Soils and Crops

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The Growing Pullets, Their Care and Management.

Upon the care and management of the growing pullets, from the time that they leave the brooder house until they are put into laying quarters for the winter, will depend very largely their capacity for early winter egg production, and the consequent profit which can be realized from them. Each autumn, altogether too many underdeveloped pullets are put into winter quarters, with the result that they never develop thoroughly, and in consequence never make good winter layers.

The three essentials to proper care of the pullets at this stage are good range and shade, a well balanced ration, and comfortable housing.

It is impossible to place too much emphasis upon the necessity of free range for growing pullets, for without this the probability of their maturing before weather conditions make it necessary to put them into winter quarters, is very small. Ideal range is to be found in an orchard, and more especially when it has been seeded down with alfalfa, clover, or buckwheat. Failing this, however, almost any dry, well drained land may be utilized for this purpose, but the more growing green feed and shade that are available, the better. In the event of there being no shade whatever, artificial shade must be provided, either by means of canvas or sacks, or by putting up shelters of branches. If the quantity of growing green feed is limited, cut green feed must be supplied in large quantities, as this is a most economical feed for growing pullets. On farms where corn or sunflowers are grown for ensilage, it is an excellent plan to turn the pullets into it as soon as it is grown sufficiently to provide shelter. The backyard poultryman who raises only a limited number of pullets can profitably plant a small patch of Jerusalem artichokes, or sow either corn or sunflowers in the yard, and by so doing will provide not only shade for his young stock, but also a valuable source of green feed.

Like all growing stock, pullets consume large quantities of food, and in feeding them, nutritive value, palatability, and economy must be considered. From the age of two months, until they go into winter quarters, dry mash in self-feeding hoppers should be kept before them constantly. This mash should consist of equal parts by weight of cornmeal, bran, shorts, ground oats, and beef scrap. Better results will be obtained if in addition to this dry mash, a semi-wet mash consisting largely of chopped green feed be given twice a day, even when plenty of growing green feed is available. The chopped green feed for this mash may consist of mangel tops, alfalfa, clover, cabbage leaves, corn tops, sunflower tops, etc. Two parts by weight of this green feed should be mixed with one part of dry mash (composed of cornmeal, buckwheat meal, and barley meal in equal quantities), and the whole well mixed with half a part of milk, and fed in troughs. If any one of the three ingredients of this dry mash is not available, it may be replaced by the dry mash used in the hoppers.

In addition to the above mentioned feed, a hopper of good mixed grain and a plentiful supply of milk, if possible, should be kept constantly before the pullets, for too often they suffer from underfeeding, the breeder assuming that they will get all the grain necessary in the fields or on range.

A very common error is that of leaving the growing pullets in the same quarters as the hens. A portable colony house on skids can be made very inexpensively, and this should be placed well away from the poultry house for the summer months. It should be dry, well ventilated, free from draughts and provided with roosts, and should be thoroughly disinfected two or three times each season. It is absolutely imperative that the pullets should not be overcrowded in their summer quarters, for this will seriously affect their development. Details regarding a colony house which can be used either as a brooder house for the young chicks, a colony for growing stock, or a laying house for twenty-five hens, can be obtained from the Poultry Division, Experimental Farm, Ottawa.

As stated at the outset, given good parent stock, good shady range, a well balanced ration and comfortable housing will assure well developed pullets, which will lay early in the winter when egg production is most profitable.

Tip Burn of Potatoes.

This disease is first seen on potato plants about the latter part of July, with the most severe effects from the middle of August to the first week in September. The leaves exhibit a burning at their tips and margins, later the whole top withers and the plant dies prematurely. This condition is most notable in hot, dry, windy weather and particularly during periods of dry and sunny weather following rain.

With regard to the cause of this disease, there is much difference of opinion, and several agencies have been suggested as responsible for the burning of the leaves. The effect of excessive evaporation of water from the surface of leaves in extreme heat and sunshine, with the consequent death of certain cells in the leaf, has been suggested as the cause of tip burn. Other authorities claim to have definitely demonstrated that the potato leaf hopper is the cause of tip burn; thus the name "hopper burn," which is also applied to this disease. More recent investigators associate the leaf hopper with the disease, but claim that there is some "specific," either normal or extraneous, which is transmitted by the leaf hopper and is the direct cause of the burning on the potato leaves. This was shown by the fact that tip burn could be produced by inoculating macerated leaf hoppers into potato leaves.

The regular Bordeaux mixture spray has been found to be beneficial in the control of this disease. Those believing in extreme heat and sunshine as the principal causal agency, associate this control with the layer of Bordeaux mixture on the leaf acting as a protection from severe evaporation. Others claim that it destroys the hoppers and again the spray is also supposed to act as a deterrent for hoppers.

In any case the Bordeaux mixture has been demonstrated as capable of arresting the development of the burning and this is but further proof of the importance of careful and systematic spraying of potato plants.

July Garden Planting.

There are some varieties of garden truck which must have the entire season in which to mature. These will not be ready for use until autumn, but the early planted, early maturing garden truck, or those which are fit for use before their maturity are now ready for use and will soon be gone. It is now time to plant more of these for fall and winter use.

Winter cabbage plants should be set out during the first part of July. If you have not grown your own plants, be sure and purchase plants of the winter variety, as the keeping qualities of earlier strains are not good.

String beans, peas, beets and sweet corn are all fit for table use before they reach their maturity. A planting of these now will insure a good supply for table use in the fall. Probably there is more Golden Bantam sweet corn seed used for July plantings than any other kind. There are several varieties of string beans which may be planted as late as July, as nearly all kinds are fit for use in six or seven weeks from date of planting. Beets, too, will be fit for use in about the same length of time as the string beans, therefore there are many varieties of them which may be sown in July, but many gardeners believe the long and half-long kinds to be the best to sow for fall and winter use. These varieties may be sown even as late as the very last of July or first of August.

Don't forget a patch of turnips. They are good as fertilizers, good for the stock and nice for the table. With the exception of one or two of the very early sorts, almost any variety will do when sown in July.

In July, too, should be sown the winter radish. This, as its name implies, is the radish which keeps for winter use. There are a number of varieties of these and they may be had in three colors—rose color, white and black.

Swiss chard, kale, kohlrabi, corn salad, endive and parsley are some of the other things we may plant in July in our garden. These are perhaps not as commonly grown as some of the other things in our garden, but you will want them again, once you become acquainted with them. Swiss chard and kale are used as greens while young and tender. Later the midribs of the Swiss chard are cooked like asparagus or made into pickles. Corn salad, endive and parsley are used in salads and in garnishing dishes. Parsley is also often used in soups. Kohlrabi must be used while young and tender. Later the bulbs become tough and woody. These bulbs, while young and tender, are sliced and cooked like turnips and are very appetizing.

Marketing Dairy Products.

The time has arrived when the products of the dairy farm must be merchandised. While the conclusions of our scientists have clearly demonstrated the absolute need of an abundance of milk, of milk products, in the human diet, the fact still remains that milk substitutes are still being distributed where the products of the dairy should be sold.

There is at least one reason for this. These substitute products are brought to the attention of the public in an attractive manner. The sanitary conditions under which they are manufactured are emphasized. The neat package in which they are sold is visualized on billboards and the printed page. The best artists are employed to bring together every device of form and color in order to make the public believe that here is a class of products that should be in every respectable home.

While the dairyman has the advantage of the scientist's testimony, he has failed to use this testimony in making his appeal to those who buy the product. Consequently our dairy markets are suffering. The present dairy-market situation is the result, not of an over-supply so much as it is an under-demand. The Canadian dairyman can help his cause much through the most insistent preaching of the virtues of his product.

A dog is a poor garden fence. It is cheaper to build the regular kind.

The Gentle Art of Vacationing

By Katherine Bregy

There are many times a year when every normal human creature (and now and then a creature not so human) longs for a change; when routine becomes insufferable just because it is routine, and in spite of the apostle we are distinctly weary in well-doing and ill-doing, too. It is not merely the "skidding" instinct, nor yet the "sweet-do-nothing" languors. For probably if the chance could be snatched, the vacation taken, many a bill of doctor or psycho-analyst might be forestalled. If one is very wise, or very wealthy, one may get the habit of the winter or early spring holiday. But there is at least one time in the twelve months when every one feels like claiming a vacation, and like planning it out with a clear and cheerful conscience—and that time is here.

Few things are funnier or more suggestive than the reactions of various people to their summer outings. There are those who never fail to make a mistake. Perhaps they miss the essential train or boat at the outset—or else they find that their chosen hotel has changed management—or that their traveling companion has suddenly developed into impossibility. Sometimes they spend all their money the first week and return home in humiliating haste. Sometimes they are afraid to spend their money, and never really break loose at all. The result is the same—comedy or tragedy, their vacation is a failure. And humorously or pathetically, they bewail it all the autumn.

Quite as trying are the people whose vacations are invariably a success. Having mapped out the holiday themselves, they feel honor-bound (or isn't it pride-bound?) never to admit disappointment. These are they who smile glamorously as they describe a small mountain resort where they have passed two entire weeks of rain—or a fishing trip where (as we learn from others in the party) not a single minnow was sighted, and even the laurel had disappeared along the banks. Alas and alack! these are also they upon whose advice we ourselves were once deluded into trying some marvelously economical seaside hostelry — where we soon discovered the mosquitoes had found a happy hunting ground, and the butter and eggs (unlike Caesar's wife) were not quite above suspicion. We recognize these professional optimists after a few seasons, and when we see them sauntering along Main Street in September we surreptitiously slip around the nearest corner. For, after all, there is nothing more irritating than habitual content—except, of course, habitual discontent!

Freedom from the Familiar.

Most of us look back upon a few radiant vacations, with many dull ones in between. Most of us are frankly eager to find some recipe for crowding as much cheer and as little disenchantment as possible into the space at our disposal. And obviously, there must be a different recipe for each type of person. For the first requisite of a vacation is that it shall vacate—that it shall free us (does not the word mean just that?) from the too familiar scenes and routine of life. If it does not do this it is not quite a vacation, although it may have all the minor virtues of climate and comfort and bodily health. For it is not only the body—"Brother Ass," as the Little Man of Assisi used to call it—which needs to recuperate. It is the mind, the heart, the imagination—all the frayed nerves and tired ideas and wavering will which drive poor Brother Ass on to the breaking point. What most people need is change—a glimpse at the other side which will supplement their own daily life, stretch it and bring back its zest.

Those who work too much need quiet and a chance to dream; those who rest too much need some stimulating sort of work. Those who live in turmoil need the quiet spaces of sea or woods. Those who are close-tied cry out for the variety of travel. Simplicity is the happiest foil for the sophisticated—and the hardest to find. But for the farmer and the farmer's wife, probably the best possible vacation would be a week in a large city (no matter how high the temperature might be!), with shops every morning and theatres every night.

Whom to go with is another problem, for the contiguity of travel is a prime touchstone. It will bind or lose friendship; and for this reason people have learned to ease the monotony of their journey by traveling four abreast. For two at a time will generally be found to agree upon a day's program, and the friction of too unbroken contact is avoided. It almost seems a pity that convention and convenience send families off all together for their vacations, for the family atmosphere is bound to go with them even into China or the Rockies. And often what we need most is just a little distance from the people we love and live with. For it is the hardest thing in the world to see anything—or any one—clearly when day by day and year by ear we travel along too close for perspective, and too certain of one another for one pang of illuminating loneliness. Most of us get such a hunger for solitude at moments (it seldom lasts into hours!) that we want to escape from every one we know, and would love best of all to escape from our exasperating selves. * * * Of course, this is our own fault. If we were more like Robert Louis the Beloved, for instance, we might risk traveling with a donkey (sister, perhaps to Brother Ass!) and write about it afterward to the great enchantment of the stay-at-home. If?

The Ideal Holiday.

As a rule it is the short vacations which are the happiest—unless we have the great good fortune of long wandering from place to place, with many different pitchings of the friendly tent. Our short vacations are freer and more vivid. They do not develop into a routine of their own, and they do not unfit us for the old routine we must take up on our return. Three weeks of our heart's desire—three days, three hours, even—are better than three months of a ready-made vacation. Why will men and women not listen while the heart still speaks about these things? So soon it grows a little tired, a little timid, a little indifferent—and ready to leave the choice of vacation to habit or circumstance, to the railroad or the real estate agent. * * * And a little later, all it will ask is rest.

THE SUNDAY SCHOOL LESSON

JULY 23

Daniel and the Lions, Dan. 6: 16-23. Golden Text—Who through faith subdued kingdoms, wrought righteousness, obtained promises, stopped the mouths of lions.—Heb. 11: 33.

Lesson Foreword—The Babylonian Empire has fallen and given place to the Persian and the incident here recorded is said to have transpired during the reign of Darius, one of the kings of Persia.

I. The Peril, 16, 17.

V. 16. **The king**; Darius, called by the book of Daniel, "The Mede." In the book of Daniel the term "Medes" is used broadly to cover the Persians as well as the Medes. The Medes formed a part of the Persian Empire. History tells us that Darius was the third king of Persia and that he reigned from B.C. 522 to B.C. 485. He was very liberal to the Jews, granting them a large measure of religious freedom and allowing them to rebuild the temple in Jerusalem. (See Ezra, 4: 3, 24; 5: 5; 6: 1.) **Commanded.** Like other kings of the Orient, Darius was an absolute monarch and none could gainsay his word of command. Nevertheless he had been inveigled into issuing this command by a trap set by his courtiers and, when once promulgated, the decree could not be repealed, v. 15. **The den of lions.** Lions were trapped in pits (Ezek. 19: 4, 8), and, after their capture, were kept in pits or dungeons. They were let loose when the king wished the sport of hunting. **He will deliver thee.** Driver says, "The king hopes even against hope that Daniel may by some means or other be spared his fate."

V. 17. **A stone, etc.** By this means the mouth of the den was secured. The stone, which formed the door of the den, would be round and flat, like a millstone, and would be set upright against the mouth of the den. Recall the great stone rolled up against the sepulchre of our Lord, Matt. 27: 60. **Sealed it with his own signet.** Herodotus tell us that all the Babylonians wore signets. They were cylinders, provided with a large hole which was bored through the core to admit a soft woollen cord for suspension round the wrist and neck. The king's signet denoted his authority and proprietorship. The stone was sealed with both the king's signet and that of the officials that neither party might steal a march on the other.

II. The Deliverance, 18-23.

V. 18. "Daniel is more at rest, though he is among lions, than Darius in his palace." Conscience-stricken at what he had done to him, the king passed a wretched night. **Neither were instruments of musick, etc.** "The king did not indulge in his usual diversions" (Driver).

V. 19. Morning came none too soon for the troubled king; at the first streaks of dawn he hurried to the den of lions.

V. 20. **With a lamentable voice.** It has been suggested that his agitated behaviour indicates an impulsive nature, accustomed to let the feeling of the moment sway it unchecked. **The king . . to Daniel.** Perhaps the interior of the den was not visible to the king. He could pierce it with his voice but not with his eye. **Is thy God . . able?** The king had a sort of half belief in Daniel's God but yet he was not sure whether He was stronger than the lions. His question showed that he was anxious to know whether Daniel's God could avail him in the terrible ordeal.

V. 21. **O king, live for ever.** Daniel's salutation was calm and dignified. Although the king had thrust him there and although he was in a state of jeopardy he made the usual reverential salutation to the king.

V. 22. **My God hath sent His angel.** The word "angel" properly means "messenger." The Hebrews believed implicitly in the existence of angels. They were thought to be the agents by which God's designs are accomplished in the world and frequently, as here, they were said to have a part in God's redemptive acts. The book of Daniel, particularly the latter half, shows a belief in angels developed beyond that of the earlier writings. It is not said that Daniel saw the angel. **Before him innocency;** inasmuch as Daniel had disobeyed the decree by remaining faithful to his God. **And also before thee.** His transgression of the decree was not to be interpreted as an act of disloyalty to the king. In acting as he had done Daniel was not a rebel.

V. 23. **Because he believed in his God.** Daniel's conduct throughout was a splendid adventure of faith. When, in the first instance, he disobeyed the decree, he must have believed that his God would keep him and later in the den of lions he committed himself in trust to God's providence. (See Heb. 11: 33.)

Application.

Daniel was a man of affairs, of public affairs. His was no cloistered virtue. He did not live a sheltered life; he was out in the open in the midst of crowding duties. He seems to have been Prime Minister, Minister of Home and Foreign Affairs, and Chancellor of the Exchequer.

This busy man of affairs found time for the offices of religion; he was a man of prayer. He truly believed in God, and was faithful. The best way to apply this lesson is to follow Daniel's example.

Daniel's habit of prayer is the explanation of everything which you admire in the man. Is he a man of courage? It is because he is a man of prayer.

"Thy God whom thou servest continually, he will deliver thee," said the king to Daniel. It is not a thing incredible. By what means the deliverance was wrought we do not know Various explanations have been offered. Some find in v. 14, a suggestion that the king's effort "to deliver him" was not to change the edict, but to have the lions gorged that they were torpid and sluggish; others attribute it to Daniel's mesmeric psychic power; while others look for no human factor in the deliverance, content with Daniel's word, "My God hath sent His angel, and hath shut the lions' mouths, that they have not hurt me." We do not need to determine whether the one necessarily precludes the other, divine purposes in human life are often wrought by human agency. The thing that really matters is that God does deliver.

The Bible is rich in testimonies to this fact. Paul (2 Tim., 4: 17), says of his trial before Nero and acquittal, "I was delivered out of the mouth of the lion." In this symbolic sense, how often has the miracle been repeated. Most Christian people have had many such experiences.

Hogs

While there are but three months of the year, November, December and January when the heavy 300-pound and heavier hog enjoys any prestige over his lighter rival of 180 to 225 pounds in regard to price. During those months they sell around ten to twenty cents per hundred above the lighter variety. The remaining nine months the heavy hog suffers a serious jolt, dropping from five to sixty-five cents below. It would appear that he was losing favor, too, as feeders are learning that it requires more corn to produce the third hundred than either of the first two.

I considered the method followed by my father an ideal one. Our hogs were farrowed in April. They run at large in the orchard, where they grew rangy upon the roughage that they were able to salvage for themselves. Weaning them in season they reached the fattening age at corn husking time.

It was my father's practice to husk corn by hand. In unloading at the cribs we always sorted the corn by hand, throwing the large sound ears in the crib, laying out the very choice ears for seed then driving over to the hoghouse we scooped the soft and nubby corn overhead to be fed to the hogs.

While this method consumes a little extra time, it fills the cribs with sound, uniform ears, free from silk or husks, to be ground into feed during the winter months.

Before the low grade corn had been consumed and when the husky porkers had reached a weight of approximately 200 pounds, they were loaded into the wagons, taken to the station and shipped. Of all farming operations, that resembled the finding of buried treasure more than anything else.

We feed the remainder of the soft corn to the sows and when that is gone draw upon the crib corn for the remainder of the winter and spring.

The Prevention of Swarming.

In an experiment looking for the prevention of swarming, conducted by the Bee division of the Dominion Experimental Farms, no entirely successful method of manipulation was found when the old queen was left in the hive. Previous investigations had indicated that the method of dequeening and requeening at the commencement of the main honey flow was the most promising. In addition to the prevention of swarming, the greater productivity of the young queen supplies one of the essential factors for successful wintering, namely, a strong colony consisting mainly of young bees. It also makes the colony more valuable the following year. In the experiment spoken of, the Dominion Apiarist reports that the colonies were examined every eight, nine or ten days after the commencement of the honey flow from clover and those found to contain larvae in queen cells (a practically sure sign that the colony will swarm) were treated by removing the queen and destroying all occupied queen cells. At the next examination, nine days later, the occupied queen cells were again destroyed and a young queen of select parentage introduced to each treated colony. It was revealed that a nine or ten-day period between the removal of the queen and the second destruction of the queen cells was better than an eight-day period, as the bees occasionally built cells over drone larvae after the eight days, while if left for eleven days a swarm might issue. This method required but two manipulations to prevent swarming and at the same time requeens the apiary.

Work that is not finished is not work at all; it is merely a botch, an abortion.

Poultry

The late-hatched cockerels will not bring high enough prices to make them very profitable, but as capons they will make a very desirable size for the season when capons are in demand from New Year on until broilers come again. You can get a good price for your late cockerels thus and at the same time have a much greater total product. While I think it pays to sell the very early cockerels as broilers when the price is high, it is a lot of trouble to rear them while small only to have two pounds each to sell. With the late cockerels they may be kept until, for the same care as the little chicks, we get from eight to twelve pounds to sell.

The new implements for caponizing are much better than the old sets and the work can be done easier and with more certainty. Directions come with the sets and the operation is not difficult nor very cruel.

Washing Day in Iceland.

Washing is hard and trying work except, perhaps, to the Icelanders, who clean their clothes in what is really a natural laundry.

About a mile and a half from Reykjavik, the capital, is a stream. First it jets warm and then very hot water. It is always ready for use.

A portion of this boiling stream has been enclosed by iron rails in such a way as to form separate receptacles, through which the hot water flows. Into these the women thrust their clothes, where they are boiled and cleansed. Near by are sheds where the garments are dried and ironed.

The teacher, the preacher, and the editor are mighty important people in a country community, and a little recognition of this will do no harm.

Exercise care when leading a horse through a low doorway. A blow on the top of his head will frequently cause poll evil. This ailment is very difficult to cure, and usually requires veterinary attention.

THE CHILDREN'S HOUR

Choosing Your Life Work.

Our life work should produce the maximum of two things; first, of personal enjoyment and, second, of service to the community. Every boy before he makes a choice of vocation should clearly realize this. The wise selection of business, profession, trade or occupation to which his life is to be devoted and the development of full efficiency in the chosen field, are matters of deepest moment to him and to the public.

The unfortunate thing in the past has been that so many boys have not made a definite choice of a vocation, but have taken the first "job" that offered and just drifted. Then in after years have found themselves burdened with a yoke. The yoke of uncongenial work, of distasteful environment, of inefficiency, of the knowledge that they are only half the men they should be either in personal development or public service. How may the boy avoid being burdened with a yoke in later years?

In the wise choice of a vocation there are three broad factors: (1) a clear understanding of himself, his aptitudes, abilities, ambitions, interests, resources, limitations and their causes. (2) a knowledge of the requirements and conditions of success, advantages, and disadvantages, compensations, opportunities and prospects in the different lines of work. (3) true reasoning on the relations of these two groups of facts.

Brockville, Ont.—A new Canadian record for mature cows was made by Queen Beulah, a Holstein cow, owned by Dr. H. G. Clark of Brockville, which in 305 days gave 957½ pounds of butter from 21,284 pounds of milk.

It is poor practice to send the dog after the cows, because cows become angry and excited, and heavy milkers may become injured. It is seldom that cows chased by dogs give freely of their milk.