

Soils and Crops

Address communications to Agronomist, 72 Adelaide St. West, Toronto

Winter Care of the Breeding Ewes.

The winter months with the successful sheep owner is always a busy and important time in the management of the breeding flock. If the ewes have been well cared for during the fall and have come into the winter in fair flesh condition and mated to a male possessing marked qualities of masculinity, the success of the lamb crop now depends very largely upon the care the flock receives during the remaining winter months. It is always a great disappointment to the flock owner when lambing time arrives to find the lambs come inferior in strength and size and the ewes lacking in milk production.

Frequently where sheep are kept in conjunction with other farm live stock it is the practice to allow the breeding ewes to shift for themselves during the winter, running on pasture when the ground is not covered too deep with snow, with little or no grain and a very narrow roughage ration.

The breeding flock must not be allowed to get wet from cold, chilling storms. Disastrous results are sure to follow. Sheep, unlike other farm live stock, carry a heavy dense fleece of wool and when once wet through not only requires a long time to dry out, but the temperature of the body is lowered to the general health of the animal is impaired. Pregnant ewes in particular should be protected against cold draughting storms.

Some flock owners follow the practice of confining the ewes to a close stable during the night, allowing them to run out during the day. Close stabling at night causes the sheep to exude oil and moisture from the skin on account of their heavy covering of wool and when turned out in the cold are likely to become chilled and contract catarrh. Sheep do not require restful shelter. A dry, light and well-ventilated shelter is sufficient. Ventilation in the sheep barn should be simple, care being taken to avoid drafts.

If a large flock of breeding ewes are kept, the sheep should be divided into smaller groups. Individuals of about the same age, strength and general disposition should be housed together. There is always some mean-ness of the flock that are timid and rather delicate feeders. These ewes should be separated and put in a pen by themselves and given special attention. Pregnant ewes do much better when kept in small flocks where each individual can be observed and given care.

Pregnant ewes should be allowed plenty of yardage and stable room so they will not injure one another by crowding. It is not uncommon for

ewes to lose their lambs from too close confinement. Sheep are susceptible to being suddenly frightened—running against one another through doors or narrow passages, between racks, causing abortion or internal injury. This is very apt to happen when the ewes get well along in pregnancy. It is a safe rule to follow to allow ewes weighing around one hundred pounds ten square feet of free ground space in the barn. The feed racks should also be measured so as to allow about sixteen inches to the animal and more in case of the large mutton breeds. There should always be rack room to spare as some ewes will not crowd, but had rather stand back and go hungry. Pregnant ewes should be closely watched and means devised that each member of the flock receive proper care.

The ewes should be encouraged to take plenty of exercise. Without exercise pregnant ewes soon become inactive. Feeding as much as possible in the yard is an excellent means of causing ewes to take exercise. When the ground is not covered with snow it is a good plan to allow the ewes the run of a pasture field. While the ewes will not obtain a great deal of food from the pastures, they enjoy roaming about and in so doing take a great deal of exercise that assists in keeping them in a healthy condition. Experienced flock owners know that exercise stimulates appetite, assists digestion, insures greater propensity and stronger and more vigorous lambs at lambing time.

The ewes should not be allowed to become overfat or run down on flesh condition. Weak puny lambs and insufficient nourishment at lambing time are generally the results of improper feeding. The ideal winter roughage is good clover hay or alfalfa. Well-cured corn fodder is second in value. Bean pods are also excellent. Oat and barley straw may be fed once daily to help out. When I have plenty of clover hay I like to feed hay twice daily. I think clover hay saves enough grain to keep the ration cost at the minimum. Corn silage is an excellent succulent feed during the winter months. I have fed ensilage once or twice daily as a part of the roughage ration with the best results.

The grain ration should be light during the winter months. This ration may be compounded from two parts oats, one part corn and a liberal amount of bran. When good clover hay is fed daily less grain is required, but at least one-fourth to one-half pound should be allowed each ewe. The ewes at this time require food that will supply nourishment for the unborn lambs.

745 main experimental projects are under study on the various farms. The results of the work of the entire system is collected at Ottawa and from thence finds publicity.

In addition to the work, practical and scientific, carried on by the staff of the several divisions and its extension to the branch farms, a large amount of related work is undertaken. This includes not only corresponding with farmers everywhere to answer enquiries, but the preparation of reports, bulletins and pamphlets, including a leaflet entitled "Seasonable Hints," issued every four months, which is free to all applicants, as are the other publications of the Branch. The holding of demonstrations, lectures, short courses, the preparation of exhibits, judging, at fairs, attendance at conventions and conferences and the like, all come within the scope of the duties of the staff.

Potato Canker.

Potato canker or "wart disease" of the potato is a disease happily only known to most Canadian farmers by its name, perhaps to some few by its notoriously dangerous character to the potato growing industry in other countries.

Some ten years ago the Federal Department of Agriculture succeeded in averting the very near danger of its introduction into Canada from abroad, principally from Europe. The Department then placed an embargo against the importation of potatoes from Europe with the usual emphatic objections generally resulting from such measures. To-day Canada has every reason to be grateful for the foresight of the Department. In Great Britain, notwithstanding every effort towards the eradication of the disease, some 22,000 cases and more have been reported during the period of one (recent) year. The disease affects potatoes in various degrees of severity; either there may be slight infection or wholesale destruction of the crop, rendering useless all "arts to harvest a yield. Moreover, the disease persists under certain conditions, in the soil for 10 to 15 years, always re-infecting a crop even when planted after an interval of so many years' duration. The presence of this disease has caused Great Britain and other European countries serious losses, not alone within their own borders but also in the valuable export trade in potatoes. Canada is quite free from this disease which causes such serious losses in other countries; but the danger once more looms on the horizon, since this disease has been discovered in certain areas of the United States. Canadian farmers are well advised to continue their vigilance, especially

as potatoes imported from the States are concerned. The person who through neglect on his part causes the disease to become established in Canada, will cause this country serious injury, probably of a lasting and irreparable character.

Crops in the Yukon.

The experimental sub-station at Swede Creek in the Yukon is the most northerly of the Dominion Experimental Farms System. The facts to be gathered from a report made by the Superintendent will draw attention to the capabilities of that country for farming and are particularly interesting on that account. Ten acres were seeded in 1919 with oats, peas and red clover. The oats and peas were cut for hay, but the red clover was left for plowing under and was winter killed. In 1920 the same area gave a heavy growth of oats and peas, a light growth of red clover, and a medium growth of sweet clover. A satisfactory yield of rye and buckwheat is recorded. Western rye grass also proved satisfactory. Gratifying results are expected from alfalfa and red clover. One-fortieth of an acre sown to each variety of wheat yielded 75 lbs. of Marquis, or at the rate of 50 bushels to the acre; 90 lbs. of Huron, at the rate of 60 bushels to the acre, and 52 lbs. of Prelude, at the rate of 34.2 bushels to the acre. Victory oats sown to the same extent yielded 90 lbs. or over 105 bushels to the acre and Banner oats 114 lbs. or 134 bushels and 4 lbs. to the acre. Peas yielded 32 lbs. or 21½ bushels to the acre. Detroit beets, Jersey Wakefield and Copenhagen Market cabbage, Chautauy and Earliest Short Horn carrots, all varieties of celery; Iceberg, Grand Rapids Forcing, and C.E. F. lettuce; Double Curled parsley; Thomas Saxton, Stratagem and English Wonder peas, and Canadian Gem turnips all did well. Relative to the celery the report states that it was probably as good as could be produced in any part of the world.

The test of good farming is in the available plant food remaining in the soil.

Obviously the farmer who produces staple crops at the lowest cost is the one who realizes the greatest financial returns.

Alvy Hall worked for his uncle last year at threshing time. Now Alvy says he has more respect for a slice of bread than ever before. He says he thought the stuff grew without work, but threshing is the hardest, titchiest, messiest sort of business that he ever monkeyed with.

The Welfare of the Home

Family Prayers and Saying Grace—By Mary C. Terry

All over the country there is a movement to re-establish these customs which were observed by our pioneer forefathers whose characters and accomplishments speak for their sterling worth.

How many children of the present generation have had the unforgettable experience of "seeing Daddy pray"? It is a sorry thing that with the omission of the children of ministers' families, there are not many. Yet there is no one thing which makes such a lasting impression and is such an influence for good on the plastic mind of a child.

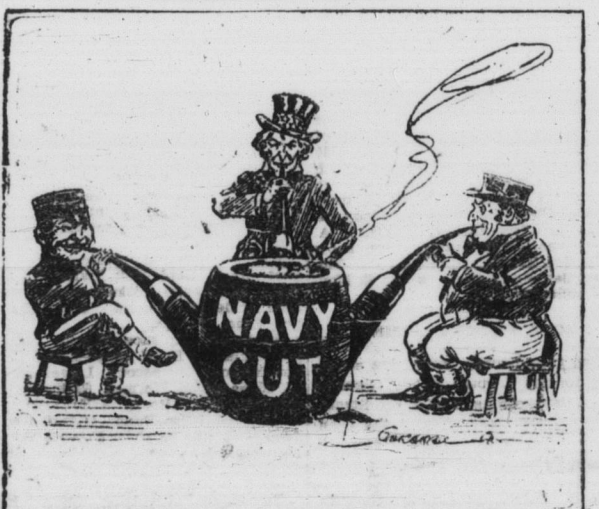
It seems as if time is so limited in our average Canadian home, business and family routine so pressing that we fail to find a suitable time to observe with our children those things which we ourselves know to be wise and best. Consider first "Saying Grace." Even in the busiest of homes, surely there is time for bowed heads and a few words of thanks to the Giver of our food, a simple prayer which can be understood even by the young members of the family. The children love it and when accustomed to the little ceremony feel something is seriously missing when it is omitted. Danny, our little son, scarcely more than a year old, was once toddling from his play as we sat down to a meal and hold up his arms to be taken. (Of course he is a schedule baby and does not have his meals with the family as yet.) He will sit quietly in his mother's lap and look wonderingly about the table, impressed by

the bowed heads and his grandfather's voice "Saying Grace."

Is not wonder said to be the first awakening of religion in a little child's heart?

Virginia, who is five and has just started to kindergarten, lost her father in the recent "Flu" epidemic. The mother, though interested in her children's welfare, is too busy providing food for three hungry children to take time for what we might call the finer things of life. When the little girl learned the "Thank You Prayer" at kindergarten, she came home to ask if she might not say it at their table and now the little home is touched by something which makes the commonplace seem brighter and the daily struggle less irksome than before.

The old custom of "Family Prayers" and Bible reading has been greatly crowded out of our homes because of the unavoidable rush in which we live. But every mother and father who wish their children to become acquainted with the greatest of classics and have a foundation for a lasting religious faith will, if they are wise, make a place for just this thing. Fascinating stories of Bible heroes read at bedtime, the Lord's Prayer repeated together perhaps at breakfast or at some other suitable time, the talking over with Mother or Daddy the little misdeeds or failures of the day and the asking "Our Father's" help to overcome them; all these things serve to form a sweet and unbreakable bond of sympathy between the parent and child.



THE PIPE OF PEACE
—Manchester (England) Sunday Chronicle

Virgin Wool or Rag-bag Shoddy

One of the most popular ways of adulterating wool is to use a cotton thread as a "core" for a wool thread. Around this cotton thread short shoddy fibres, often recovered from the old rags sold to the rag man, are spun, and the resulting thread is used in a fabric which is sold to you as all wool. Sometimes this cotton core thread is used simply as the warp for the cloth, sometimes as the wool thread, and sometimes it is used as both. Often the resulting fabric is stronger than all wool cloth would be, as the cotton is stronger than inferior wool. But the point is that it is masquerading; it is represented to you as "all wool" when it is largely cotton.

Again, garments are sold as "all wool" but still you are not getting what you think you are. For when the salesman says all wool, you are thinking of the pure virgin wool, from the sheep direct to you. This same all wool may have been your neighbor's overcoat for ten years. He sold it to a rag man, who sold it to a manufacturer, who converted it into "shoddy." It has already done service, and comes to you much the worse for the wear and tear of several years' struggle with life. In passing, remember that the term "worsted" means pure virgin wool, while the misleading term "woolens" is wool and cotton mixed. The term "union goods" also means wool and cotton mixtures. Don't get the idea that it refers to the "closed" shop factory, and means that the cloth was spun by union men.

Silk is often adulterated in a way similar to wool, that is, by weaving short silk fibres around a cotton core. The most common way of adulterating it, however, is by weighting. Rag silk starts as a glutinous gum thrown off by the silk worm. This hardens into a fine elastic fibre. The cocoons are baked to kill the butterfly before it can eat its way out, as this cuts the fibre and injures the silk. Fibres from the baked cocoons are often from one thousand to four thousand feet long. If the butterfly eats its way out of the cocoon, of course the thread is broken, and these short fibres are often used to cover a cotton thread. Sometimes they are spun without adulterating directly into a fabric, but the resulting cloth is not of so fine a quality as the long-fibred silk, and should not command as high a price, though it can be truthfully advertised as pure silk.

Weighted Silk.

The most common way of adulterating silk is by weighting. After the silk is spun into yarn it is boiled in soapy water to remove the natural gum which adheres to it. Sixteen ounces of raw silk usually comes out of this boiling process only twelve ounces. Manufacturers hold it is perfectly legitimate to make up this loss by "weighting" the silk, that is, by dipping it into various solutions, gums, salt, waterglass, iron, sugar, and more often tin. If the weighting stopped with replacing the four ounces lost no one would object, but certain thrifty manufacturers not only replace the original lost four ounces, but add several more for good measure. In certain instances silk which weighed sixteen ounces originally and twelve ounces after boiling had attained the majestic proportion of fifty-four ounces by the time it reached the buying public.

Tin, usually recovered from old tin cans, is largely used in this weighting. The tin salts crystallize and cut the delicate silk fibre, thus causing the cracking to which we object, especially in taffeta.

In addition to these two ways of adulterating, there is a mixture of cultivated silk with "wild" silk, or pongee. Silk is mixed with mercerized cotton, and then there is silk which is nothing more or less than wool fibre. This is usually called the man who spun the yarn or wove the cloth. Such "silks" usually wash well, and often outwear real silk, for while they are not as strong as first quality real silk, they are stronger than silk which has been cheapened during its journey from the

Silo Construction.

A silo has become almost a necessary adjunct to a well-conducted, up-to-date farm. Those who contemplate building one are advised to acquaint themselves with the points to be observed if the best results are to be had. These are clearly set forth in Exhibition Circular No. 102 issued by the Dominion Experimental Farms. A silo must be impervious to air in order to retain moisture; must be strong so as to resist the pressure of the silage; the walls must be smooth and strong in order to allow the silage to settle freely, and to prevent the formation of air pockets; must be strong enough to resist any wind when empty; must be able to resist any action of the weather, and should be fireproof. To better resist frost, it should be located on the protected side of buildings; doors should be made easily removable in order to provide convenient access; neatness of appearance adds to value; a ready-to-erect silo ensures ease of construction; least cost per ton is the thing to be considered in construction; all parts should be equally durable and lasting; the chute should adjoin the feed room and preferably should be at the south end of the barn; the location of a silo inside the barn is not recommended; the foundation should be broad enough to prevent settling and deep enough to rest upon

THE DECEPTIVE MOUNTAIN

In the great desert regions of the Southwestern States there is a remarkable mountain of sand. The behavior of it mystified the early settlers who in the days of '49 followed the old trail from Yuma to Los Angeles. The mountain was constantly changing form. The first pioneers mentioned it to their friends as a landmark by which they might guide themselves on their way into the new country, but it changed its appearance so rapidly that many of them failed to recognize it, wandered from the trail and were lost in the desert.

People discovered later that it was the strong winds that from time to time swept across the desert that made the mountain set in so queer a way. When the wind blew it shifted the loose sand from one spot to another, built new domes and pinnacles and destroyed others, until within a short time the whole mountain presented an entirely new outline against the sky.

In that mountain there is a warning to us all. Human character is made up of elements that are easily affected by the forces that constantly play upon them. We cannot escape those forces, and unless we watch ourselves constantly they will change our lives so much that others who come after us will be unable to depend upon us as guides.

There are the winds of flattery. Few of us are not susceptible to them. Under their subtle influence how easy it is to yield a principle here and sacrifice a conviction there.

There are also the winds of prosperity. Study the lives of men round you and observe the changes that go on under their influence. Sometimes those winds throw up pinnacles of false pride; sometimes they cut chains of artificial distinction; often they build up a precipice of selfishness and indifference.

We need to think of those who are coming after us. A man whose character shifts with every wind that blows can never be a real guide to other men. There is just one way to make ourselves trustworthy; it is by emulating the qualities and the virtues of the one great life of which it was written, "The same, yesterday, to-day and for ever." Jesus did not shape His course according to every wind that blew. Flattery, adversity, popularity, could not undermine His strength. That is why He is the inspiration of the true and strong men who walk the earth to-day.

Health of Dairy Cattle.

The question has recently been raised as to whether the making of high production records is detrimental to the health of dairy cattle, and whether the risk of disease to purebreds is sufficient to deter a man who places a high value upon the health of his herd from engaging in the purebred business. To the first question the Veterinary Director General of the Dominion has replied that there is no doubt that intensive feeding to stimulate excessive milk production has a tendency to lower the resistance of the body to attacks of infectious disease, but that if proper precautions are taken against danger of infection, there is no reason why record making should interfere with maintenance of health. Without infection, such as tuberculosis, is possible. To the second question the Veterinary Director General gives a decided negative. There is, he says, if a man is willing to take the proper precautions, nothing to prevent him building up a herd of purebred dairy cattle as free from disease as any other. He points out that under the accredited herd system now in existence, the opportunities for doing this are a great deal better than they were in former years. Purchases can now be made from accredited herds with every confidence that the animals are absolutely free from tuberculosis.

Belt Troubles.

Some farmers have the impression that so long as a belt runs on the pulleys without any tendency to work toward either side the pulleys must be in alignment. This is by no means the case, as with a long belt, such as is used on a separator, the pulleys can be a foot or more out of line and still have the belt run in the centre of the drive pulley. (As most separators have belt guides, the belt can, as a rule, get off the pulley on the separator.)

Some threshermen make a practice of setting the tractor out of line when a cross wind has a tendency to blow the belt off the drive pulley or push it toward the inside edge of the fly-wheel, thus chafing the belt. When there is enough wind blowing to interfere with the belt it is always advisable to set the outfit so that the wind will blow almost direct from the tractor toward the separator, as this will cause a minimum amount of interference. Where for any reason this is impossible, some sort of guide in the form of a smooth piece of wood, pipe, steel rod, etc., which will prevent the belt from running off the drive pulley will answer just as well as setting the tractor out of line and do less damage to the belt.

Drive belts are expensive and a good one should last for years on the average farm as it is generally used only a few days each year. It is well, therefore, to treat the belt right and not shorten its life and usefulness by abuse.