Soils and Crops

Address communications to Agronomist, 73 Adelaide St. West, Toronto

How I Remodeled My Old Poultry House.

When I bought my farm in Southern Ontario it contained only one poultry house of the semi-monitor type. It was built of matched lumber on a stone foundation, and had an open front.

We could find no serious fault with the outside of the house. But the interior was not modern. It was not arranged for the satisfactory management of poultry. The roosts were nailed to the walls of the house. This furnished an ideal breeding place for mites, and when the roosts were pried out we found plenty of them. They hung in clusters beneath the roosts. We painted the old roosting poles with kerosene, then added the roosts to the kindling-wood pile, to make destruction doubly sure.

The house contained no dropping boards, which made the condition of the floor bad, and reduced the scratching area. So we built a dropping platform of smooth lumber along the back wall of the house. Roosts were made by planing the upper edges of two-by-three pieces until they were rounded and smooth. These roosts were then nailed in sections of three roosts each, and each section was hinged to the back wall of the house.

A hook placed in the middle of each section permitted the roosts to be raised easily, and hooked to the ceiling when the dropping boards were cleaned. It also made it easier to paint or spray the roosts on the under side where red mites are not likely to appear.

The nests were boxes tightly nailed to the wall. Now, I have found by experience that nests must be loose, so they can be taken outside the house for emptying, followed by sunning and spraying. Nests that are tightly fastened to the wall form breeding places for mites and lice.

I find also that open nests may lead to the egg-eating habit. In winter the birds may scratch in the litter of the nests after eggs have been laid. Eggs kicked against the side of the nest are apt to be broken and then eaten. Open nests also become unclean from the hens roosting upon them at night, or sitting on the edge during the day. In remodeling my house I built the nests in portable sections. If the top of a section slopes sufficiently the birds will not roost upon it. If the top does not have enough slope it pays to stretch a strip of poultry wire above the nests in such a manner that the hens cannot roost there.

Poultry nests must be so built that the eggs will be clean. An egg that is washed loses the film provided by nature to help keep it fresh. Dirty eggs look very bad, and the producer with a select trade cannot include them in filling orders. If the nests are slightly darkened and the nesting litter kept clean, the eggs will be clean with the chalky freshness which customers expect when they pay a premium for fresh eggs.

I find that a small wooden table is useful in a poultry house. It should hold the water pail and a crock or two of sour milk. Then litter cannot be scratched into the water and milk, making them a possible source of disease.

If there is no time to build hoppers, the grit and oyster shells can be placed in earthen crocks on this low platform. I find that hoppers are best, however, as they hold a larger supply and need filling less often. Hoppers for dry mash can easily be made of small packing boxes. Sketch the outline of the proposed hopper on the sides of the box. Then saw out the box to conform with the sketch, and use the material removed to board up the front of the hopper. Make a sort of lip in front so that the hens cannot waste it on the floor.

In remodeling my house I found that the curtains were hinged to the top of the windows so they could be pulled back and hooked to the ceiling. I also found that the hens had been roosting on the curtain frames, making them dirty and infesting them with mites. I took these curtains out and burned them. The new curtains are of the roll type. They are seldom used except during the two or three severe storms that come from the south every winter. Very heavy storms from other directions do not cause the snow to blow into the house and consequently the curtains do not have to be lowered.

I find that there are many poultry houses which do not give good service because of faulty equipment. The actual needs are so small in that respect that it pays to build the necessary portable equipment. Then reap the steady reward for your work, which is bound to come if you have a laying strain of hens and feed them properly.

Tip Burn of Potatoes.

A trouble which is widely distributed and very prevalent in some seasons, and to which the name "Tip Burn" has been given, is to be found among our potato crops. This trouble takes the form of a gradual burning and drying-up of the leaves of the plants, often commencing at a comparatively early stage in their growth and, in many cases, if allowed to go unchecked, slowly but surely involving the whole of the plants so that they die down a considerable time before the tubers are fully developed.

The appearance of this trouble in the fields is often mistaken by growers for Late Blight. There is, however, a marked distinction between the two, for Late Blight may commence by attacking any part of the plants—leaves and stems alike—has a dark water-soaked appearance and, in its early stages, is damp to the touch, while Tip Burn invariably commences at the margin or tips of the leaves and has a decidedly dry appearance and touch with the exception of after rain. It also appears much earlier in the season than Late Blight has ever been recorded and does not cause the death of the plants so rapidly. Nor has it ever proven so destructive as Late Blight, although evidence has been obtained that in seasons when it is severe and where no effort is made to check, a considerable reduction in the yield of marketable tubers, due to the premature death of the plants from this cause, may result.

Investigators of this trouble are not yet in agreement as to the cause. The observations of some have led to the belief that a period of hot, dry weather during the growing season causes the leaves to throw off moisture more rapidly than it can be furnished by the plant, the result being the appearance of Tip Burn. This theory seems, however, to be disputed by the fact that the trouble is not found in the hot regions of the Western States where the temperature often becomes excessive and the air is especially dry.

More recent investigations lead to the belief that this burning of the leaves probably follows the depredations of sucking insects. These investigations are not yet complete, but enough evidence has been produced to serve as a warning to potato growers to keep these insect pests thoroughly under control in an endeavor to avoid Tip Burn.

We have found in our experimental work with potatoes that Bordeaux mixture will to a large extent control this trouble. In 1918, when it was extremely prevalent, we had several plots to which, for the purposes of experiment, Bordeaux mixture was not applied. These plots suffered from a severe attack of Tip Burn and the plants were all killed down by the second week in August, while other plots on the same land, and to which, for the control of Late Blight, Bordeaux mixture was regularly and thoroughly applied, suffered to a very slight extent only, the plants remaining green until frost came. Bordeaux mixture acts as a repellent to the Leaf Hopper, as well as a protection to the plants. Many other cases, in addition to that referred to, have come to our attention, bearing evidence that regular and thorough spraying with this mixture will reduce to a minimum the ravages of Tip Burn.

Grow Perennials.

July is an ideal time to sow the seeds of such hardy plants as pinks, columbines, perennial larkspurs, foxgloves, pansies, sweet-williams, Shasta daisies, and many others. These will make a nice growth in the fall seed bed, and will bloom at the regular time next spring. The clumps will not be quite so large as those from seeds sown in May, but the May-sown plants will not bloom the first year, so there is not much gained by planting them. You can plant the fall-sown plants somewhat thicker, and in transplanting have more chance to cut out inferior plants.

Most of these plants like a loose mellow loam that will not pack or run. Woods soil with plenty of leaf mold is ideal. Sow the seeds in rows. Do not crowd the rows. The seeds should be covered not over a quarter to half an inch, and kept moist until up, which will take ten days or two weeks for most of the common varieties. Some are slower to germinate and older seeds are slower than fresh ones. Thin the plants in the rows if too thick, but a half-inch space will serve until transplanting time, except for such strong growers as hollyhocks.

The seed bed should be well cultivated to give the little plants a chance to make a good growth. As cold weather draws near, let them get pretty dry to harden them up. Water the bed well before giving protection, if it is not already moist. This mulch can be any coarse material, but tree leaves are probably best. Straw free from fine chaff will serve, or coarse hay. Anything that will pack will shut off too much air. A good water-tight roof should be placed over all. The bed should be high enough to secure good drainage. With the packing kept dry, there is little danger of winter-killing. I have kept them by turning an empty box over them, making the bottom of the box tight so it would shed the water.

A little care will make your plants thrive, and they will reward you with abundant bloom next spring and summer.

Improved Seed.

The Dominion Department of Agriculture, through the Seed Branch, works in active co-operation with the provinces in the matter of improving grain and field seeds. Money is provided to pay prizes in standing field crop competitions, at seed fairs and provincial seeds exhibitions, and in combined seed crop and cleaned seed competitions. The last named is a recent introduction. It has two distinct phases, the first consisting of a standing field crop competition and the second of threshed and cleaned seed in which the seed produced from the fields of the first phase is judged in the granary of the competitor. The competitions must have at least fifteen entries in each, and the foundation seed used must be of approved origin. The minimum quantities of cleaned seed that competitors must be prepared to submit to qualify for awards are: wheat barley, peas, buckwheat and corn each 100 bushels, oats 200 bushels, field beans 25 bushels, clovers and timothy 15 bushels, and potatoes 150 bushels. The awards, except in the case of potatoes, are made on a basis of 65 per cent. on the bin score and 35 per cent. on the field score. In the case of potatoes the method is reversed, the award being based on 35 per cent. on the bin score and 65 per cent. on the field score. All agricultural associations are eligible to conduct these competitions, provided the association entering does not conduct a field crop competition in the same season with the same kind of crop. To the prize money under subvention agreement the Dominion subscribes $200 in each instance and the province $100.

North America has a white population of 100,000,000.

Tub Hats for the Kiddies.

Simply adorable are the little summer hats for the kiddies made of white pique. What child would not love one especially if it were decorated on the upper brim with a row of tiny quacking ducks or chirping chickens? This is a splendid way for Mother to use up the odd pieces of white pique or rep. The hats are simple to make. They fit the head well and are decidedly practical.

To make the brim cut two circular pieces of pique, each 12 inches in diameter. In the centre of each of these circles cut another circle 6 inches in diameter. The inner circle may vary according to the child's head-size. (It will be best to cut paper patterns first.)

Turn the right sides of the brim together and baste and stitch the outer edges taking a ¼-inch seam. Turn the brim, baste the outer edge, and stitch again on the edge.

The crown is made from a circular piece of pique, 10 inches in diameter. Face the crown and fasten to the brim with tiny buttons and buttonholes.

The quacking ducks around the upper front edge of the brim are embroidered in outline stitch. Six-strand embroidery cotton in Copenhagen blue is used for the ducks and yellow floss for the bills and eyes. Brim is embroidered before it is attached to the crown.

There are two ways of getting a better cow. One is to put one's hand into his pocket—deep, in these days—and pay for her; the other is to grow her. The last way is the best, the first the quickest. Raise a cow and you understand her and she knows you. You make a better team, and team work in the dairy is what counts.

Better Lawns Make Better Homes

There are many mistakes made in the establishment of lawns and in their subsequent management. In order to make a good lawn the soil must be fairly fertile or it is necessary that it be made so by proper fertilization. The regular use of suitable fertilizers is also necessary.

The best time to insure a good soil for a lawn is at the time when the excavating and the grading are done. Frequently a good site that is naturally fertile is made unproductive or undesirable by, covering it over with sub-soil taken from another location, that is, from basements or sections that are moved in grading. Not infrequently building rubbish, ashes, cinders, cans and other debris are covered with a thin layer of soil, the result being a very unsatisfactory production of desirable grasses. A very good rule to follow is, keep at least six inches of rich soil on the surface. This six inches or more of soil should be fine in texture or a loam or clay loam material, inasmuch as they are the best for the production of most all grasses that are grown on lawns. They dry out less quickly and retain added fertilizers to much better advantage than do the sandy soils.

Where drainage conditions are not good they should be corrected by the laying of tile at proper depths with suitable outlets. If the subsoil is very heavy or impervious the surface soil is likely to hold too much water or become waterlogged, resulting in unsanitary conditions, and usually an unsatisfactory growth of grasses.

If, on the other hand, the sub-soil is very porous or sandy, the lawn must be watered very frequently and fertilized more often than if it is heavy in texture. In the establishment of a lawn, if it is available, a generous application of well-decayed or rotted stable manure is desirable. This should be worked well into the soil, the application consisting of about four hundred to eight hundred pounds per square rod. The use of well-rotted manure is advantageous because there is much less danger of the introduction of undesirable weed seeds, some of which may prove objectionable later on.

After the manure has been applied either hydrated lime at the rate of about fifteen pounds per square rod or air-slaked lime, or finely pulverized limestone at the rate of about twenty pounds per square rod or dried marl at the rate of about twenty-five pounds per square rod should be added to the soil, and worked into it when the land is prepared for seeding. In addition it is advisable to apply four pounds of sixteen per cent. acid phosphate per square rod.

When the seed-bed has been extremely finely pulverized and leveled down the seeding may be made. As a general rule the Kentucky bluegrass makes the most popular and most successful grass, forming an excellent turf. Some seed a mixture of grasses, however, such as the bluegrass and the English or Italian rye grass. Where three parts of the bluegrass and one part of the English rye grass is used in the mixture, about half a pound is usually seeded on a square rod. A mixture of bluegrass and white clover is also a very popular one. Precautions should be taken in all cases to obtain grasses whose percentages of germination are high. In some instances mixtures of low percentages are placed on the market.

Following the establishment of the lawn for best results it should be carefully handled and not neglected. A very good rule to follow is to never permit the lawn grass to go to seed, inasmuch as this tends to cause it to deteriorate, and result in a poor or unsatisfactory lawn. A point that is frequently overlooked is that the new land should be permitted to pass into the winter with a considerable growth; in other words, it should not be mowed very closely in the fall. This is done in order to protect the young grass roots during the winter.

Many of the most successful lawns are rolled. Especially is this desirable in the case of a new lawn. This is done to compact the soil and cause the grass roots to take a firm hold. Frequently the grass roots are loosened by the freezing and thawing during the winter season and rolling is necessary to overcome this condition. In other instances angle worms leave the lawn in a roughened condition and the rolling overcomes this.

Mistakes are sometimes made in watering lawns. It is better to thoroughly soak the soil by laying the hose on the ground and permitting the water to flow freely on one part for an hour or so and then move it to another place. The sprinkling method is satisfactory if continued long enough, but frequently this is not done. The soil dries out with the exception of the very shallow layer at the surface.

Only surface applications of fertilizers to establish lawns are made. Where stable manure is used it should be applied very early in the spring. In some instances mistakes are made by applying fresh manure in too large quantities, there being too much soluble material added for the grass, the result being either the killing out of the grass, commonly spoken of as burning out, or a decided setback to it. If fresh manure only is available it should be applied very uniformly over the surface at the rate of one hundred and twenty-five pounds per square rod. As previously stated, however, the rotted manure is better on account of less danger of the introduction of some of the troublesome weeds. The manure should be carefully removed from the lawn shortly after the grass begins to grow in the spring. Where the manure is not made use of top-dressings of nitrate of soda at the time growth begins may be used at the rate of from one-quarter to one pound per square rod. Precaution should be taken to spread it uniformly over the surface and when the grass is not moist, or when the dew is not on it; otherwise, the leaves of the grases may be burned or injured by the nitrate. Subsequent applications of similar quantities may be made as the lawn demands it. In some instances the nitrate of soda is dissolved in water and sprinkled on the lawn; usually, however, this is not necessary.

Ammonium sulphate should not be applied to lawns that are growing bluegrass or white clover inasmuch as it will cause them to disappear and other less desirable ones may come in. It should not be overlooked, however, that if the soil is limed about every four years, topdressings of ammonium sulphate without lime drives out the injurious effect to these plants. Investigations on the use of ammonium sulphate and sodium nitrate on lawns over a period of twenty years or more show conclusively that the use of ammonium sulphate without lime drives out the bluegrass and clover, as well as several other grasses, and also a number of troublesome weeds that may come into the lawn. If one is desirous of growing such grasses as the red-top, bent grasses and some of the fescues, the ammonium sulphate should be used and the soil left acid.

Acid phosphate should be applied to the lawn about every two years at the rate of three hundred pounds per acre, although finely ground limestone as a carrier of phosphorus may be used about twice at the rate of five pounds per square rod.

The Welfare of the Home

Making Friends With the Birds—By S. Louise Patteson.

Oneday last spring, a little girl asked me if it were true that robins liked to eat other things than worms. I replied that robins would eat fruit when they were thirsty if they could find no water.

"Oh, just when they're thirsty," she exclaimed in a tone of surprise. "Then I had better give them a basin of water, because father gets terribly provoked at the robins when he sees them in our cherry tree or in the strawberry-patch."

I told her that in the strawberry-patch robins were much more likely to hunt the grubs and cutworms that injure the roots of the vines than to eat the strawberries, but that they did like cherries. I asked her if she would like to make friends with the birds and fix a place in her garden where they could drink when they were thirsty or bathe and splash about in warm weather. She was delighted with the idea of making something useful and wanted to know how to build a bird bath. I gladly promised to help her make one and accordingly I went to her home one morning soon after our conversation. Together we gathered several baskets full of small stones from a vacant lot near her home, then we selected a spot in an open space in her garden where we set up a pyramid about three feet high. After we had finished it we filled a big flower-pot saucer with water and placed it on top of the pyramid.

When the warm weather came, the birds used this bath so much that the water had to be changed several times a day! But the pleasure of watching the different birds that came to the garden to quench their thirst and splash about in the cool water more than compensated for the slight trouble of filling the bath. The other members of the child's family became as much interested in their feathery friends as the little mason who had built the bath, and the practical father observed with satisfaction that his fruit trees were less attractive to the birds.

Some of the other children in the neighborhood became anxious to befriend the birds and one of the best results of their new interest was that the small boys were less tempted to rob nests for the sake of collecting eggs, which were perfectly useless to them, and they became more interested to care for the mother birds in the nesting season and to protect their young, for all the children had become anxious to have as many bird neighbors as possible frequent their gardens.

One of the small boys was an only child whose hobby had been the collecting of minerals and quartz. He decided to make a practical use of his most treasured possession, four hexagonal blocks which had been brought to him from the Giant's Causeway. With his father's help he piled these heavy blocks of basalt one on top of another and made a perfect column about two and a half feet high. On top of it he kept a large brown flower-pot saucer filled with water; thus the use of what had been a souvenir of questionable worth helped to make a refreshing bath for the birds and added a real ornament to his mother's garden. And what is more important, his parents were pleased to observe that the child's old desire to collect and possess mineral specimens was becoming secondary to an active, sympathetic interest in the beautiful little living creatures that enjoyed coming to the garden; and deeper love and greater consideration for all dependent creatures became evident. Thus the tender, cherishing instinct was developed in several children through a little girl's interest in the fare of robins!

The Children's Hour.

There was once a wise Indian chief who had a brave little son. The boy was loved by all the people of the tribe. The little brothers of the wood stopped often to play with him, and the birds sang their best songs to him. He had a kind heart, and he loved to make everything happy. Best of all he loved a certain little brown bird that had a tiny nest built high up in a tree and lined with the softest down from fuzzy cat-tails. The bird was smaller than other birds, and it could not sing; but all day long it stayed near the little son of the chief. The Indian boy had an idea that its wings made music, and so he called it, "The bird with the sweet wing song."

One day the wise chief had to send a message to a far-away chief. The message was that the Green Corn Moon was now in the sky, and so it was time to give a feast and thank the Great Spirit for all the fruit and grain that the harvest had brought. Would his friend come to the feast? the wise chief wondered.

The wise chief called the little chief to him and said, "You must take a message to my friend who is far away. Twice the sun will set and twice it will rise before you reach him. But the trail is plain; the little brothers of the wood will play with you; the birds will sing to you; the Moon Mother and the stars will guard you; and all night long the little Stars-with-Wings will give you light. Go, my son, and prove that you are the brave son of a brave chief."

So the little chief started. Over his head the bird with the sweet wing song went gayly flying. All through the day the boy journeyed. Whenever he stopped to rest and to eat berries the little brothers of the wood came stealing out to play with him. That night he slept safe and sound in the friendly wood. The west wind sang him to sleep, and the Stars-with-Wings stayed near to give him light.

When he came to the edge of the wood he found two trails. One led to the chief who was the friend of his father; the other led far away to a chief who never took the trouble to thank the Great Spirit for the harvest. The little Indian boy could not tell which way to go.

He stood still for a while, thinking. Presently he said, "Go, my bird with the sweet wing song, and find the trail to the friendly chief."

The bird flew off; in a moment or two it was out of sight. All through the day the little chief waited, and all through the night. At last, just as the Moon Mother was putting the stars to sleep under the white-cloud blankets, the tiny bird came back. For a long time the bird and the boy talked together; then they took the trail to the far-away chief. It was a long way to travel, but the boy did not mind, because he knew he was on the right trail. The chief was glad to see the little son of his friend, and he promised to come to the feast.

Afterwards the two companions set out for their own lodge fire—the little bird leading the way. When they reached the end of the home trail all the braves came out to meet them. As they led the boy back to camp the little bird, swift on his little brown wings, flew above them. The wise chief was proud of his brave little son, for the boy had shown that some day he, too, would be a wise chief, able to lead his people.

The boy told his father that the bird had helped him find the way. "O wise chief, my father," he said, "the little bird is very plain, as you see. Let me show my love for him by giving him a wonderful suit of feathers!"

The chief was glad to reward his son, and the boy set to work at once.

He gathered some flowers and grasses that were growing near at hand, and pressed the color from them. Then with the yellow and orange and red that came from the flowers and the green that came from the grasses he painted the sober coat of the little brown bird.

How beautiful the new suit was! All the other birds were envious. As for the bird with the sweet wing song, he was so proud that he flew happily round the little son of the chief, and louder and clearer than ever he made a humming sound with his little wings. From that time on he hummed constantly. Because of the music that he made with his wings he came in time to be called the humming bird.

If the roses or other plants become infested with plant lice, dust the attacked portions with pyrethrum powder, coating the insects in the operation. Tobacco dust is good also.

IMPERSONATION

Nature commands the normal child to be ceaselessly occupied during waking life in using all the things at his command to reproduce what he sees going on around him. The child who gallops off on his broomstick, imitating his father on a horse, is getting valuable experience of a simple sort in doing what he may need to do later in life. In this simple action he is using his senses to get information, and then, most important of all, he is making this information his own by actually doing the act. This is the only way he can learn it. He cannot even perceive accurately until he is under the necessity of reproducing the thing he is perceiving, or adapting himself to it in some way. Nature will not develop any faculty unless there is need for it. If the child could get all he wants without becoming sharp in sight, hearing, taste, touch and smell, he never would acquire any keenness through any of his senses.

The child who has a large sand pile in which he may make pies, build houses, and so on, has a better chance to develop his intelligence than a child who is not so favored. As a rule, the better the child's opportunities for information, and the wider the range of his imitations, the more rapid and normal progress he will make in the development of his mind.

Other parents think that doll play is simply amusement; but it may be the means of developing intelligence in a high degree. The child of four or five who cares for her doll, watchful of its needs, nursing it when in trouble, dressing it, putting it to bed, instructing it, is getting forward faster than she ever could without such experience. These activities all require keen observation, and intelligence in execution. Doll play brings in most of the factors of intellect which are required in caring for a little child in real life. Of course, the more the child has to do for her doll, the better it will be for her intellectual development. A doll which the child does nothing but look at, rock to sleep, or carry in her arms, is of slight value compared with one that must be dressed and undressed, have her hair combed, her nails polished, for whom clothes must be made, and so on.

As the child's range of observation increases, doll play ought to become more varied and educative. A child who is given a suggestion now and again will readily develop a high degree of imaginative feeling with regard to dolls, all of which may be vastly important for intellectual development. Suppose a child has five or six dolls of different sizes and appearance. Each one may be made to personify a member of the family or some person in the neighborhood; or a character in history or in some story which she has heard. Then these characters may be made to act their parts in a little drama. There is no experience in human life which is more absorbing than these play dramatics in early childhood; and it must be impressed that in this play the child is simply taking mental possession of the world around him. If he did not dramatize life, he would not learn it.

An observing parent must have noted his child's passion to play a part. Every living thing he sees furnishes a model for personification. Now he is a cat, now a dog, now one of his playmates, and so on ad libitum. Do you see what this means for development? Suppose, for instance, that a child five years of age visits a blacksmith. When he comes home you may find him shoeing horses all the time. Anything will answer for the horse. All the child is concerned with is the shoeing. In performing this activity he is really learning about it.

What an advantage it would be to your child if he could utilize the objects in his home so far as possible to carry on his imitations. Perhaps you have looked upon these play activities only as an annoyance, and have felt that they should be suppressed. But greater harm could scarcely be done a child than to prevent him from imitating and personifying the people and things about him.

Why Cool Air is Bracing.

Every one knows the bracing effect of a walk on a windy day. Now the secret of this feeling of vigor has been explained in a report issued by the Industrial Fatigue Research Board, which has been making experiments in factories throughout England, says a London despatch.

It is pointed out that a cool skin encourages exercise, stimulates deeper breathing, increases circulation and aids digestion. The physical properties of air benefit the body, and when one battles with a sharp autumn wind it is the "air bath" that gives the feeling of vigor with which all are familiar.

Factory owners and theatre and moving picture proprietors are advised that for the most beneficial results their rooms should be cool, rather than hot; dry, rather than damp, with a diversity in temperature and a brisk air movement.

The committee also states that the color of clothing worn has a marked effect on body temperature, darker clothing being warmer, irrespective of material.