Soils and Crops

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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 that the general health of the animal is impaired. Pregnant ewes in particular should be protected against cold drenching 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 costly shelter. A dry, light and well-ventilated shelter is sufficient. Ventilation in the sheep barn should be ample, 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 members 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 feed 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 prepotency 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.

Canada's System of Experimental Farms

No country anywhere has developed a system of experimental farms of anything like the extent and signficance of the Dominion Experimental Farms System of Canada. The system, which had its beginning some 38 years ago, now comprises thirty-two farms, stations and sub-stations distributed throughout this country and in active operation Each of the leading farms may be said to represent a section of the Dominion differing physically and climatically from other sections, and presenting problems on the solution of which successful farming in the region served largely depends.

Besides serving the older provinces, the extension of the system has kept pace, so far as available funds would permit, with the opening up of the newer districts for settlement, and with the evolution which is continually taking place in farming generally. The settlement of all untried territory brings with it new conditions and new problems which must be met and solved if farming is to be successful. This is particularly true of a country so vast in extent as our own, and presenting such varied types of soil and climate. Advice is necessary, based on practical test, as to the most profitable type of agriculture, the best methods, and the most suitable varieties of crops and live stock. Thus farm after farm and station after station was added to the chain, each becoming a centre of experiment and investigation, so that those who take up farming in the regions served may have done for them by the government work that they were unable individually to undertake.

In briefly sketching the history and growth of the system, it should be explained that the whole is directed through what is known as the Experimental Farms Branch of the Dominion Department of Agriculture. The Branch has its headuarters at the Central Experimental Farm, Ottawa. A list of the thirteen divisions which it comprises will give a general idea of the comprehensiveness of the work. These include the divisions of field husbandry, animal husbandry, horticulture, cereals, forage, plants, poultry, bees, tobacco, economic fibres, chemistry, botany, illustration stations, and extension and publicity.

The preliminary step looking to the establishment of the system was taken in 1884, when a select committee of the House of Commons was appointed to enquire into the best means of encouraging and developing agriculture in Canada. In the year following, Dr. William Saunders, of London, Ontario, was authorized to visit experimental farms in the United States and in Europe. Following his report, an Act was passed providing for the establishment of the present Central Farm, which was to serve Ontario and Quebec jointly, and for a branch farm in the Maritime provinces, in Manitoba, in the Northwest Territories, and in British Columbia. The lines of investigation cited in the Act to be followed included live stock breeding, dairying, the testing of cereals and other field crops, grasses and forage plants, fruits, vegetables, trees, and plants generally, the study of seeds, fertilizers, plant and animal diseases, and insect pests. Any experiments or researches that might benefit agriculture were authorized to be entered upon.

Two years after the passing of the Act, farms were in practical operation at Ottawa; Nappan, N.S.; Brandon, Man.; Indian Head, N.W.T.; and Agassiz, B.C. The main staff then comprised Dr. Saunders, as director, and the officers in charge of the Divisions of Entomology and Botany, Chemistry and Horticulture. Naturally the work was limited in scope, but it must be remembered that up to that time farming progress depended almost entirely upon individual industry and experience unaided by investigation and experiment nationally or provincially conducted.

Dr. William Saunders held the position of Director until March 31, 1911, or for 25 years, retiring then on account of ill-health and advancing age after an active life of great usefulness. The present Deputy Minister of Agriculture for the Dominion, Dr. J. H. Grisdale, succeeded to the Directorship, and was followed nine years later or in 1920, by Mr. E. S. Archibald, B.A., B.S.A., then Dominion Animal Husbandman When Dr. Saunders retired the number of farms and stations had been increased to nine, and Alberta and Saskatchewan had for sixteen years had provincial status, thus acquiring additional agricultural importance. During Dr. Grisdale's term, further divisions were established at the Central Farm and other divisions extended. The war, of course, interfered somewhat with development, but another farm, that at Swift Current, Sask., was established under Mr. Archibald, and illustration stations and sub-stations were organized. At the present time no fewer than 2,745 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 efforts to harvest a yield. Moreover, the disease persists under certain conditions in the soil for 10 to 15 years, always reinfecting 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 2-3 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 21¾ bushels to the acre. Detroit beets, Jersey Wakefield and Copenhagen Market cabbage, Chautenay 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.

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

Many winter hours can be profitably spent repairing machinery, replacing broken parts and giving the implements a general overhauling.

The Department of Physics at the O.A.C., Guelph, is investigating the farm water supply, water systems and sewage disposal and is prepared to help all rural dwellers interested.

The most common contamination of farm wells comes from surface washings. If the first twenty feet and the top are well protected there is little danger in this respect.

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 unforgetable 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, will come toddling from his play as we sit 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 mouths 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 misdemeanors 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

THE SUNDAY SCHOOL

FEBRUARY 12

Elisha and the Shunammite Woman, 2 Kings 4: 18-22, 27, 30, 32-35. Golden Text—John 5: 25 (Rev. Ver.)

Time—Elisha's ministry extended from B.C. 854 to about B.C. 800.

Place—Shunem and Mount Carmel.

Connecting Links—After Elijah's death (ch. 2: 11) Elisha became the leading prophet of Israel. Although, like his great predecessor, he was interested in national affairs (ch. 3: 6-20; 9: 1-10, etc.), he did not possess Elijah's statesmanlike qualities, nor his tremendous force of character. On the other hand, he was accredited with performing far more miracles than Elijah, and the following narrative recounts one of these miracles. It should be read with 1 Kings 17: 17-24 as a parallel.

"On his frequent journeys through Shunem, Elisha is entertained by a wealthy lady, who at length persuades her husband to build a guest-chamber on the roof of their house for his accommodation. As a reward for her hospitality Elisha promises that a son shall be born to her in the following year" (Skinner). Hospitality was recognized as a duty among the Israelites but the hospitality afforded to Elisha was unusual. Ordinarily temporary booths were erected on the flat roofs for guests but the Shunammite built a permanent addition to his house for Elisha.

I. A Mother's Grief, 18-21.

V. 18. The farmers of Palestine do not live each on his own farm but together in villages whence each goes out to till his own land. Hence the lad strayed out from the village to his father's farm. **The reapers.** The fact that the Shunammite had hired help shows that he was well-to-do.

V. 19. **My head, etc.**; a case of sunstroke. This was a common ailment in Palestine and is mentioned occasionally in the Bible. (See Ps. 121: 6; Isa. 49: 10). It has been described as "a rapidly fatal condition, beginning with a high temperature, violent pains in the head, and passing rapidly into coma, death taking place within a few hours or even minutes of the onset." **Carry him; back** to the village where his mother was. This accounts for the father's ignorance of his death in v. 23. He was not present when the lad died and the mother did not tell him of it.

V. 20. **Sat on her knees.** The story of this mother holding in her arms her stricken child, "late won and early lost," is surely one of the tenderest in all literature. Mother-like, she did not surrender him to a couch, but held him in her own arms. **And then died.** Notice how simply and beautifully the story is told. The matchless style in which the narrative is couched adds to its pathos.

V. 21. **Laid him on the bed, etc.** Perhaps she hoped that in the chamber of the great man of God the child might, by some means, be restored. **Shut the door;** thus keeping his death a secret until she had exhausted every possible means of bringing him back. She did not tell even her husband of the death.

II. A Mother's Petition, 22, 27, 30.

V. 22. **Called unto her husband;** through a messenger sent to the fields. **Young men.** This is the usual Hebrew designation of a hired servant. In Palestine people of means seldom travel without a servant in attendance. The husband's answer shows that visits to the prophets were usually made only on new moons and sabbaths. He was at a loss to know why his wife should wish to consult the prophet since it was not the customary time for such a visit. Obviously he had no idea of the child's death. The wife was hiding her awful secret. The prophet from his elevation on Mount Carmel could see her approaching and, fearing that there was something wrong, sent his servant, Gehazi, to enquire what the trouble was. Gehazi's manner or nature must have been cold and unsympathetic because the mother would not disclose her heart to him, but pushed on to the prophet himself.

V. 27. **The hill;** Mount Carmel, a spur of the Samarian hills, which, skirting the southern edge of the plain of Esdraelon, runs westward into the Mediterranean Sea. Here Elijah had gained his victory over the prophets of Baal (1 Kings, 18: 17-40), and here evidently there was now a band of prophets over whom Elisha exercised supervision. **Caught him by the feet;** in attitude at once of supplication and of convulsive sorrow. Gehazi; attended Elisha as his servant, as Elisha had attended Elijah, 2 Kings ch. 2. He did not think it proper for a woman of substance to prostrate herself on the ground, and beneath the dignity of his master to have her there. **Let her alone.** This short speech reveals the fine sympathy of Elisha. He was easily accessible to any one in trouble. **The Lord hath hid it.** Elisha marvelled that, prophet though he was, he had no knowledge of her trouble.

Vs. 28-30. Without telling Elisha that her child was dead the mother passionately rebuked him for ever having given the child (see 2 Kings 4: 16). Elisha, perceiving that there was something seriously wrong with the child, sent Gehazi with his staff to recover him. Perhaps he thought the child was only sick and he urged Gehazi to use all haste. He was not to pause on the way even to salute any passers-by, for salutations in the East require time. Elisha thought that his staff, like his own mantle (ch. 2: 14) and like the staff of Moses and Aaron was endowed with wonder-working power and that it would be as effective in recovering the child as his own presence. The mother, however, clung to him until he himself consented to go.

III. A Mother's Joy, 32-35.

V. 31. The staff failed to work in Gehazi's hands. "Gehazi always appears unfavorably, and Elisha's staff loses its power in such hands."

V. 32. **When Elisha was come.** The child died at noon, vs. 20. It was probably dark when Elisha reached the house.

V. 34. Elisha's method of recovering the child is peculiar and impossible to explain with certainty. A probable explanation is this: as a prophet Elisha was filled with the spirit of God; this spirit is also the life of man (see Gen. 2: 7), and Elisha could communicate this spirit by crouching over the child. Notice the slowness of the process.

V. 35. Elisha's prolonged efforts so drained him of force that he was obliged to pause and pace the house before he renewed them.

Application.

In a certain book Elisha is referred to as a "model helper," and the passage for study to-day suggests the truth of the characterization. Whether interpreted as a tradition or as actual history, we reach the same result—Elisha eager to assist those in trouble. Elisha's treatment of the Shunammite woman in her hour of sore bereavement shows this very clearly.

The following suggestions may be gleaned from the study passage:

1. **The Shunammite woman was a model of hospitality to a religious teacher.** She was blessed in her hospitality. Ever since her time noble-minded and pious women have done much to ease the burden for the missionary.

2. **The prophet was grateful for the kindness shown to him.** One of the ugliest things in the world is forgetfulness of those who have heaped their kindness upon us.

We see the baseness of ingratitude in the case of Judas, who forgot altogether what he owed the Master.

3. We cannot bring back little children miraculously from the land of death to their parents, but we can help to save them in other ways.

But it is not sufficient to save them physically. They—all our Canadian boys and girls—must be trained to love Christian ideals. The work before us demands immediate attention for the number of those who have no religious education of any sort in Canada is appalling—over a million.

4. **Our comfort in the day of trouble.** The Shunammite woman instinctively turned to the prophet in her distress. When the lights burn low in the human heart, there is no voice like that of God Himself to comfort and uphold.

THE CHILDREN'S HOUR

A Surprise for the Prince.

Tens of thousands of scrolls in books, in documents, on signboards, and elsewhere will have to be altered. Wheresoever the Prince of Wales's motto, "Ich Dien," appears we shall in due course have to substitute a new spelling—"Ich Dene." There may not seem much in this change of one vowel for another, but in reality there is a romance of history attached to it, and probably the Prince of Wales is as much surprised as the rest of us.

Most people know the familiar legend of how the motto came to be adopted as that of the heir to our throne. At the battle of Crecy, in 1346, Edward the Black Prince greatly distinguished himself, and, capturing the blind King John of Bohemia, took from him his crest of three ostrich feathers and its motto "Ich Dien," and made both his own. Each Prince of Wales since then has employed the same fine motto, which means, of course, "I serve."

That is the proper legend, inscribed in all our history books, great and small, and masters and students have all believed it. It troubled not a few minds during the late war that the Prince of Wales should have for his motto a sentiment expressed in High German speech.

Now for the surprise. The motto is misspelt. It should not be the High German "Ich Dien," but the Guelderland "Ich Dene." That instantly destroys the romantic tradition as to the victorious prince borrowing his stricken captive's motto, for "Ich Dene" tells of language adopted from Dutch land with which England had associations through the marriage of our Edward III's. sister to the Duke of Guelderland.

The secret comes out, most fitly, through the chance discovery of a beautiful old manuscript which must have been written in the lifetime of the Black Prince. It is written in old French poetry, and describes the life and deeds of the Black Prince, and it gives the proper Guelderland spelling of his "Ich Dene." The document has lain hidden for century after century in the library of Lord Mostyn in Wales. It was found and sold as a not very precious curiosity last year. Just in time its historical interest was revealed, and to preserve it from its destined goal—America—members of the University of London bought it, and have presented it to the Prince of Wales.

All this romance of scholarship the world owes to the learning and patience of Sir Israel Gollancz. The document is the only one known to exist written in the lifetime of the Black Prince.

Live stock is as important to a balanced agriculture as protein is to an efficient ration for the dairy cow.

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