

# Soils and Crops

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## THE STORAGE OF FRUIT AND VEGETABLES.

The storage of fruit and vegetables for home and market must receive greater attention than it has hitherto been accorded. The amount of waste annually is very great. As a first step towards eliminating this, every farmer or household with sufficient land to grow vegetables, and perhaps fruit trees, should understand more about storing the crop. Some crops keep best in an atmosphere that has a high moisture content, whereas others require a low percentage of humidity. So it will be seen that there cannot be a condition to suit all vegetables and fruits in the same cellar or storage building. Apples, pears, potatoes, carrots, cabbage, and onions, for example, should be stored in a dry atmosphere, while on the other hand winter squash, pumpkins, marrows and other such crops like a dry atmosphere. Moulds and rots soon destroy them.

If you know your cellar is a very dry one and you wish to keep apples, etc., in it, make provision for adding more moisture to the air by introducing wet sacks spread out or by sprinkling the floor, the idea being that a large surface must be wet and evaporation quick. The atmospheric humidity can be tested with a wet and dry bulb thermometer. Take the readings and check up on the chart which is supplied with it. A humidity ranging from 75 to 85 is satisfactory.

In case of squash and pumpkins, etc., any frost proof place which is dry is suitable—the top shelf of the pantry for instance, or shelves in the passage. Quality is often lowered by poor ventilation. Where crops are stored in large quantities ventilators should be open as much as possible to carry off gases and heat coming from a large bulk of any crop. When severe weather occurs close up the ventilators. Do not store a large volume of any crop while it is warm from the field unless you know that you can reduce the heat by proper ventilation. More attention must be paid to this when commercial storage is being done in the fall and our growers must help when asked to do so.

## GREEN FEED AND ITS VALUE.

The utilization of green feed in some form is rapidly becoming recognized as the most economical method of stock feeding. Not only can more live stock be kept per acre, but it can be fed at proportionately less cost. For example, on the Experimental Farm, at Napton, fifty head of dairy cows were carried through the summer season on twenty-five acres of

pasture (twenty of which was very rough, poor pasture), by the aid of green feed from four acres. There was no appreciable decrease in the milk flow, other than the natural falling-off toward the end of lactation period; further, the cows were in good healthy condition in the fall.

Oats, peas and vetch, when sown together, make an excellent mixture for green feed for dairy cows, because it is rich in protein and carbohydrates. Green feed will do much to reduce the cost of rearing calves. Ten pounds of good oats, peas and vetch have approximately the equivalent in feeding value of three pounds of ground oats. In other words, if oats are worth \$37.60 per ton for feed, green feed from oats, peas and vetch would have a feeding value of \$11 per ton.

When green feed in the form of clover, rape and oats, peas and vetch is provided for our brood sows we are able to reduce the meal ration from six pounds per head per day to three pounds, which is a saving in mill feeds of three pounds per day, or 5 cents per sow per day. The following method is adopted for supplying green feed, for pigs:—A small area near the piggery is sown with common red clover and alsike, with a cover crop of oats. As the oats reach the milk stage they are cut and fed to pigs in pens. The clover will come on early in the following spring and be fit to pasture off by the middle of June. Two more small paddocks are sown with rape as early in May as the soil is fit to work. This is usually ready for pasturing from the first to the middle of July. A third paddock is sown to oats, peas and vetch. This is cut and fed to pigs in pen, being ready about the last of July. In this way there is provided a continuous supply of green feed for the brood sows and growing pigs throughout the greater part of the season. Oats, peas and vetch are mixed as follows: Banner oats, 1 1/2 bushels; Gold Vine peas, 8 bushels; vetch, 1/2 bushel; and sown at the rate of 3 bushels per acre. Rape is seeded at the rate of 8 pounds per acre, broadcast. Common red clover is seeded at the rate of 10 to 12 pounds and alsike at the rate of 2 to 3 pounds per acre. It is not a good plan to turn the pigs in on the oats, peas and vetch, as there is too much waste from tramping. In feeding the rape, allow the pigs two or three hours per day at first; later they may be allowed full range of paddock. If the practice of growing green feed for pigs is once established, its value as an economical stock feed will soon become apparent.

## Small Fruits, Roses and Iris

It is a great mistake to neglect the small fruits once they have finished bearing for the season.

If the strawberry bed is to remain the litter which was put down as a mulch and to keep the berries clean should be raked away from the plants into the alleys, and all runners cut off. Then both can be removed and burned. It is well also to cut off the old leaves, for in this way any diseased or insect-infested growth may be got rid of. Where there is no danger in doing so, the mulch, leaves and runners may be burned between the rows of plants. The plants may look a little sick following the scorching, but after the first good rain they will send forth new leaves most vigorously, and the ashes left between the rows will serve as manure.

When all rubbish has been cleared away or burned, the beds must be hoed to kill weed growth and loosen the soil. Weeds growing close to and among the plants must be pulled by hand. Hoeing should be continued throughout the season, so that the beds and plants will be free from weeds when frost puts a stop to garden activities for the season.

As a strawberry bed is past its prime when it has stood for three years, it is a good plan to make a fresh planting every year—or at least each alternate year—and in this way you will always have a bed in its prime.

## CUTTING OUT RASPBERRY CANES.

As raspberry canes that have fruited die off naturally in the fall, it is better to cut them out now, and thus give the new canes a better chance. Cutting makes the new canes more clearly evident, and if there are more than five to each plant the weakest should be removed. If small they can be pulled up and will grow if transplanted in moist soil. The best young canes for forming new plantations are those that spring up between the rows some distance from the parent plants. After removing the old and surplus canes the ground should be hoed and kept clean during the remainder of the season.

Blackberries are cared for in much the same manner as raspberries, and currants—red and white—also gooseberries, are all the better for summer pruning, as they usually bear on spurs of the old wood. All side shoots, with the exception of any required to form new branches, are best cut back within

about five inches from the base; but do not touch the leaders. In winter or early spring all that has to be done is to cut the laterals to about one inch of the base, and shorten the leaders about one-half, according to their strength.

It is of the utmost importance that the bush-fruit plantation be kept quite clean during the season. Regular hoeing and the removal of weeds will encourage growth that is so essential for next season's crop.

Roses, especially those of the free-growing rambling varieties, greatly appreciate pruning after flowering. They are of the simplest possible culture and invariably thrive in any fairly good soil. All shoots of the previous year's growth are cut out, retaining only those of the current year, as it is on these shoots that the finest flowers are borne.

SOME OF THE FINEST CLIMBERS. During the past twenty years or so innumerable varieties, hybrids and sports of the type have been raised and introduced, the most notable being Dorothy Perkins. In addition to its being one of the most prolific bloomers of all climbing roses, Dorothy Perkins is most accommodating as to soil and position, thriving and flowering freely where others would fail.

Among other popular and really worthwhile varieties of this type, the following have qualities and beauty that place them in the front rank of valuable climbers: Crimson Rambler, rich rosy crimson; Flowering Fairfield, vivid scarlet, splendid for arches or pillars, very vigorous plant, blooms periodically during the summer; White Dorothy and Source of Gold.

Do you purpose increasing your stock of iris? If so, this is now the best season for dividing and replanting the clumps.

The flag or bearded iris—*Iris germanica*—has many forms, which make noble groups during spring, succeeding almost everywhere. Even when not in bloom there is charm in the silvery-toned leaves.

If adding to your list of varieties, by all means procure the roots as early as possible, as summer or early fall planting will result in flowers the first season.

Tibet is the loftiest region of its extent on the globe.

## The Farm Water Supply.

In locating the farm home the first essential is a sufficient supply of pure water easily accessible. The origin of fresh water in the earth is usually traceable to the rainfall upon the surface. The earth's crust consists of many layers of varying thickness. These, when considered in connection with water supply, are divided into two classes: porous, or those that will allow water to percolate or flow; and impervious, or those that prevent the movement of water.

When a porous stratum overlies an impervious one there is the collection of the local rainfall from the immediate surrounding drainage basin. When a porous stratum underlies an impervious formation the water will be collected at the outcrop of the former, which may be at a great distance from the well. Should that point be at a higher elevation than the location of well, artesian or flowing water would be secured. This overflow might have sufficient head to elevate the water into homes and barns. In the course of time underground streamlets and streams have formed, and fortunate is the person that locates one of these when digging for water.

These streams usually flow along the surface of an impervious earth layer and frequently terminate in a spring on a hillside. The source of our farm water supply is usually a well that penetrates the ordinary ground-water level or that taps an underground stream. Some are fortunate in locating near a spring, and others get their supply from a stream that flows through the farm. These sources are all good, provided that they are free from contamination. There are three types of wells in common use: the dug well for shallow depths; the driven well for earth formation; and the drilled well where the water bearing stratum is overlaid by rock or hardpan.

These wells should be protected from polluted surface water. For this reason the well should be located on rising ground, so that the surface water will flow away from it. Dug wells should be walled with watertight material. If stone or brick is used, cement mortar should be used to seal the interspaces. Concrete makes a good, tight wall. Wells driven through clay are usually safe. Drilled wells should be lined with wrought-iron casing extending to the rock and driven into it to form a water-tight joint.

There are three methods in common use in conveying the water from the source of supply to the farm buildings. First, by gravity, when the source is higher than the buildings; second, by the use of an hydraulic ram, when there is an abundant supply of running water to operate it; third, by the use of a pump. In installing these last mentioned, galvanized iron pipe of sufficient size to meet the farm requirements should be used.

There are many types of pump on the market. For shallow wells the siphon pump with cylinder in the barrel may be used. For deeper wells the suction pump may be used if the cylinder is placed within 25 feet of the low water mark in the well. The single and double action pumps, with or without power, can be used to elevate water to the desired height.

When water has to be elevated the wind-mill is a cheap source of power. A gasoline engine will do the work at a very low cost, and pumping can be done while the engine is at other work. Water from limestone formations is hard, and not satisfactory for washing. Rainwater, which is always soft, can be collected from the roofs and stored in cisterns for washing purposes.

The home and barns on every farm need water on tap wherever required, much more than does the city home; because the farm requires more water

per capita and the people on the farm have less time to carry water. It is estimated that the average farm family of 5, with 4 horses, 33 head of cattle, 50 sheep and 10 pigs, requires over 600 gallons of water per day.

In conclusion, then, the farm water supply should be adequate to meet the maximum requirements every day; it should be reasonable in cost, simple in construction, durable and easy to operate; it should be fresh, pure and cold at the taps, and it should be available for fire protection.

## Swarm Control.

Natural swarming may be termed the bugbear of beekeeping and to control it is the most difficult problem of the beekeeper. Natural swarming usually occurs during a honey flow, especially at the beginning and if the swarm is allowed to issue it may be lost or the honey crop reduced. In order to get the maximum crop of honey from a colony it is advisable to keep the working force of the colony together by using some method of swarm control.

Swarming is usually caused by overcrowding or congestion of the brood nest and any manipulation that will relieve this congestion will often prevent swarming. All colonies do not require the same treatment, and preparations for swarming may often be checked by applying the following manipulations: 1. By giving the queen more room for egg production. 2. By adding more supers for the storing of nectar. 3. By giving the colony more shade and ventilation. 4. By raising a few combs of brood from the brood nest to a super. 5. By destroying queen cells before they are far advanced.

The swarming fever may be so intense that some colonies will not respond to the above measures and may persist in their determination to swarm; with these more drastic measures must be applied. 1. Artificial swarming, in which the bees and queen are all shaken out to a full set of empty combs or full sheets of foundation. The brood is put into a super and placed on top of the colony above the honey supers. In the production of comb honey the brood is placed in another hive standing alongside of the original colony; in this case enough bees should be left in the old hive to take care of the brood. 2. Remove the old queen from the hive and destroy all queen cells. Ten days later again destroy all queen cells and introduce a young laying queen. 3. In localities where the honey flow is short and very heavy the removal of all the brood and bees from the brood chamber to a top super and leaving the queen on a full set of empty combs below will often stop swarming. These three manipulations should only be applied when larvae in queen cells are found.

It is a good plan to clip the queen's wings in the spring, especially in out-apiaries for should a swarm emerge between visits there is less likelihood of the swarm ascending. Should a swarm emerge with a clipped queen, she will be unable to fly and can be found on the ground at the entrance of the hive. The queen should be caged, the old hive moved to one side and a new hive put in its place while the swarm is in the air. The cage containing the queen is placed at the entrance of the new hive and when the swarm returns the queen is released. The supers from the parent colony are then placed over the swarm and the parent colony can be either placed on a new stand or left by the side of the swarm.—C. B. Gooderham, Dominion Apiarist.

In the Province of Nova Scotia and the other eastern provinces almost half of the cost of educational and demonstration work in agriculture has been provided out of the Federal grant.



A GERMAN TRAGEDY. Not enough money to pay for an apple. London Daily Express.

## Home Education

"The Child's First School is the Family"—Frederick

## Catalog and Booklet Fun—By Lydia Lion Roberts

There are all kinds of pamphlets, booklets and discursive matter printed nowadays to advise and show busy people about almost everything. A great many of these find their way to a housekeeper's door and are often glanced at carelessly and thrown away. This is a mistake if there are children in the home, for out of these booklets may come many lessons and some good times. A mother will find it worth while to watch the magazines and send for the most attractive of these, not only to learn about the newest and best ways of doing and buying things but to help the children learn about this big, unknown world.

When a rainy day, or a "what shall I do now?" time comes, the lucky mother brings out her group of booklets and gathers the children around her. Many a mother can explain about these things easier than tell a story, and this is the way she can use the booklets. It will start a lot of questions, all of which she cannot answer, but it will prove an interesting time. There are booklets telling of our parks, scenery, birds, woods, and the kind that tell how things are made. These are free for the effort of writing for them and give the children some idea of what is going on in their country. The pictures may be used for scrapbooks and clippings made of the most interesting facts told. It will make the children think about the bigger things of the world and want to know more about them.

As an illustration of the uses to which these booklets may be put, a few of the ways we have used them in our home may help other mothers. There came one mail one day a booklet describing a set of nature books, in which there were colored pictures of birds. The oldest boy of the family became interested in the many varieties of birds and decided to start a bird scrapbook. We sent for other booklets and he cut out the bird pictures, many of which were very beautiful.

## THE CHILDREN'S HOUR

### HOW YOUNG CANARY'S CONCEIT WAS CURED.

On a beautiful, sunny, golden day in June, a lovely, sunny, golden canary was floating and flirting and twirling in the magic summer air. He kept up a running ripple of happy twitterings. Occasionally he lighted on a purple thistle and burst into song. He sang beautifully, throwing his head back and pouring forth melody so lovely that all the birds far and near stopped in their work or play to listen to him.

Just out of sight but so placed that they could see him, two of his sisters sat and watched him with admiring eyes.

"Isn't he wonderful?" they whispered. "Surely he's the handsomest, as well as the most gifted singer in all the world!"

"I do believe he knows how becoming that purple thistle is to him, and that's why he sits on it as he sings. It certainly sets off his yellow waistcoat, doesn't it, sister?"

But in their nest in a willow tree, by a dear little prattling brook, Mr. and Mrs. Canary were discussing the same young gentleman in quite a different way.

"My dear, I am really getting quite worried about 'Yellow Ball,' said his father. 'Things cannot continue like this. He is getting so conceited that soon there will be no living with him.' 'Our son is so handsome,' put in the mother wistfully.

"Yes, but we don't want his character ruined. That's the trouble with you women! You all spoil him; his sisters and his friends, every one of you, make such a fuss about him. I tell you his disposition is being ruined. Something must be done. He will become a useless member of society and will never get a dear little wife for himself as I have."

Mrs. Canary blushed with pleasure. Have you ever seen a canary blush? They don't become rosy, just imagine how unbecoming it would be to their golden complexions! No, just a deeper shade of yellow darkens their cheeks. Well, Mrs. Canary blushed, and looked extremely pretty as she did so.

"Perhaps you are right, my love," she said. "What do you think we could do to overcome this fault in our son?"

"That is a matter I shall have to give my serious consideration," replied her husband. He flew off to a nearby bush and fluffing himself up into a yellow ball, sat and thought out a plan.

That evening, before the children had come home, he said to his wife: "Didn't I hear you say, my dear, that the children were going to a fancy kind of party at Mrs. Thrush's tomorrow? What kind of an affair is it to be?"

"Mrs. Thrush calls it a flower party," explained Mrs. Canary. "All the birds are going to be given the name of a flower—the flower they most resemble."

"Oh," said her husband, "that gives me an idea! Au revoir, my love, I'm off to see Mrs. Thrush for a few minutes, and away he flew.

tiful, and one of them had an interesting account of Audubon's life which was read carefully and added to the book.

Another time we sent for a catalogue describing different kinds of wood and giving a short history of the different trees and the way the wood was used. The children were much pleased with this and gathered woods of many kinds and uses and noted the differences.

The railroad folders are often illustrated artistically and we used these to help in geography lessons, as the pictures and descriptions of the train routes and scenery, besides the brief accounts of important landmarks helped geography seem more real and vivid to the children.

Almost all of these catalogues helped in school work as the children had interesting or odd bits of information to give to the class, and when making collections to go with the booklets, took these to school to show the teacher and the children. The teacher liked this and encouraged other children to bring outside illustrations to the lessons.

In the children's bookcase there is a special shelf for booklets and catalogues, and they are very useful for references and handy to pick up in idle moments and read. The tiny tot of the family likes to have a slight story woven around some of the illustrations in which a little girl or boy visits the various places pictured, and has mild adventures. The mechanical boy of the family writes for every booklet on machinery that he can get, and studies them to see the new ideas and inventions of the world, getting all the information possible to help him in his chosen work of invention.

It really seems as if there is a catalogue or booklet to suit each one of the children, and if a child has a special talent or interest, it is wise to help by sending for every thing that will in any way broaden and enlighten.

Mrs. Canary, left in her dainty thistle-down nest, shook her head over the oddities of the masculine sex; but as she considered her husband the most wonderful being in the world, she wisely decided to say nothing and await developments.

The children themselves were very excited about the party. They talked about it in excited whispers when they were supposed to be going to sleep that night.

"Of course, 'Yellow Ball' will be chosen the very handsomest of all the flowers," said his sisters, "I wonder what is the very handsomest yellow blossom."

The following day saw them start off for Mrs. Thrush's home in a nearby meadow, all bathed and preened and in a great flutter of gloe.

"Wait and see the result of this party, my dear," chuckled Mr. Canary to his wife. "I feel sure my plan will be successful."

A very quiet troop of birdlings returned from the party that evening and Yellow Ball departed to a shrub all alone in the greatest dejection. Mr. Canary called the girls to his side. "Well," he said, "come and tell us all about the party. Was it a success, and what flowers were you all called?"

"It wasn't a very successful party," said one of the little birds. "Sister was chosen a butter cup and I was a daffodil, and—er—we had a lovely feast, but—"

"But?" "Well, Father, you know we all thought Yellow Ball would be chosen the loveliest flower of all, but—but— but he was decided to resemble nothing but a common dandelion, the most ordinary of all the yellow flowers. Wasn't it awful?"

"Awful," said their father, laughing. "do him a world of good, and teach him a much needed lesson, I hope."

"Wasn't my suggestion to Mrs. Thrush a fine idea?" he asked his little wife later.

"It was, indeed," she agreed. "But then, of course, every one of my wonderful husband's ideas are good," she added to herself.

But Yellow Ball was a changed bird from that day. Mrs. Thrush's party had certainly made him realize what a foolish fellow he had been.

"Well," he said to himself, "a dandelion may be a very commonplace flower, but anyway if I am like a dandelion in its sturdy happiness and cheeriness, I shall do very well in the world indeed."

Short courses in agriculture for men and in domestic science for women have been an important feature of extension work assisted by the Agricultural Instruction grant. Held either under local auspices or offered by the schools and colleges of agriculture, their aim has been to give instruction on improved methods and practices. Every branch of farming has been dealt with, from stock-judging to motor mechanics for men and from general housekeeping to the domestic arts for women, often accompanied by demonstration.

The Ontario Live Stock Improvement Train is reported to have had an attendance of about 700 at each stop. Some 30 bulls and 120 hogs were sold for breeding purposes.

## The Worst Enemy of the Woodlot.

Fire is one of the worst enemies of the forest and the smaller woodlot, and every precaution should be taken to keep it out. It is especially dangerous at this time of the year when everything is so dry and there is little rain for weeks on end. In a few minutes through carelessness or the lack of a single precaution, the work of several years may be entirely wiped out.

Fire in the woodlot destroys the young growth up to ten and fifteen years of age. It burns up the humus and accumulated food of many years and robs the trees of moisture. It destroys the seed bed for new growth and, consequently, minimizes reproduction. On older trees it kills large areas of the cambium and opens the door for fungus and insect attack and necessitates the cutting of a high stump.

Where a small piece of woodland stands alone, there is little chance of fire. But where the danger from fire is imminent, either by proximity to larger forested areas, by the presence of grassy roadways or fields, or a railway right-of-way, some precautions should be taken.

Fire lines may be laid out consisting of a few feet of cultivated soil or a strip from which the brush and forest litter has been cleaned away. These should separate the woodlot from the source of danger and in case of fire will be a means of prevention or control.

Brush which has been allowed to accumulate during several cuttings is the owner's worst enemy in case of fire. This should be piled as cut and burned when snow is on the ground. Cattle or stock of any kind in the woodlot are a serious source of development. The damage inflicted is much the same in result as that caused by fire. The young growth is eaten down or destroyed, the ground is packed hard by their hoofs, roots are uncovered and injured and bark on larger trees rubbed and gnawed off. In the summer's heat at this time of the year, the dairyman or farmer with a woodlot is sorely tempted to give the cattle freedom therein if only for the cool of the trees. However, if it is found necessary to run cattle in the woodlot it would be preferable to fence off a section for this purpose. This would mean that a part of the area would be able to reproduce naturally and enjoy a period of protection, after which the fenced and open parts might be exchanged for grazing.

The worst enemy of the woodlot, however, is often the man who owns it. By lack of good judgment he may have at the end of a few years a woodlot filled with old, crooked and misshapen trees. No thought of a future crop is given; the best trees are cut for fuel; the border is opened up; the trees are thrown by the wind; cattle are allowed to browse during the summer and fire is permitted to ravage the area with the result that in a few years a piece of woodland, which was capable of supplying the farm with fuel and occasional pieces of timber, as well perhaps, maple syrup, becomes a tangle of upturned stumps and scrubby growth.

## Dairy Products — Imports Into Britain.

According to official statistics the imports of butter into the United Kingdom from Canada for the first five months of the year were 254 long hundredweight compared with 170 hundredweight for the same period last year. The United Kingdom imports of butter from Denmark this year were 984,000 hundredweight, from the United States 10,325 hundredweight, from the Argentine Republic 285,429 hundredweight, and from Australia 480,597 hundredweight, and from New Zealand 749,735 hundredweight.

The imports of cheese from Canada into the United Kingdom for the first five months of this year were 75,798 hundredweight, compared with 94,243 hundredweight last year. From the Netherlands, including Denmark, the United Kingdom imports of cheese this year were 95,070 hundredweight, from Australia 36,991 hundredweight, and from New Zealand 835,132 hundredweight.

## About Garden Bugs.

After the garden crops are harvested it often pays to rake up the old stalks and burn them. This may destroy insect pests and fungus spores which would cause losses next year. If any weeds have developed seeds they can also be burned.

The term "wireworm" is applied to numerous forms of elongated wire-like creatures, the larvae or snapping or click beetles and the name was given to them on account of their firm texture, which is much different from that of most insect larvae.

It is a well-known fact that the ladybird beetles are very beneficial, and this is proven in many ways. One scientist records where these insects have eaten fifty to sixty aphids in a single day and there are several records where they have eaten a hundred in the same length of time.

Many prairie farmers this year are trying plots of corn for the first time, and much interest is being shown in this crop.