sill and passing under the box instead of screw eyes and in this case the strips or wedges are placed underneath the brackets. *Or again* the box may be supported clear of the sill, on brackets fixed firmly to the window frame, with the top of the box above the level of the sill.

Drainage. A few small holes in the bottom of the box, with an inch of corks, or coarse cinders in addition, will be sufficient drainage. This will suit for a shaded situation, but where the box is to remain in an exposed sunny position, it will, as a rule, suffer more from drought than from over supply of water, and such precautions are hardly necessary.

Soil. In window boxes plants are so crowded that they are liable to quickly become root bound and impoverish the soil. Hence the soil must be made very rich—much more so than ordinary garden soil. This is essential to success. Do not use soil which packs hard like clay or contracts much when dry. It must be porous and spongy. The following mixture is recommended:—2 to 3 parts good garden soil or fibry loam from rotted pasture sod, 1 part of well rotted manure, and $\frac{1}{2}$ to 1 part of good sharp sand, with a generous quantity of bone meal—1 to 2 quarts to a bushel of soil. The bone meal will provide nourishment for the plants after the manures etc., are exhausted.

Filling the Box. After the drainage (if required) is provided for, the soil is filled into the box, and packed fairly firm; and a space of $\frac{1}{2}$ to 1 inch left at the top for holding water. When the soil has settled after planting, this space will have increased to about 2 inches—ample room to hold enough water to give the plants a thorough soaking.

Planting. The selection of the plants should be made and the method of grouping determined before starting with the planting. Various combinations may be made from the plants given in the list. The kinds of plants selected will, of course, depend on whether the position of the window is a shaded, or a sunny, exposed one. The arrangement should be tasteful and the whole effect well balanced. Where geraniums are used plant but one variety to a box, as this gives a better effect. It is better to have a double row of small, young plants than a single row of larger old ones, for the former produce more blooms and do not become so unsightly as the latter. The boxes may be planted the end of May or first of June, but should be covered up at night if frost is expected. The actual planting may be done with a garden trowel. With this the holes are dug large enough to hold the roots without cramping them, the plants set therein, and the soil finely packed around the roots.

Subsequent Care of Boxes. After planting, the boxes should receive a thorough watering, which will settle the soil around the roots.

During the summer watering must be carefully attended to, for if the boxes dry out to the point of wilting, they will take weeks to recover. A good soaking in the late afternoon or evening is best; for then the moisture is taken up by the plants rather than evaporated by the sun, which happens when watering is done in the morning.

After the plants have filled the soil with roots, and have begun to exhaust the soil, a top dressing of bone meal or rotted manure is beneficial and may be repeated at intervals. A weekly application of liquid manure may be substituted; or use the prepared plant foods now sold by seed men or florists—such mixtures being odorless. This may be unnecessary if bone meal

has been added to the soil at planting as already suggested.

On the approach of frosty weather the boxes may be taken inside the house. If this is done, thin out the foliage somewhat, shorten back the vines, and perhaps remove some of the plants which have become straggly and unsightly. A fresh coating of soil should be given to the box after removing an inch or so of the top soil. Greater care must be exercised in watering during the winter.

If it is not desired to keep the boxes inside, perennial plants should be lifted and potted up for next summer's use, and the annuals discarded.

J. R. D'13

LIST OF PLANTS.

A. **Plants for shady situations.**

Use the more delicate plants, and with graceful and handsome foliage.

1. **Climbers for sides of window or trellises.**

Parlor Ivy.

2. **Trailers for the front row.**

The green foliated varieties of the Wandering Jew and Trailing Myrtle; also Kenilworth Ivy; Creeping Jenny or Moneywort; and Ground Ivy.

3 **Erect growing plants for the back rows.**

Dracaenas, Boston Ferns of the variety Scottii, and the India Rubber Plant, the Leopard Plant and the Coleuses, are useful as foliage plants, use Fuschias, the bedding Begonias (Begonia Semperflorens) and the single and double Tuberous Begonias which can be got in various colours.

B. **For sunny exposed situations.**

Select the more vigorous growers and use blooming plants chiefly.

1. **Drooping plants or trailers for the front row.**

The dwarf Tropaeolums or Nasturtiums, Ivy leaved Geraniums, the variegated Trailing Myrtle, and the variegated varieties of the Wandering Jew, are all of

this class. Interspersed among these, but not so near the box front, we may plant the dwarf growing Lobelias, Golden Feather, Sweet Alyssum, and Verbenas; and also Iresine. The Myrtle, Wandering Jew, Golden Feather and Iresine are foliage plants.

2. Erect Growing plants for the back row.

Geraniums, of which the best varieties are S. A. Nutt, crimson; Alphonse Ricard, orange scarlet; Beaute Poitevine, salmon pink; and La Favorite, white; Petunias, Heliotropes, Marguerites and Ageratums. Other suitable annuals might be mentioned. The highly colored Dracaenas are useful foliage plants.

GRAFTING.

Grafting has three distinct uses:—1. To perpetuate variety which do not reproduce by seed; 2. To increase the ease and speed of multiplication; 3. To produce some change in the stock or scion, for example, grafting certain varieties of apples on to native seedlings to procure hardy trees and grafting pears upon quince stalks to produce dwarf pear trees.

Although it may be used upon any of our fruit trees grafting is most successful and most extensively used upon the apple.

Three methods are commonly employed, namely: budding, root grafting and cleft grafting.

Budding is the most difficult and is employed by nurserymen and experts rather than by amateurs.

Budding is done during the summer after the buds have developed in the axis of the leaves. A bud of the desired variety is selected from a shoot of the season's growth, and the leaf is removed all but a small part of its stem, which is left to serve as a handle. Using a sharp, thin-bladed knife the bud is cut out with a piece of bark about one inch long and a little wood just beneath the bud. A "T" shaped cut is made in the bark of the stock, which should be a vigorous tree of one or two years growth. The perpendicular cut should be one or one

and one-half inches long and the horizontal, about one-half inch. The corners of the bark are then turned back, the bud inserted and pressed downward. Strips of waxed cloth or waxed string are then wrapped about the graft above and below, but the bud itself must not be covered. As soon as the bud has become united with the stock, which will be in about three weeks, the bandage should be removed as it will constrict the tree if left too long and sometimes kills the bud. The following spring when the bud begins to show signs of growth, the old stock is cut back to about half an inch above the bud thus allowing all the nourishment to go to the shoot which springs from the bud.

The second method: root-grafting, is preferred to budding by many, because it requires less skill and it may be done during the winter. The scions are cut from desired varieties in the fall and stored in sawdust, or sand in a cool place. The roots are dug and stored in the same way. The grafting is done during February and March. A piece of root about three inches long and a scion with two buds make a satisfactory graft. The root should be that of a one or two year old tree and the scions from the past season's growth of wood. The end of the root and that of the scion are cut across diagonally and a vertical cleft made in each. The tongue of one is then forced into the cleft of the other, special care being taken to have the inner layers of bark meet exactly on one side of the stock. The graft is then wrapped with waxed string or better, with strips of waxed cloth about half an inch wide. The grafted roots are again packed in damp sawdust and kept in cool storage until it is time to set them out in the Spring. In root grafting it is not advisable to use the lateral roots as they tend to produce roots on one side only.

The third method of grafting is employed in top-grafting older trees, but it is more successful upon fairly small than on larger branches. Three quarters of an inch up to one and a quarter inches in diameter is a good size. The branch is sawed off squarely, with a fine toothed saw, and a cleft made in the end of it, one and one-half to two inches deep. Special knives are used for this purpose, those having a curved blade being

best, as they tend to draw the bark in when the cleft is being made and do not loosen the bark. The knife is also provided with a wedge at the end to hold the cleft open while the scions are being inserted. The scions, previously selected at some time during the dormant state of the buds, are cut wedge shaped at the bottom.. This should be done with two strokes of a sharp knife, rather than by a number of strokes. The scion should have three buds, the lower one just above the cleft when the scion is in place. Two scions are usually placed in a cleft, one at each side, as this gives a double chance of success and helps to heal the wound more quickly. Although if both grow one must be pruned out later. In inserting the scions it is important to have the inner bark or cambium of the scion meet that of the stalk, and it is well to have the inner side of the scion cut thinner than the outer, so as to bring greater pressure to bear on the outer side, thus holding it firmly in place. The wound is then completely covered with grafting wax.

This method of grafting is carried on in Spring when the cambium is soft and moist with sap, and a union between the stock and scion is quickly formed. One of the greatest difficulties of grafting at this season is to keep the wax soft enough to work.

The following are formulae recommended for grafting wax:

No. 1.	Resin.....	4 pounds
	Bees Wax.....	2 pounds
	Tallow.....	1 pound
No. 2.	Resin.....	5 pounds
	Bees Wax.....	1 pound
	Raw Linseed Oil.....	1 pint

Melt the ingredients together in a vessel, and stir until thoroughly mixed; then pour into cold water. When cool enough pull like taffy until it is of a light yellow color. It is then ready for use. The hands must be greased before starting to pull, otherwise the wax will stick to them.

Formula 2 makes the softer wax.

S. F. S. W. '18.

WHY NOT HAVE A FLOWER GARDEN?

As one drives through the country how few flower gardens are seen. Why is this? Is it because people who live in the country, where wild flowers are so abundant, do not appreciate cultivated flowers? We know this is not the case. What then is? Many women say they do not have time to do all the work connected with one and that their husbands think it a waste of time and money to do such work.

What farmer is so busy that he could not spare his man for half a day in the Spring to prepare a small piece of ground for a flower garden and to help with such work in it, that the rest of the family are not able to do? He will certainly be repaid many times by the abundance of bright and fragrant flowers so easily produced, if given a proper chance.

It may be in front of the house, where passers-by may be benefited by it also, or near the back door where it may be seen while working in the kitchen. The ground should be well fertilized as most flowers require richer soil than vegetables.

One important factor in having good flowers is to get seed of the most improved type. This may be illustrated by the Sweet Pea. Compare the thin stem with two or three small blossoms on it, grown from the mixture brought at the country store, with the thick stem with four large blossoms grown under exactly the same conditions but being grown from the Spencer type of seed.

The trench method is the best for planting sweet-peas. This should be dug a foot and a half deep and a foot wide and filled in with about ten inches in depth of stable manure. Place four inches of good soil on this, then sow two rows of seed three inches from either side. Cover with two more inches of soil leaving two inches to be filled in, when the plants are four inches high. To produce large blossoms, the plants should be thinned to a distance of four inches in the row. When the plants begin to climb, birch bushes should be placed between the two rows to provide support. Bushes are preferable to wire netting and soon become covered with the vines.

Among the best varieties are Countess Spencer, (pink); King Edward (red); King (white).

Beside the Sweet Pea, one of the most beautiful and easily grown flowers is the Aster. Like the Sweet Pea, great care should be taken to obtain the most improved type, such as Vicks.

Some may think that our season is not long enough to grow the best Asters. This might be true if the seed were sown in the open ground, although fairly good flowers may be obtained then, but what farm is there which could not easily have a hot bed in which the seed might be sown by the middle of April. If they are started then, they will be in blossom by the second week of August. When the plants have six or eight leaves, which will be the case about the time the weather is warm enough for young plants to be set out, they should be set out in rows, fifteen inches each way.

The best varieties for early flowers are Vicks' Rochester, which may be had in all colors. The flowers are very large and curly, measuring four to six inches, if the soil is rich enough. One great trouble in growing Asters is a disease which breaks out just before the buds form. The ends of the branches turn a sickly yellow color and no flowers are produced. The cause and remedy are not yet known by plant pathologists.

Seeds which give good results when grown in the ground where they are to remain, after being thinned are: Phlox Drummondii, Cosmos, Shirley Poppies, and Ten Weeks Stocks.

S. I. CHASE, '18.

SOME FIRST CLASS VARIETIES OF GARDEN VEGETABLES.

The following notes should be read in conjunction with the article on "The Vegetable Garden", which appeared in the first issue of this magazine, and the list has been made up at the request of the writer of that Article.

BEANS, STRING OR SNAP, BUSH VARIETIES. (a) WAXPODDED. (1) WARDWELL'S KIDNEY WAX. Ex-

tremely early—one of the earliest—8½ weeks Truro. It has straight flat pods 5 in. long. Valuable for early and late plantings for market. (2) BURPEE'S NEW KIDNEY WAX. Matures with No. 1., has broad flat pods 6 to 7 in. long. Very productive. (3) REFUGEE WAX. One week later in maturing than Nos. 1 and 2, and is a good succession to them if planted at the same time. Has round pods 5 in. long.

All these beans are of finest quality, brittle, fleshy and stringless. But No. 2 is probably the best.

(b) GREENPODDED. AMERICAN. (4) BURPEE'S STRINGLESS GREEN POD. Extremely early—the earliest round greenpod—matures with No. 1. Has straight round broad pods 5 in. long. Of first class quality and very prolific. Successional sowings will furnish a supply all season for home or market. (5) EXTRA EARLY RED VALENTINE. Same season as No. 4—very early. Has round pods 5 in. long. Not so fine a quality as previous, but good for canning and market—most popular market garden bean. For a succession to these (Nos. 4 & 5), if planted at same time, we have (6) EXTRA EARLY REFUGEE, which matures just after No. 4 and for a later picking, we have (7) REFUGEE or 1000 to 1, which matures 19 to 14 days after the preceding variety (No. 6). It has tapering, nearly round, pods, 5 in. long. Of good quality and very prolific. Good for canning when quite young.

POLE VARIETIES. These require longer to mature, but are more productive than the Bush Beans. (a) GREENPODDED. (1) WHITE CREASEBACK. The earliest pole bean and the best early pole for snaps. Pods deeply creased, 5 to 6 in. long. Fine quality. (2) KENTUCKY WONDER. About as early as the preceding. Pods deeply creased 7 to 9 in. long, of finest quality. (b) WAXPODDED. (3) GOLDEN BUTTER. One of the earliest. Pods 6 to 8 in. long. Fine quality. (4) GOLDEN CLUSTER. Early. Pods flats 7 to 8 in. long. Excellent quality. To these varieties we might add the POLE RUNNER Bean or SCARLET RUNNER, which is a good snap bean and also a green shell bean.

BEETS. (a) EGYPTIAN. (1) CROSBY'S EGYPTIAN, or selected strains thereof. Extra early. One of the best qual-

ity earlies. Size 2 in. diameter in 8 weeks—a good size for early bunching. Very popular with market gardeners for early, and main crops, and for winter use. Flesh dark red. Sow during first two weeks of July for winter use. (b) GLOBE SHAPED (2) EARLY MODEL. Another favorite market beet for first and second early crops. It is one of the finest first earlies. Flesh deepest blood red. (3) DARK STINSON. This is a fine beet for summer or main crop. Size $2\frac{1}{2}$ in. diameter. Flesh fine grained and dark red. It is free from woodiness even when mature. (c) SLIGHTLY OVAL OR TOPSHAPED. (4) DETROIT DARK RED. This variety is best suited for main crop and winter use. For the latter crop sow same as Crosby's Egyptian. It is a fine beet for home garden, and for canning, and a favorite for market. Flesh very deep crimson. (5) EDMAND'S BLOOD TURNIP. One of the best for main crop and winter use, as it is a good keeper. Flesh extra dark rich crimson. (d) LONG BEETS. (6) If a long beet is wanted, CARTER'S DAINTY is as good as any variety. It has long slender roots—12 in. long in 14 weeks—and is of very fine quality and of a deep crimson color.

CABBAGE, EARLY CROP, FIRST EARLIES. The following three varieties are largely grown by market gardeners for the early market and mature about the same time—at Truro about the end of July. EARLY JERSEY WAKEFIELD. This is a hardy cabbage with few outside leaves and conical or oblong hard solid heads averaging about 4 to 5 lbs. in weight. FORDHOOK MAINSTAY EARLY. The heads are round and solid and about 3 to 6 lbs. in weight; and remain in fine condition without splitting for a long time. It is excellent for family use. The plants may be set as close as 15 inches in the rows. COPENHAGEN MARKET. The finest large round early cabbage averaging 8 to 10 lbs. in weight. It is very solid and is good for the market, especially after the two previous varieties are sold off. SECOND EARLIES. EARLY WINNINGSTADT. This variety matures one week later than the First Earlies. It is about the same size as E. J. Wakefield and produces very hard solid heads—the hardest of any early cabbage. It is of fine quality and a good keeper—good

for family use. It is a bad shipper and not suited for market purposes. The next two varieties mature about 10 days later than the First Earlies. **EARLY ALLHEAD.** One of the best Second Earlies and the best early large cabbage. It is of the Drumhead type and produces very solid flat heads. It is good both for home garden and for market. **HENDERSON'S EARLY SUMMER.** This is one of the same type as the preceding. An ideal Second Early and popular for market. The large solid heads run from 8 to 10 lbs. in weight and are of excellent quality.

The First and Second Earlies should be sown about the 2nd week of March and planted in the field the beginning of May. The First Earlies mature about the end of July and the others in succession. **MAIN CROP.** The sowings for the Main Crop should be made about the middle of April. The above mentioned Second Earlies, **EARLY ALLHEAD** and **HENDERSON'S EARLY SUMMER**, are also excellent main crop varieties and will mature first. Other good market main crop varieties, which take about ten days longer to mature, than the preceding, are:—**ALL SEASONS (VANDERGAW).** A Drumhead cabbage with large solid heads—larger than early Summer—and of best quality. It stands well in hot weather and is not subject to bursting after heading. **HENDERSON'S SUCCESSION.** Another Drumhead variety. A large, handsome cabbage double the size of Early Summer and one of the finest. It is adapted to the less rich soils. **SUREHEAD.** Also a Drumhead cabbage. It is one of the best for the Main Crop—a good keeper and shipper and fine for market gardens.

CABBAGE FOR WINTER. The finest cabbage for winter use are the **DANISH BALLHEAD** varieties. They prefer a cool location and are not adapted to warm climates or sandy or limestone soils. They form extremely hard solid round heads and are most splendid keepers, but though of fine quality, are not equal to the best American varieties. **DANISH BALLHEAD.** Has round heads 8 to 10 in. in diameter. **DANISH ROUNDHEAD.** A shorter stemmed type of the preceding, producing heavier heads two weeks earlier. Sow about the 2nd and 3rd week in April for winter.

For other varieties for winter use, select some of the following (most of which have been already mentioned):—ALL SEASONS: SUREHEAD; HENDERSON'S SUCCESSION; which are sown about the 2nd week of May. EARLY ALL-HEAD: which is sown about the last week of May. AUTUMN KING or WORLD BEATER produces very large heads, somewhat flattened, and requires rather longer season than those just mentioned. It should be sown before ALL SEASONS.

CARROTS. For the EARLY CROP—for early carrots for bunching for market or home use—use the blunt pointed or stumprooted short varieties. (1) GOLDEN BALL. Almost globular and about $1\frac{1}{2}$ in. in dia. Of fine flavor. (2) EARLY SCARLET HORN. About 3 in. long by $1\frac{1}{2}$ in. dia. at neck and of sweet flavor. This variety is good on shallow soils. (3) GUERANDE or OXHEART. This carrot attains a size of 5 to 6 in. long by 4 in. dia. at neck narrowing to 2 in. dia. at its stump root. It is of finest quality for table, free from hard core, but should be used when not too large. If sown at the same time, these three will mature in the order named.

For a SUCCESSION, and also for MAIN CROP and WINTER CARROTS there are no more popular market garden varieties than the following:—(4) CHANTENAY. A half long stump rooted carrot 6 in. long by 3 in. at neck, smaller than Nos. 5 and 6. It is one of the best table varieties and has no hard core. Excellent for winter and more productive than No. 5. (5) HALF LONG SCARLET NANTES. A cylindrical carrot 6 in. long by $1\frac{1}{2}$ in. dia. at neck with a very small core devoid of woody fibre. Its quality equals that of Chantenay. (6) HALF LONG DANVERS. A stump rooted variety 6 to 8 in. long by $1\frac{1}{2}$ to 2 in. at the top. One of the best market varieties and excellent for main crop. It is very productive and adapted to all classes of soil. Of fine table quality.

Under most favorable soil conditions the last named three varieties may be sown as late as the middle of July for a crop for winter use.

IF LONG CARROTS are wanted, one of the following may be selected:—(7) LONG ORANGE. A long pointed variety 12 in. long by $2\frac{1}{2}$ in. dia. at neck. Of finest flavor and

texture, but subject to greening of the tops. (8) RED ELEPHANT. Also a long pointed variety, somewhat longer than No. 7, of excellent quality. The long varieties should be sown about the last of June or beginning of July for the winter crop.

CAULIFLOWER. For the EARLY CROP, EARLY SNOWBALL is one of the earliest varieties, maturing in about 18 weeks. It is dwarf and a reliable header; good both for home garden and market. The various strains of DWARF ERFURT are also very early, excellent and reliable headers. DANISH GIANT is a good dry weather variety, but later than the preceding by 10 to 14 days. For PICKLING CAULIFLOWER the same varieties may be used and sown later. For FALL CROP, EXTRA EARLY AUTUMN GIANT is a good variety; or EARLY SNOWBALL may be used and sown 3 to 4 weeks later than Autumn Giant.

CELERY. The EARLY VARIETIES of Celery are of the self blanching type—generally blanched with boards—and are marketed during August, September and October. The LATE VARIETIES are grown to blanch in storage for winter sales. Where they cannot be stored successfully, PARIS GOLD GOLDEN S.B. may be sown at a date late enough to allow of its growing to maturity without danger of injury from frosts previous to its being dug in the field for storage, and marketed in November and December. EARLY VARIETIES. The earliest is WHITE PLUME. It is of very good quality and most easily blanched. PARIS GOLDEN SELF BLANCHING is, however, the best early celery. It has a rich nutty flavor and is a good keeper. It is preferred by most market gardeners to White Plume. CHICAGO GIANT SELF BLANCHING is another early variety growing 6 in. taller than White Plume. If the LATE VARIETIES can be successfully stored, the following are recommended:—WINTER QUEEN is the most valuable. It is dwarf, but is thicker and heavier than any other celery and has twice the amount of heart. BOSTON MARKET, a dwarf variety and a splendid keeper, is however better flavored. GIANT PASCAL is one of the later large growing kinds, a splendid keeper and a standard variety for winter, and of excellent quality.

SWEET CORN. YELLOW KERNELLED VARIETIES. (1) **GOLDEN BANTAM.** An eight rowed very early variety, producing 2 to 3 ears per stalk. It is of finest quality and may be planted earlier than the true sweet corns. Good for the home garden. **WHITE KERNELLED VARIETIES.** (2) **PEEP O'DAY.** An eight rowed variety. Dwarf and extremely early—claimed by some growers to be the earliest. Of unsurpassed quality and very productive for an early variety. Ears 6 in. long. (3) **EXTRA EARLY CORY.** An eight rowed early variety and one of the best extra earlies. It is good for the home garden and very popular for market. Ears 6 in. long. (4) **EARLY FORDHOOK.** An eight rowed corn, and one of the largest eared extra earlies. Of superior flavor to the preceding. Ears 6 to 7 in. long.

CUCUMBERS. For **TABLE OR SLICING CUCUMBERS** the medium large White Spine varieties are first class. The following are a few of the best:—(1) **FORDHOOK FAMOUS**, 12 to 14 in. long. The most fleshy and finest flavored of this class, almost seedless,—an enormous cropper. (2) **DAVIS PERFECT.** Rather smaller than No. 1, but of very fine flavor and superb quality for slicing. Almost seedless. (3) **ARLINGTON WHITE SPINE**, 7 to 8 in. long. A few days later than No. 2 and not so attractive a cucumber. For **PICKLING CUCUMBERS** the smaller fruited varieties are specially adapted and most generally used, and for this use they are picked young. Yet they are also grown for the table in cool climates. They mostly belong to the Black Spine Group. **BOSTON PICKLING** is one of the very best market varieties. At maturity it is 4 to 5 in. long. But it is harvested at a smaller size for pickles. If picked regularly, the vines will continue in bearing all season. The **WEST INDIA GHERKIN**, which is not strictly speaking a cucumber, may be here included. It is 2 to 3 in. long, oval in form and prickly. Much used for small pickles.

LETTUCE. The varieties of this vegetable are classified into three main groups. (A) The **COS** varieties are of distinct upright growth and are esteemed for their fresh crispness and mild flavor during summer and in warm climates. Two of the

best are (1) PARIS WHITE COS, a large sized variety, and (2) EXPRESS or ECLIPSE, the most dwarf—only 6 to 7 in. high—and the earliest. (B) The CABBAGE varieties form distinct heads and are subdivided into BUTTERHEADS and CRISPHEADS. The BUTTERHEADS are more finely flavored. They are apt, however, to run to seed in hot weather and do better in cool climates or seasons. (1) DEACON, which stands hot weather best of its class, and (2) ALL SEASONS are 2 excellent varieties. (3) MAY KING is the earliest and a good shipper., It is good for early spring and fall and much used for forcing. The CRISPHEADS are of hard crisp texture and are a better class of lettuce for summer than the BUTTERHEADS. (1) BRITTLE ICE is the best of this class for hot summers and forms very large solid heads. It is not a good shipper, however. (2) HANSON and (3) ICEBERG are also excellent varieties. The third and last group comprises the LOOSEHEAD or CUTTING varieties. They do not form single folded heads, but a large rounded cluster of leaves, which are heavily crumpled or curled. (1) EARLY CURLED SIMPSON, the earliest and a dwarf compact lettuce, and (2) BLACK SEEDED SIMPSON, a later larger sized variety and the standard for home and market, are excellent varieties. (3) GRAND RAPIDS, another of this class, is exceptionally adapted for forcing, and is also one of the best outdoor lettuces for Spring and Fall.

ONIONS. AMERICAN ONIONS (to be raised from seed). The RED and YELLOW SOUTHPORT GLOBES are splendid varieties, 2½ to 3 in. in dia. They are long keepers and good for winter, but rather late in maturing. RED WEATHERSFIELD is a large flat onion, a splendid keeper and a standard winter variety. It is a heavy yielder, but rather late in maturing. For districts with short seasons it will be better to select from the following:—YELLOW GLOBE DANVERS. An earlier variety than Southport Yellow Globe, but hardly so round—about 2 in. dia. It is a good keeper and a standard winter variety. It has good shipping quality. EARLY YELLOW CRACKER. This is a flat variety and the earliest of the yellow onions, and good for short seasons. It is

not as good a keeper as the preceding. EARLY RED GLOBE DANVERS, an almost globe-shaped onion, and EXTRA EARLY FLAT RED, both mature two weeks earlier than Red Wethersfield, and are excellent varieties and good keepers. For those who desire a WHITE ONION, the following are recommended:—SOUTHPORT WHITE GLOBE, an excellent variety about 2 to 2½ in. dia. is late in maturing, and so not suited for all districts. It is not so good a keeper as the Red and Yellow Southport Globes. WHITE PORTUGAL is a flat medium sized early ripening onion, fine for Summer and early Fall. WHITE QUEEN is also a flat variety and the earliest ripening onion in cultivation. It is excellent for early use, and is about 1½ in. in dia. ONION SETS and POTATO ONIONS may also be planted and will furnish a supply of onions early in the season before the onions raised from seed are ready for use. For PICKLING ONIONS use the variety WHITE QUEEN before mentioned, or BARLETTA, which is also a white onion about 1¼ in. in dia., and sow the seed thickly in soil which is not so rich in plant food as that used for the ordinary crop.

PARSNIPS. The STUDENT and the HOLLOW CROWN are two of the best varieties, of which there are few in cultivation.

PEAS. These are many varieties and it is difficult to choose. Quite a few lists of fine varieties could easily be made up.

Of the EXTRA EARLIES, which are smooth round peas, and may be sown the earliest of all—just as soon as the land can be worked in spring—two of the best are CARTER'S EIGHT WEEKS and ALASKA or EARLIEST OF ALL. Both mature their entire crop practically at one picking. The latter is a good canning pea and of excellent flavor. They are ready for the table in about 9 weeks. For a second planting the FIRST EARLY WRINKLED varieties are used. They are not so hardy as the previous class and not so early planting, being from 3 to 7 days later. The soil must be partially dried out and well warmed up before sowing—otherwise the seed is liable to rot. LITTLE MARVEL is one of the finest of this

class. It is nearly as early as Alaska and just as early as American Wonder or Nott's Excelsior, and is more prolific than either of the latter. The pods are $2\frac{1}{2}$ in. long and contain 6 to 7 quite large peas. The crop matures all at once. EXTRA EARLY GRADUS matures at the same time as Little Marvel. The pods are 4 to $4\frac{1}{2}$ in. long and contain 8 to 10 large peas of the finest flavor, which keep tender for some time after they are ready to use. Three or four days later than Gradus and of finer flavor we have THOMAS LAXTON.

For a succession to the FIRST EARLY WRINKLED peas, either planted at the same time, or a week or ten days later, we have the SECOND EARLY WRINKLED varieties. DISCOVERY is one of the finest of this class. It is a dwarf sort. The pods are 5 to 6 in. long and contain 9 to 10 large peas of very rich flavor. It is extremely prolific. Of the taller growing peas of this class MARKET GARDENER is a fine variety. It is 5 feet high and good for the market garden. It is of fine quality and a more prolific yielder than either Alderman or Duke of Albany.

For a further succession, we have the MAIN CROP varieties, to be sown at the same time as the First and Second Early Wrinkled, or 7 to 10 days after the Second Early Wrinkled, as may be desired. In this class we have the following:—QUITE CONTENT, 5 feet high with pods 6 to 7 in. long containing 10 to 12 extra large peas of superb rich flavor. DUKE OF ALBANY, 3 feet high, with large pods containing extra large peas. This is a fine exhibition variety. TELEPHONE, $3\frac{1}{2}$ to 4 feet high, with very large pods containing 9 to 11 peas of delicious flavor. CHAMPION OF ENGLAND, 4 to 5 feet high producing peas of rich flavor. All these are very productive varieties.

RADISH, SPRING VARIETIES. The EARLIEST SCARLET BUTTON and NON PLUS ULTRA are globe shaped scarlet varieties and are ready to eat about in 18 to 21 days from sowing. EARLY SCARLET GLOBE, a variety of slightly oval shape and brilliant red color, and CRIMSON GIANT, oval to globular in form and deep crimson in color

are ready in 25 to 30 days. The latter is the largest of the early turnip radishes. EARLY FRENCH BREAKFAST OLIVE SHAPED and EARLY LONG SCARLET are also excellent varieties of a different shape. The latter reaches a length of 5 to 6 in. in 25 days. ICICLE is a long white variety—one of the earliest—and good for family use. SUMMER VARIETIES, CHARTIERS is about the best.

SWEDES OR RUTABAGAS. For winter use swedes are to be preferred to Turnips, as they have much better keeping qualities. Two very good varieties for table use during winter are HOLBORN INVICTA and CORNING. For winter use sow about the end of June.

SQUASH. The HUBBARD and the WARTET HUBBARD under various trade names are the standard winter varieties. They are green in color of skin, of first class quality and excellent keepers for winter use. Some of the strains attain a weight of 25 to 30 lbs. Another fine winter squash is the DELICIOUS, also a green skinned variety. It is one of the finest table squashes and a splendid winter keeper. It runs from 5 to 10 lbs. in weight. For fall use, DUNLAP'S EARLY MARROW and the BOSTON MARROW are the best. The former is productive and a good keeper and is the earliest fall variety, being 12 days ahead of Boston Marrow. BOSTON MARROW is the standard squash for canning and an excellent one for pies.

TURNIPS. These are used for an EARLY CROP, but also for FALL. They reach a size for table use—2 to 3 in. in dia.—in from 8 to 10 weeks from sowing. WHITE VARIETIES (1) EXTRA EARLY WHITE MILAN. This is a flat variety and the earliest of all turnips. It is of best table quality at a size of 2 in. dia. (2) WHITE EGG. An oval white turnip of fine table quality. It is not so early as No. 1, but is a good keeper. It is good for late sowing as well as for the early crop. YELLOW VARIETIES. (3) GOLDEN BALL or ORANGE JELLY. A round yellow turnip and a good keeper. It is best for table when about 3 in. in dia. It is good both for the early crop and for fall sowing.

TOMATOES. The following are excellent EARLY varieties:— (1) EARLIANA, or one of the selected strains of this variety. This is one of the best and most popular market varieties, as well as one of the largest and most productive. It is a large handsome solid red tomato and a good shipper. Some of the selected strains like ALACRITY, SPARK'S EARLIANA and SUNNYBROOK EARLIANA ripen somewhat earlier. (2) BONNY BEST is another very popular market garden variety. It is of medium size, smaller than Earliana, but nearly as early. The fruit is scarlet, globular, somewhat flattened at the stem end, very uniform in size and shape, and of very fine flavor. It is a good shipper and very productive. (3) JUNE PINK. This may be called a pink Earliana. It is of the same season as Spark's Earliana. The fruit is of medium size, uniform and smooth. It has good shipping qualities. It is valuable where a pink tomato is wanted.

If the SECOND EARLY is wanted, there is no better than CHALK'S EARLY JEWEL, which comes in 7 to 14 days after the preceding three varieties. It is larger and superior in flavor, but not so uniform in shape and size as Bonny Best. It is very popular with market gardeners and is a fine canning tomato.

J. R. D.'13

AN EXPERIMENT WITH CLUB ROOT.

In our last month's magazine under the heading of Agriculture is an Article "Club Root of turnips, and its control." As the writer stated it is a very serious plant disease not only for turnips but for all cruciferous plants.

The Horticultural Division of the College in 1916 carried on some very good work along this line on good sized plots with both turnips and cabbage.

A brief history of the land on which this work was carried on will give an idea how badly the land was infested. In the year 1915 it was planted to cabbage, and not a cabbage plant came to proper maturity on account of the clubroot. In the

early part of the fall, every scrap of vegetation was plowed down in order to infest the land as much as could possibly be done.

Method adopted: In late fall and following spring lime was applied and well worked into the soil. Carefully grown cabbage plants were planted at the regular time and well selected Corning turnips seed sown. These crops had careful cultivation during the growing season. The following plots were thus laid out, with amount of lime applied to each per acre.

Burnt Lime Plots.

Crushed Limestone Plots.

A. $4\frac{1}{2}$ tons, B. 9 tons. C 4 tons, D. 6 tons, E. 8 tons, F. 12 tons

These applications are probably somewhat heavy, but as the land was in a bad condition it was decided to give it a thorough trial. The following table gives the percentage free from club root.

Percentage free from Clubroot in	Plot A. Plot B. Plot C. Plot D. Plot E. Plot F.						Check Check No.1. No.2.	
	1. Cabbage....	44	80	15	51	33	72	39
2. Turnips.....	73	73	75	75	78	81	56	66

As will be seen by the above table the heavier applications of both slaked lime and crushed lime stone gave us less club root.

It is fairly evident from this one year's work that the applications of lime is one of our best methods for clubroot prevention. This experiment goes to verify Mr. P. Murphy's results; and as he says it is better to have lime applied at least 6 months ahead if possible, to get best results.

J. A.
Horticultural Supt.



COLLEGE LIFE



Life in college for the past six weeks has not varied from the usual routine to any appreciable extent. The most important social events being The "At Home" and the Senior Reception. The various activities are being kept up with a great degree of interest by the students, in spite of the fact that examinations are ever drawing nearer.

As we glance back over the college year now nearly over, it is safe to assert that the Debating Society, Y. M. C. A. and M. S. A. have had a very successful year. Athletics alone fell below the activity of former years. Whether to attribute this to the management or to the student body, it is not for us to state. With this one exception, College life has been almost a perfect one throughout the entire term. As the time of parting draws near we realize the band of friendship that has grown up between us as students. Each is now making use of every moment to enable him to place his name well above the Pass line, thus assuring him that the year was not spent in vain.

DEBATING SOCIETY NOTES.

The debates held throughout the term were well attended, and as a whole of a superior nature, being characterized by the number of students who took part. Each, almost without exception availed himself of the opportunity offered him. Another interesting feature was the number of students in the audience who expressed an opinion on the subject under discussion.

To the president we are indebted for the success of the debating society, both for his ability in procuring speakers and in urging each student to have his say. The students take this opportunity to thank President Morrison for his untiring efforts and the service which he has rendered them.

There is no subject on the college curriculum that will be so valuable to the student in after life as the ability to express his ideas properly before a public audience. Not until we leave

our dear old "Alma Mater" and have to make a public speech will the true value of the debating society be realized. The subjects debated during the year have been for the most part most interesting and instructive and have been treated in a masterly manner. The criticisms were always helpful and educative and resulted in a marked improvement in the debaters as time went on.

The subject debated, the teams and results are given below:—

Resolved:—That one who intends to farm should take a four year course rather than the two years course.

Affirmative	Negative.
J. Eaton	W. Walsh
R. Morse	J. C. Stewart
D. Dewar	M. Forsythe

Negative winners.

"Resolved, that the two weeks practical training in poultry is of no use to the students."

Affirmative:	Negative
R. Tinney	H. Bate
J. Coady	M. Anderson
A. Legere	J. Semple

Negative winners.

"Resolved, that devotion to fashion is a greater evil than the tobacco habit."

Affirmative:	Negative;
A. C. Belliveau	R. Profit
W. Ogilvie	L. Ogilvie
D. McIntosh	A. LeBlanc

Negative winners.

"Resolved, that the sailors endure greater hardships than the soldiers."

Affirmative.	Negative:
D. Dewar	A. McDaniels
J. Coady	A. J. Smith
D. McIntosh	J. Irwin

Affirmative winners.

"Resolved, that the works of art are more wonderful than the works of nature."

Affirmative:	Negative
J. C. Stewart	A. C. Belliveau
G. Archibald	T. Eaton
R. Wood	S. Morrison.
Negative winners.	

"Resolved, that fruit growing and mixed farming combined is more profitable than fruit farming alone in fruit growing districts."

Affirmative:	Negative:
T. Eaton	Miss S. Chase
O. Smith	R. Morse
J. C. Stewart	W. Donat
Affirmative winners.	

The students wish to express their thanks to the judges for their helpful criticisms and advice.

J. C. S. '17

THE ANNUAL "AT HOME."

Although every day is busy day at the N. S. A. C. and many events of a social nature take place during the college year, a chance visitor would have noticed an unusual amount of activity in the old college hall on the evening of February 16th. A question would have elicited the information that the Farmers were holding their annual "At Home", an event to which every student had been looking forward with the keenest interest.

The committee in charge had decorated the hall in the afternoon, with the result that the college colors, blue and gold, were displayed on all sides. Large flags and banners of the different colleges in the Maritime Provinces, decorated the walls. Bunting was draped around the upper portion of the wall, over the flags and pennants; and the electric lights, which were shaded with blue and gold, threw a soft glow of light on the entire

hall. Mr. Allan had brought several loads of flowers from the college hot house and the excellent way in which he had arranged them on the stage drew forth many words of praise.

The guests arrived about eight o'clock and after meeting the chaperons, Mrs. Trueman, Mrs. Sinclair, and Mrs. Gooderham, proceeded to fill their dance programmes.

The entertainment for the evening consisted of:

Opening Chorus.....	Students
Solo.....	H. L. Trueman
Reading.....	R. A. Profit
Solo.....	Miss Anna MacDonald
Violin Solo.....	Albert Trueman
French Quartette.....	French Students

A number of the students, arrayed in white, served refreshments, and much of the success of this part of the entertainment is due to the young ladies who so kindly assisted in cutting cake and ices and to Dr. Sinclair, who was untiring in his efforts to keep everything running properly. The genial Doctor is one of the most popular members of the college staff, and this instance only served as additional proof that he is always ready to be "one of the boys."

The dance which followed was, undoubtedly, one of the most enjoyable of the season and the "At Home" was voted by all to be one of the most successful that has ever been held at N.S.A.C.

The following committee are to be congratulated on the success of the entertainment. Messrs. Munn, Pineau, Sutherland, MacLeod, Welsh, Morrison, Miss MacAloney, Miss Chase, Parker, Hurst, Tinney.

W. R. T. '18.

THE Y. M. C. A.

Among the many pleasant memories that will crowd our minds in the future years at mention of old N. S. A. C., those meetings in the parlor of the Truro Y. M. C. A. will be among

the uppermost. It is difficult, indeed, to show our gratitude to those who have so hospitably thrown open their doors to us. It is certain that the interest shown in the meetings would never have reached the height it did, had we been forced to trudge over the ground to the top of Bible Hill for the fifth time in the day, only to meet in one of the class-rooms of which we were already tired. As it was, however, the class started with nearly the whole student body attending and the attendance has kept up remarkably.

When things had got well underway, Professor Trueman, told us that the Secretary in the Y. M. C. A. building was badly in need of some assistance, and he suggested that we leave it to him to draw up a schedule for the afternoons and evenings of the rest of the winter. This was to give each of us one or two afternoons or evenings at the building. Everybody agreed and the scheme was adopted. We hope that this small bit of service has been of some benefit to both ourselves and others.

The class meetings must have been enjoyed, else they would not have been so well attended, for it is difficult to get boys together from a sense of duty. What, then, made them enjoyable? The whole hearted and faithful work of the President and secretary, Messrs. Sutherland and MacLeod, laid a firm foundation for the teacher to build on. The teacher, as is sometimes the case, has not had to act as president and secretary as well as teacher, for those whose duty it has been have kept things going admirably. This is evidenced by the fact that during several weeks, while the leader was away, a crowd of boys gathered regularly on Thursday evening to have a frank discussion on some practical question of life. It was on these occasions that we learned to appreciate the ability of our president as a leader. But as long as we live, we shall never forget the unselfishness of our devoted and capable teacher. As we go through life, it will help us, to remember the heart to heart talks we so much enjoyed with this man, who understands and sympathizes with young men as if he were indeed one of themselves. For a man with as many and varied interests and cares as he has, to devote so much time and energy to a crowd of boys deserves real gratitude and unstinted praise.

We hope that the other Y. M. C. A. clubs have been as fortunate as we in obtaining efficient teachers, and we hope to meet some of their members at the approaching conference, in Truro.

May next years crowd have all good luck and be a precedent for Christian manhood to the students of future years. There is no way in which they can do this better than by entering heartily into the spirit of the Y. M. C. A.

S. H. M. '17.

THE JUNIOR'S DANCE.

On Saturday night, March 17, the Assembly Hall of the Nova Scotia Agriculture College, was the scene of a very successful social event in the form of a masquerade ball, the occasion being the junior's dance to the Senior Class of '17.

The "Junior's Dance" is an annual institute of the college, and the class of '18 showed their true college spirit by uniting in an endeavor to make it one of the best in the history of the school.

Dancing commenced about 8.30 p. m., and continued till 10.30 p. m., and with Mr. Mills presiding at the piano in his usual good style, proved a pleasant and delightful pastime.

The Hall was tastefully decorated in the college colors, blue and gold, and the lights were covered with blue crepe paper, which gave a beautiful moonlight effect.

While some provoked a good deal of laughter and merriment, the costumes in general were pleasing, while many, particularly those worn by the young ladies, proved charming and beautiful. Those worn by the gentlemen were of a character too varied to permit description.

The evening passed only too quickly and was voted by all as one of the most enjoyable dances held at the college this year.

A pleasing feature of the entertainment was the taking of a flashlight photograph by Mr. Carl Saunders of the Department of Agriculture, the guests assembled on and in front of the stage.

Much credit for the success of the evening is due the chaperons, Mrs. DeWolfe and Mrs. C. B. Gooderham, who had a cheery greeting and smiling welcome for all.

THE PASSING OF CLASS '17.

The college term is drawing to its close,
Soon we shall separate, and each one start
On his own way. Each fellow as he goes
Must feel a pang of sadness in his heart.

Here we made friendships which shall e'er abide
And as we part to each this thought must come,
"I wonder if this side the Great Divide
I once again shall meet my college chum."

Who knows but Fate may hold in store for each?
Which one she may treat better than the rest,
Or to what heights of greatness some may reach?
Each in his place can only do his best.

And so it is with feelings of regret
That we draw near the parting of the ways.
But this we know, that we shall ne'er forget
Old Truro and the good old college days.

R. M. WOOD, '17.

Belliveau, Allain, St. Joseph, N. B.

Odi prohanum vulgus et ameo.—Horace.

Nothing so rare as a Frenchman who does not brag about himself, Allain is one. If you wait for him to tell you his qualities you will never know them, but it requires only a short association with him to assure you that he is a whole man. His athletic merits cannot be disputed. When he cannot play base-ball, basket ball or hockey he will entertain you by talking about it.

When it is time for work, let the work be what it may, he will not do things in a hap hazard way. He wants to do everything well. He says he is going into live stock raising, and we feel sure he will achieve the desired goal. Allain has a host of admirers among the fair ones. The author heard one of his happy victims say: "I don't know what it is, but there is something that I like about that young man."

Belliveau, Antoine, St. Joseph, N. B.

Hoe caverat meno provida Reguli.

Every person who has had the privilege of knowing Antoine recognized that he knows a great many things and expresses himself without the slightest provocation by anyone. He says so much about the past and present, comparing them to the future that an event similar to what he had previously spoken of sometimes happens, then joyously he exclaims in his smooth mother tongue: "Je l'avais dit avant." Two days before the last election in N.B., he predicted a marvelous victory for the liberal party. On the night of the second day, hearing the results he exclaimed in contempt: "Je l'avais dit". It is predicted that Fate has an early marriage in store for him. This is among the easiest things to believe, for, on every occasion when Bacteriology, Zoology, etc., relaxed their claims upon his time, he was ever to be found among the eligible fair ones seeking whom he might allure. We cannot definitely ascertain whether his intentions are to enter agricultural work in a professional sphere or to take up a farm, but we feel sure that whatever sphere he embraces will result in a decided success for him. In a comparatively short time we expect to see him settled down, thus changing the last word of the old saying we will say: Hoe caverat mens provida Antonii.

Briggs, John, Wellington Sta., Halifax Co., N. S.

'es little but 'es wise,
'es a terror for 'is size.—*Kipling*.

Secretary of the Debating Society and a favorite with everyone, especially the Normalites. Jack is the bantam of the lass, but those who have seen him with the gloves on know that

When it is time for work, let the work be what it may, he will not do things in a hap hazard way. He wants to do everything well. He says he is going into live stock raising, and we feel sure he will achieve the desired goal. Allain has a host of admirers among the fair ones. The author heard one of his happy victims say: "I don't know what it is, but there is something that I like about that young man."

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he is a Game Bantam. He will undertake to fight any man who will put on the gloves with him, irrespective of size or weight, and before the first round is done you will see Jack running—after the other fellow. If he attacks obstacles that he may meet in business with the same pluck and vigor as he does his opponents in the ring it is safe to bet that Jack will come out on top or die in the attempt.

Collin Pierre, St. Hilaire, Madawaska Co., N. B.

"Glorie à ces hommes qui demeurent
Près de la charrue et des boeufs"—*Lamontagne.*

It is hard to tell what a child will do, but when it comes to a man of seventeen years of age, more or less, young of body but old of mind, as it is the case with Pierre, it is quite a different proposition. If, as all chances are, we can get the fruit that we expect from the twig, Pierre will be a farmer.

Pierre is a born farmer. His father and grandfather have tilled God's earth and he will certainly follow in their footsteps. His two years spent at the N. S. A. C. have but developed his glorious vocation. He has learned enough English to enable him to carry on transactions in two languages; he knows all the Chemistry that he will ever have occasion to use; he has mastered many of the principles of Physics; there is scarcely a bug in New Brunswick of which he ignores the genus and species; he is thoroughly armed against all noxious microbes and bacteria and knows how to use the beneficial ones to the best advantages; the huge botanical terms are no mysteries to him and he is an excellent judge of all classes of animals.

In short Pierre has all the qualities that make the prosperous farmer. He possesses the required science and good judgement. His athletical abilities are undisputable, thus he he is framed physically and mentally to lead the glorious life by the plow and oxen.

Goudge, Roland T., Sackville, Halifax, Co., N. S.

"A wise old owl sat on an oak
The more he heard the less he spoke,
The less he spoke the more he heard
Why are'nt we all more like this bird."

Roland T. Goudge follows the owl's example more closely

than any one we know of, for in the classroom, pavilion, or where ever you see him he is never talking but always wide awake listening. This is why, when called on in a debate he always has something to say that is worth hearing. He also is a good scholar, can do some remarkable stunts on the horizontal bar and with the punch-bag, and, we are told, attends Institute regularly. We feel sure that there is a bright future in store for him for the world honors the man who knows enough to keep still until the time comes to speak, and then has something worth saying and knows how to say it.

Daniel Everett MacLeod, Scotsburn, Pictou Co., N. S.

"I dare do all that doth become a man."—*Anon.*

Better known as Mac, Secretary of the Dance Committee and College Branch of the Y. M. C. A., Manager of the Basket Ball Team, and one of the most popular members of the class. We have been told that red hair is associated with a fiery temper, but if this is true, Mac is the exception that proves the rule, for, though his hair is unquestionably red, no one has known him to be wrathful during his two years at college. His nearest approach to it was when the Basket-ball team refused to turn out for practice but no one could blame him for that. Mac tells us that he would like to be a missionary doctor. We think that it would be safest for a sick savage to become converted before he let Mac attempt to doctor him.

Morrison, S. H., Wolfville, N. S.

"Know not that the world's a servant
To the man who's game and true
And who sets his jaw to say,
"Well, I'm going to anyway."—*S. W. Gillian.*

Who is that tall, lanky looking chap coming across the campus as the bell is ringing to summon the classes to work? Morrison chimes in everyone as he possesses the peculiar faculty for arriving on the nick of time, but still getting there.

In class he was considered as being of a very philosophical turn of mind, sometimes giving answers too deep to be under-

stood by lesser minds. Even the professors recognize him as the "Plato" of the graduating class.

As President of the Debating Society he showed special ability in persuading unwilling students to debate, for when he made up his mind to do anything he stuck to it until it was accomplished in spite of all obstacles.

When a junior his true worth was not known owing to a quiet and unobtrusive disposition. Not till he came back to take his senior year was his true worth realized, which increased as we knew him better.

Although a boy in years, he is a man in class, among the boys and in the manner which he shoulders responsibility, a good student and possessing a mind capable of carrying an unlimited store of knowledge. We predict a brilliant future for him.

Munn, T. C., North Sydney, C. B.

"I am a part of all that I have met."—*Tennyson*.

It is said that popularity gives a man a swelled head, but as there are exceptions to all rules, Tom Munn is the exception to this one. When a junior he won the Murray Stock Judging Cup, to our knowledge the first junior to carry off this much coveted prize in the annals of the N. S. A. C.

As president of the Student's Council he proved that he could judge men as well as live stock, for his diplomacy resulted in the general good fellowship which prevailed among the students throughout the year. We find him taking the place of a big brother among the boys taking endless trouble to make them feel at home. As is usually the case, quite a number of the boys came to college without being able to dance, who through the untiring efforts of Tom learned to trip the light fantastic, and to enter into all the social events with enjoyment.

He was always on hand taking a prominent part in all the college activities and social event, prepared to help through thick and thin, smoothing over the difficult places for which

no tangible reward can be given except whole-hearted gratitude, the most precious of rewards.

It may appear from these few rambling statements that we have touched too lightly on the genial side of his character. Ever the life of our social events his special faculty for "fitting in" and the air of bonhomie which always characterizes him, we do not wonder he was the "Beau Ideal" of the "fair sex," May fortune smile upon him and make him ever as popular among his fellow men as he was among us.

Pineau, Edmond F., Rustico, P. E. I.

Take upon yourself a wife,
But be careful whose.

President of the Senior Class, editor of the M. S. A., and a member of many committees. He is also a very active member of the Debating Society, and his side generally comes out victorious in a debate.

This alone shows what Pineau is like and he is one of the true sports of the college who tried to raise a mustache after Christmas holiday and he so far succeeded that when it was four weeks old and the light shone just right you could see quite a shade on his lip. However, his ability along other lines must not be judged by his inability in growing a mustache, for as Josh Billings says: "A mustache is a good deal like moss and lichens; only grows on sile that is good for nothing else." He was just the right person to be Editor of the M.S.A., and the success of the paper has been largely due to his hard and continuous work.

Besides his business abilities he is very proficient along other lines and he is entirely at home when he is in company of the fair sex, and I might say in conclusion he is taking piano lessons and according to the latest reports he is making more progress with his teacher than with the music.

Smith, A. J. A. R., Halifax, N. S.

"Nature has't framed strange fellows in her time."—*Shakespeare.*

A.J. (for that is how he is generally known)deserves much

credit for he has placed himself where he is by his own efforts or in other words, he is a "selfmade man."

He was born in England and came to this country when he was quite young and has lived in Nova Scotia since his stay in Canada and has been engaged in many different occupations. Since coming to N. S. A. C. he has shown himself well adapted for Physics and Genetics and has made many remarkable discoveries in Chemistry. He is also an active member of the Debating Society and if he continues his progress in debating he will make a great speaker. We understand that last summer he had charge of a large dairy herd and if he handled it as scientifically as we should suppose he would, the cows had the best of care.

James C. Stewart, Malagash, N. S.

"Genius, that power that dazzles mortal eyes
Is oft but perseverance in disguise."—*C. C. Cameron.*

Stewart has the reputation of being the only man in the class guilty of burning the midnight oil over his studies. He believes in going right to the bottom of things and, as a result of this, when examination time comes around he always comes out on top. He has taken an active part in many debates and has been a contributor to the magazine. He also is somewhat noted as an admirer of the fair sex and consequently has been a regular attendant at the Normal Institutes and College dances. Stewart intends to complete his college course at MacDonald or Guelph. If he does this we feel sure that once again a graduate of N. S. A. C. will have the honor of heading the graduating list of the upper college.

George Strudwick, Truro, N. S.

"For the hardest man in the world to beat
Is the man who can laugh in the face of defeat."—*Emil Carl Aurin.*

A member of the basket ball team, good with the gloves or on the mat, but where he shines brightest is as a judge of dairy cattle. George never says very much but he thinks a

lot. On the wrestling mat no matter how many times he is thrown he always comes up with a smile on his face and ready for another round. We feel safe in saying that if troubles ever get the upperhand of him for a time when they pass away George will be up, smiling, and prepared to meet whatever the future may hold in store for him.

Sutherland, J. R., Scotsburn, Pictou Co., N. S.

"Beauties in vain their pretty eyes may roll;
Charms strike the sight, but merit wins the soul."—*Pope*.

A man of abilities too numerous to mention. This cannot be brought more plainly to the reader's attention than by naming a few of the offices which he has held during the college year. President of Y. M. C. A., President of Athletic Association, Member of the Editorial staff of the M. S. A., not to mention the many committees upon which he acted.

To say that he is popular with the boys does not do him justice. As an athlete he is among the best. His occupation during the summer months is that of a butter manufacturer. For the last three years he has held the responsible position of manager of the Nova Scotia Government Creamery at Baddeck, C. B., where he has done exceptionally good work. Hailing from Pictou Co. there is no need of explaining that he is a Scotchman. In fact if you were to see him dressed in kilts, you surely would think that he were just off the old sod.

Walsh, Waldo, Coverdale, N. E.

"This was the noblest Roman of them all."—*Shakespeare*.

Waldo Walsh, whose "I should worry" manner and cheerful grin make him popular everywhere, is undoubtedly the best all around man in the class,—right up to the top in scholarship, a good judge of cattle and horses, a pillar of strength in the basket ball team, champion of the wrestling mat, a fair dancer, a contributor to the M. S. A., a keen debater and a willing worker on many committees. A catalog of his attainments would not be complete without also adding that he is a frequent

attendant at the Normal Institute for Walsh does not believe in allowing his studies to interfere with his education. His position as Business Manager of the M. S. A. shows the confidence that the students put in his abilities and that their confidence was justified has been shown by the success of the magazine in spite of the many difficulties he had to contend with. He is also Secretary Treasurer of the Athletic Association. Walsh's great hobby is horses and he is never so happy as when talking on his favorite subject. We do not know whether Walsh intends to go back on the farm or go to the Veterinary College but we do know that there will be something doing in whatever line he takes up.

Wood, Robert M., Carter's Point, Kings Co., N. B.

"Smooth runs the water where the brook is deep."

Most of the boys think they know Bob, but I say that they don't. It is necessary for you to live with him at least a year before you can penetrate those depths. When you get this you will find that he has such a large heart that he does not know when to stop doing you favors. He is ever ready to lend a helping-hand. If you are in trouble with some college problem, go to Bob, and in a very short time he will send you away with the problems solved and with a smile on your face. He is a very popular member of the class, as is evidenced by the number of responsible positions which he held amongst us. He was a live member of the Editorial Staff of the M. S. A., Secretary of his class and Secretary of the United Students' Council. In scholarship he stands among the highest in the class. The many appeals made to the students for material for the M. S. A. all of which were in choice poetry testify to his poetical abilities. Popular Report has it that Bob is going back to New Brunswick to buy a farm, and it is whispered that he is going to take one of the fair ones to share his lot. If he succeeds along these lines as well as he has with his studies, we will know where there is one good farmer in New Brunswick

CLASS '17 PROPHECY.

Now I feel the spell come o'er me
And the future I can see.
Come and listen, now, around me
And you'll hear my prophecy.

Antoine Belliveau, a rancher
In the wild and wooly west,
Says he finds for making money
That beef cattle are the best.

Allain Belliveau, a doctor,
Now is curing people's ills.
No use for the undertaker
When he gives a dose of pills.

Jack Briggs is the champion boxer
In the class for feather-weights.
We know where he got his training—
Beating up his old class-mates.

Out upon the base-ball diamond
Peter Colin won his fame.
All the fans upon the bleachers
Wildly cheer to hear his name.

Goudge, a stolid old professor,
Now is teaching Botany.
Yet he takes a turn at punch-bag
Just to keep him fit, you see.

Stanley Morrison's a lawyer
Who has seldom lost a case,
'Twas debating at the college
Taught him how to set the pace.

R. I. Reds and Holstein cattle
With a famous pedigree
Are just piling up the shekels
For our friend Tom Munn, M. P.

Mac, a missionary doctor
In the far off heathen lands
Drives away the negroe's troubles—
Brings back to his face the smiles.

Pineau's governor of the Island
Very popular they say,
And he should be, with the farmers,
For he has his B. S. A.

Who is this that comes to meet us
With the smile, and out-stretched hand?
Why! the new Dairy Commissioner
Our old classmate, Sutherland.

James C. Stewart, mighty thinker!
Writes his name with Ph. D.
"Darn it all boys!" he's professor
In the University.

Strudwick now is over-seeing
All experimental work.
In the field or in the class-room
He was never known to shirk.

Physics, Chemistry, Genetics,
Modern English, ancient myth,
Yes! and forty other subjects
Owe a lot to A. J. Smith.

See that chap among the horses?
That is Walsh, a famous Vet.
He has had a thousand cases
And has never lost one yet.

Wood, an eccentric old bachelor
On a fruit farm in N. B.
Picking worms off currant bushes
Is as happy as can be.

Now, alas! the spell has left me
Nothing further can I tell.
If we but accomplish these things
We will do extremely well.

R. M. W. '17.



EXCHANGES.

We acknowledge with thanks: Acadia Athenaeum; The Argosy; U. N. B. Monthly; St. Dunstan's Red and White; King's College Record; Managra MacDonald College Magazine; O. A. C. Review and Xavarian.

ALUMNI NOTES

Arthur Kelsall is still in the Military Hospital at Sheffield England, suffering from a severe wound in his left arm. He was wounded in June, 1916, when the Princess Patricia's suffered such heavy loss. It was thought for some time that he would lose his arm. He expects to return to Canada this spring.

News reaches us that Joch Hoyt '15 and Jim McAuley '15, both of the old 6th C. M. R., are expected to return to Canada to recover from shell shock.

Ralph W. Donaldson is now a lieutenant in the 52nd Bn. Canadians, and writes that he is enjoying his work very much.

H. H. Congden '15 is in Crowboro, Sussex, giving instruction on the Vickers Machine Gun.

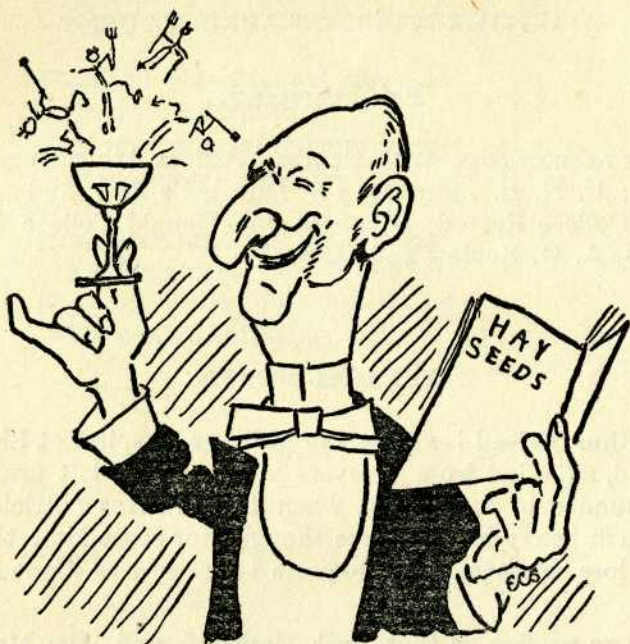
H. A. Butler spent the winter in County Ayr, Scotland. He was wounded at Gallipoli and sent to the hospital with enteric fever. He expects to be fit for service again this spring.

Cyrus Poirier, George Cox and Byron Robinson '15 attended the Annual Student's At Home.

Mrs. C. A. Good, nee Miss Woodroffe '14, is in England with her husband, Capt. Good.

C. B. Crosby '15 visited the College on March 24th.

K. F. Redding '16 enlisted early in March with a reinforcement for the 17th Battery, stationed in Sydney.



Botany Prof.—“When a fly gets caught in a sun-dew it is more stuck up than a Senior.”

Dr. S.:—“Do any of you boys know the name of that powder that women shake around the house to kill the flies?”

Pineau:—“Yes, sir.”

Dr. S.—“Well, my boy.”

Pineau:—“Dust Bane.”

Junior:—“Guess I will go to the pictures to-night.”

Senior:—“How about that English essay?”

Junior:—“Oh, I'll leave the theatre in time to get home in time to go to bed in time to get up in time to have time to do that in the morning.”

Agent:—“Madam, may I sell you a vacuum cleaner?”

Lady:—“Don't want it. There ain't no vacuums in our house that need cleaning.”

Prof. in Chemistry:—"Put down the equation for the formation of nitrates by nature during an electric storm.

Tinney (at the board):—"H₂O + ——

Prof.—"Finish it."

Tinney:—"Please sir, I don't know the formula for a streak of lightning."

Sweat peas, apples, corn and spinach,
Hedge rows rhubarb, carrots, peas,
Arhchokes and pickling cabbage,
We'll soon be growing Cheddar Cheese!

Bate (in Mechanical Drawing):—"Well of all the saws I ever saw I never saw a saw saw like I saw that saw saw.

Miss Mac. (After judging a class of horses from the lumber woods):—"I don't see how that horse can be sixteen years old?"

Pineau:—"Oh, that is easily explained. She was born sixteen years ago."

Coady to Donnat on morning following Institute.

"Well, Donnat, when you take a young lady home on a sloppy night I'd advise you to wear mud guards so you'll not make your friend a mud cake."

N stands for Normal, the school of the "ite"
Of a rare cheery aspect and inmates so bright
Rural and city life, country and town,
Most coming in green, some going out brown
All very business like, but some very tame
Largely composed of girls, some boys all the same.

A flea and a fly in a flue were imprisoned

So what could they do.

Said the fly, "Let us flea"

"Let us fly" said the flea

So they flew through a flaw in the flue.

Simple Simon's Sore Reflections.

Twas out "At Home."

I was feeling pretty sore,
 As though my bones just sure were cracked
 And let my chance slip by for ever more,
 The cause,—a doleful want of tact.

I went to a sweet young lady,
 Of the fair sex the only one I knew
 And my friendship to her was e'en haze
 But said, Dear Miss C——, how-d' you - do.

But something was wrong, it did not go right
 And I was bewildered as well, so I might
 She held out her hand, and I held out mine
 In her's was the ticket, I suppose—to sign.

But I went on ever yarning
 'Bout the weather, books and war,
 I thought *that* was to promenading
 But was doomed to black despair.

Can anyone tell me the dope
 The hang of the thing, the way to get hope
 I tried, but failed, I try again
 But how to start "I dinna ken."

Student to Mac.—"How did you enjoy the "At Home?"
 MacL-d (sighing):—"If I had last night to live over again
 I would do it F-A-R different.

The train was later than usual drawing into Truro one dreary night. A weary traveller was heard to exclaim "What a mournful looking place, even the waitresses wear black."

"Don't you know what that is for," said another, in a solemn voice. "They are in mourning for the late train."

Sidebones, heaves and chronic scratches,
 Inflammation, spavins too.
 Nerves all gone, hair off in patches,
 Can't imagine worse! can you?
 Let Doc Sinclair come and treat him
 And I'll bet when he is done
 It will be a first-class racing Jim
 Running in two twenty-one.

Coady: (In lesson on Dicotyledons in Botany):—"Are those compound eyes on either side of the Archigonium?"

Mac (teaching fair damsel to knit):—"I'll make a farmers wife of you yet."

She (cooly):—"Will you?"

Mac (terrified):—"NO."

Be careful Mac.

"This piece of information
 We long in vain have sought
 Precisely how much protein
 Is there in food for thought."

"No man is his own boss unless he is a tramp. Then there's the constable."

On every wall around the hall I note a strong appeal
 For every student one and all to make a little speil,
 No matter what 'tis on they say, just make a brave attempt
 And send it right along this way and see your name in print.
 Now I am not poetical, not yet can I write prose
 But if 'twill help you out at all, I'll do my best, here goes!
 When I first hit this burg I thought, as did so many more,
 That 'twas the most confounded spot I'd ever seen before,
 However, when I looked around I quickly changed my mind
 For pretty girls can sure be found unless a fellow's blind.
 Just see the Normal Institute on any Thursday night

That's where you find some awful cute, by Gosh, they're out
of sight!

Then twice a month we have a dance, you'd ought to see me hop
I just get nicely started when they say it's time to stop.

Besides we have the rink to skate, the Princess and the Strand,
There's something doing every night and fun on every hand.

But don't forget the studies, boys, of these we have a score,
Some we're very fond of and some that we abhor,

I'll be glad when they are over though it breaks my heart to
know

It's only a few more weeks, boys, before it's time to go.

Of one thing I'm quite certain though, if I live another year,
There's nothing on earth can keep me from joining you boys,
back here.

Then hurrah for the dear old college, three cheers for the teach-
ers and staff,

And a rousing good cheer for the Seniors, we wish you were
coming back

However, we are glad for your own sakes, to know you are
going home,

And we hope you will all be successful, in running a farm of
your own.





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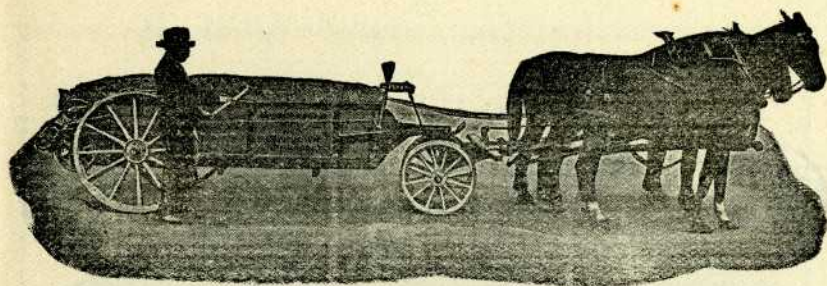
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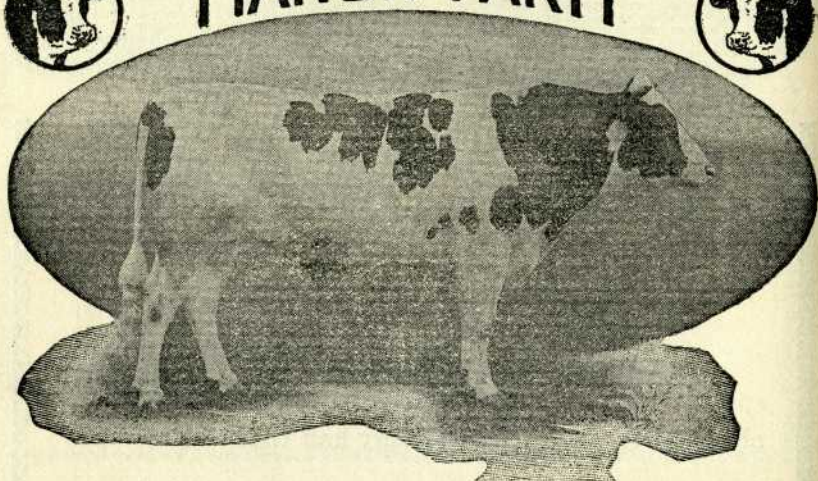
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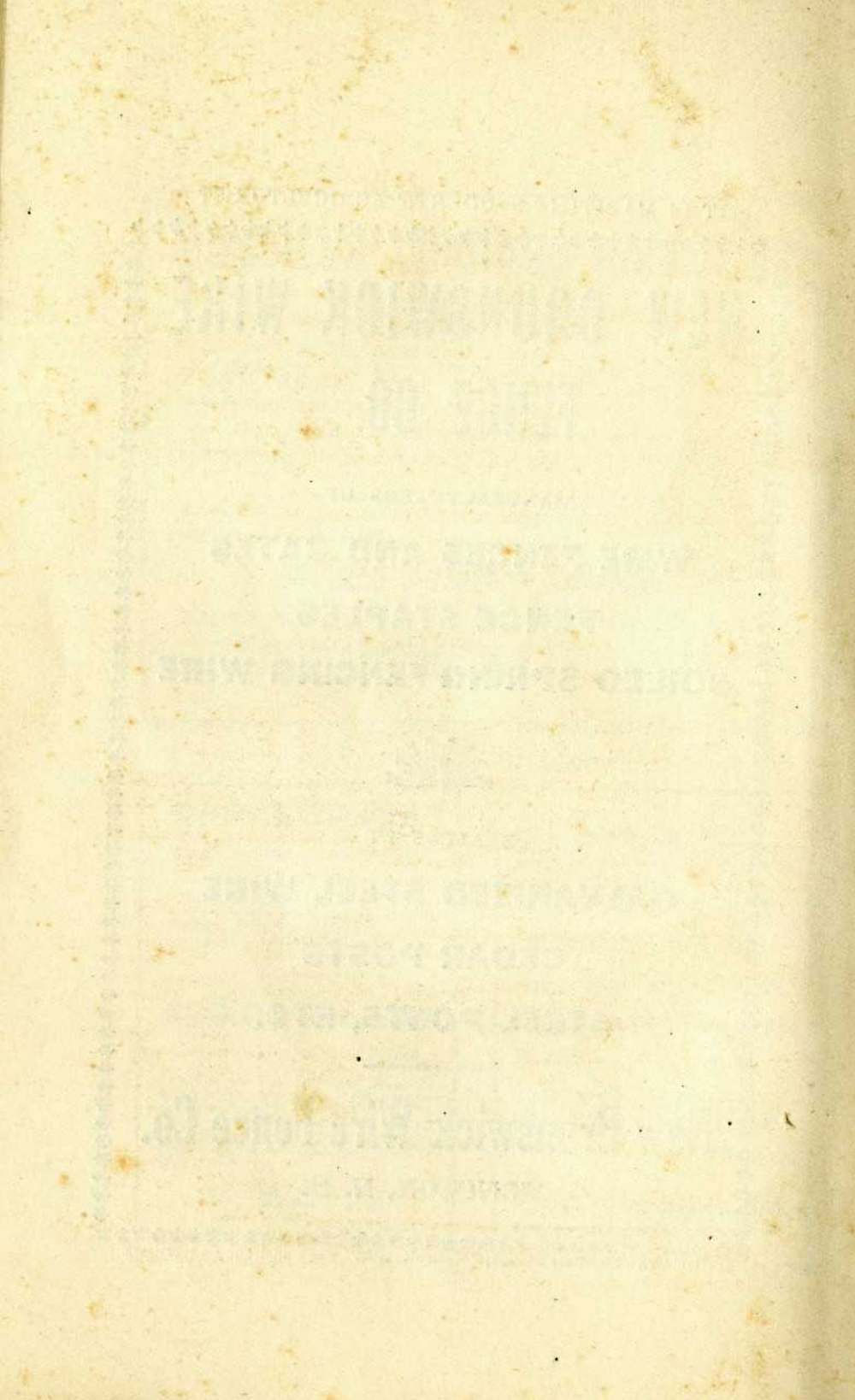
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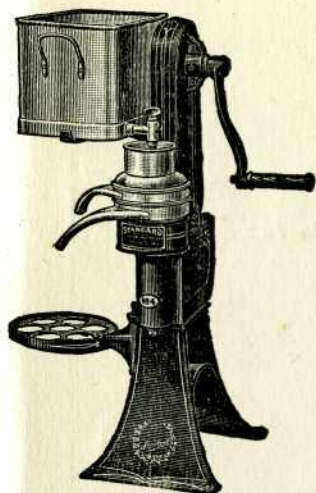
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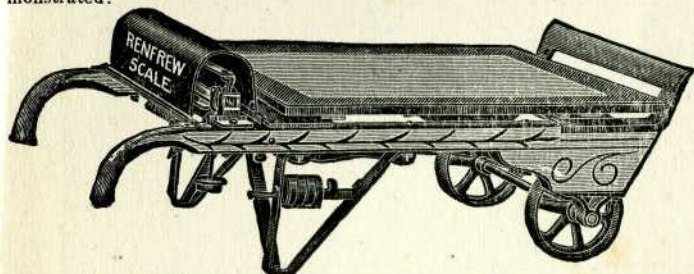
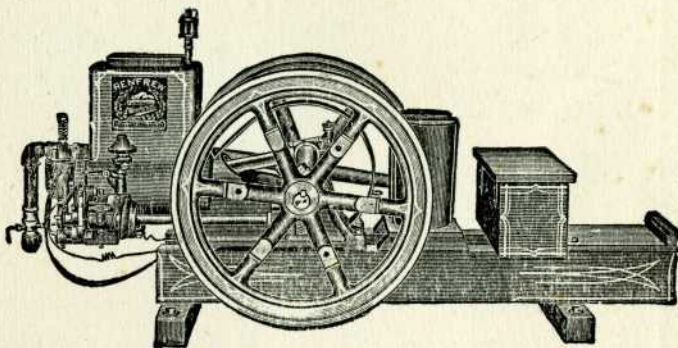
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