

Soils and Crops

This Department is for the use of our farm readers who want the advice of an expert on any question regarding soil, seed, crops, etc. If your question is of sufficient general interest, it will be answered through this column. If stamped and addressed envelope is enclosed with your letter, a complete answer will be mailed to you. Address: Agronomist, care of Wilson Publishing Co., Ltd., 73 Adelaide St. W., Toronto.

Research Work on Poultry Diseases.
For a number of years investigations have been conducted in Canada to determine the nature and prevalence of diseases of poultry.

The need for further research is emphasized by the fact that the exigencies of war-time have given a stimulus to the poultry industry, and it is natural to assume that this additional interest has led to an increase, rather than a decrease, of poultry disorders.

When the work was first started by this department, very little was known about the diseases of fowls in this country. In order to cover the ground thoroughly, poultrymen were requested by press notices, correspondence and personal appeals to co-operate as fully as possible by sending in sick and dead birds for study and diagnosis. In pursuance of this policy, the department guaranteed express charges, and in the last five or six years, the examination of specimens has become a task of considerable magnitude.

It therefore seems timely, when economy is the watchword, to make a few suggestions as to what work we desire to undertake, and point out the various causes which result in individual deaths in flocks, and which can be easily recognized by the poultryman at home. In this connection, it may be pointed out that live and dead fowls are frequently forwarded to us via express from remote districts in British Columbia, Alberta and Saskatchewan, and the expense of transporting these birds is wholly unjustifiable where the losses are limited to one or two fowls.

From a study of our records, individual losses may be attributed to the following conditions, none of which can be transmitted to other members of the flock:

Affections of the Heart:—These are usually manifested by a quantity of fluid within the covering membrane, and in some instances by an accumulation of yolk-like material, the result of inflammation.

Rupture of the Liver:—This occurs in fowls which are excessively fat, and is recognized by sudden death, and the filling of the bowel cavity with blood.

Apoplexy, or a rupture of the blood vessel in the brain:—This disease can be determined only by the absence of other lesions, and the suddenness of death.

Peritonitis, or inflammation of the bowels and covering membranes:—Peritonitis is caused by the partial development of eggs in the light cavity; closure of the egg duct by large eggs; or accumulated yolk material, etc. Frequently the diseased ovary is responsible for this latter condition.

The above diseases are those usually responsible for individual deaths, and may easily be detected by examining the birds.

The infectious diseases which spread rapidly through flocks concern us chiefly. Such diseases as fowl cholera, tuberculosis, blackhead in turkeys, rump and coccidiosis may be classified as infectious, and it is essential that they be recognized early, so that their spread may be checked.

Worms are also very troublesome, and we have already published directions for getting rid of these parasites. These bulletins may be obtained upon application to the Publications Branch of the Department.

If poultry owners desire to have parasites identified, the parasites preserved in alcohol and securely packed—may be sent by mail to the Laboratory.

With reference to tuberculosis and blackhead, our bulletins fully describe these two diseases, and any poultryman should be able to diagnose them after reading our literature and seeing the illustrations.

To prevent misunderstanding of the aims of the department, we wish to restate that we are desirous of investigating affections which are responsible for large losses.

In cases of suspected poisoning, a public analyst should be consulted, as we do not undertake work of this nature.

As previously stated, where only one or two deaths occur, the express charges usually total more than the market value of the birds.

We trust, therefore, that poultrymen will assist us in our economic policy and send fowls only when several deaths have occurred simultaneously and the cause cannot be determined at home.—A. B. Wickham, Assistant Pathologist, Biological Laboratory, Ottawa.

What Strawberries Shall We Plant and Why?

Strawberries are grown either for home consumption or for market. While those grown for market should be as good as those grown for home use, the fact is that in some cases those produced for market are grown more because of their productiveness and shipping quality than because of their flavor and general palatability.

The most popular variety, taking the whole of Canada, is undoubtedly the Senator Dunlap. This is a very hardy variety, and the fruit is handsome in appearance, good in quality, and is an excellent variety for canning.

It is desirable both for home use and market. Like all varieties, it has some faults, the chief one being that on account of its making such a large number of plants the fruit begins to get small too early in the season in parts of Canada where dry, hot weather often occurs during the fruiting season; hence, where there are such conditions some other sort is desirable, and in the Parsons Beauty and Glen Mary there are two commercial varieties which are succeeding very well in many places in Canada, especially in Eastern Canada. These are both large varieties and keep their size well to the end of the season. The Parsons Beauty is better in quality than Glen Mary and the latter is not very desirable for home use, but should be tried to determine which succeeds best in the particular locality and soil where they are grown. The Williams is a firm berry, which is a very popular commercial sort in Western Ontario, but is not very popular in most other parts of Canada. It has a white tip which increases its shipping qualities but lessens its value when it is to be eaten raw. Splendid is a rather early variety which has made a good record in Eastern Canada, and Beder Wood is also another reliable early sort. The Marshall is one of the best in quality but must be grown under high cultivation in Eastern Canada to get fair crops and is not best suited for growing on account of its light cropping, but on the lower mainland of British Columbia it does well and is one of the best commercial varieties there. The Magoon is also a commercial variety which is also grown mainly in British Columbia.

The foregoing are the leading commercial varieties in Canada although to these might be added Sample, Pocumoke, and Warfield as succeeding very well in some places. For the prairies, a variety called Dakota, rather small in fruit but very hardy, has proved one of the most reliable, though Senator Dunlap also does well if well cared for.

The best varieties for home use in Eastern Canada are Senator Dunlap, Bubach, Parsons Beauty, and Wm. Belt, the latter and the Bubach being large varieties of good quality. In British Columbia the Royal Sovereign, Paxton, and Marshall are three of the best for home use. The two former are English varieties not satisfactory except in the mildest sections of the Dominion. The everbearing strawberries are particularly desirable for home use, and two of the best of these are Progressive and Americus.

An idea, like any other thing, if worth having, is likely to be expensive.

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RECONSTRUCTION IN THE BACK YARD

There's Plenty of Work for the Whole Family—Bring Out Spade and Hoe and Get Busy.



The day of the war garden is over and the era of the peace garden has dawned. In the spring of 1918 people plunged with such energy into the untold soil around their houses that the whole country seemed to blossom overnight into serried rows of vegetables. They were answering an emergency call. The enthusiasm of patriotic motives lay behind their object. By united effort something like \$60,000,000 worth of vegetables was added to the country's food supply.

But much of the energy put into the war gardens was misdirected and futile. It was the first venture on the part of many, and mistakes were made, effort was wasted, results were in some instances discouraging. Now, however, the fever that marked the war gardener has died out and the need for peace gardens as a permanent part of the work of reconstruction becomes apparent.

The peace gardens of 1919 and succeeding years will be tackled more systematically than the war gardens of 1918. The foundation was laid last year for work that, as the years roll on, will expand and be an ever-increasing source of revenue, health and pleasure to everyone.

The great teacher, experience, has given the war gardener his first lesson. But further guidance is needed before embarking on the peace garden venture.

First Steps for the Gardener.
1. Find out all about the garden—(a) its size; (b) the type of soil; (c) whether it will need manure; (d) whether there are facilities for watering it in dry weather; (e) what tools are likely to be required.

2. Decide what vegetables are most suitable and what quantities will be necessary. Plan garden on paper.

3. (a) Find out what varieties of vegetables are most highly recommended; (b) how much seed of each kind will be required; (c) the dates on which the seeds should be sown.

In order to obtain the information suggested in the first three steps it is necessary to secure some gardening bulletins and seedmen's catalogues. A list of free publications on gardening is appended.

The Soil.
The fundamental question of soil is referred to in the first step, and to become a skilled gardener it is necessary to buy some simple books on this subject. However, all that is really necessary to know in this connection is that soils are of three general types—light soils, good soils, and heavy soils. Light soils, in the main, consist of sand, good loam soils, which are ideal for gardening purposes; and heavy soils, which consist mostly of clays. If the garden soil is of the loamy type, a very little barnyard manure will enable it to produce good crops and make it retentive of moisture. Should the garden contain a light soil, however, it will require a much larger quantity of manure in order to enable it to produce crops; and if it has a tendency to be heavy, the clay can be lightened by the addition of barnyard manure. Lime is also applied for heavy soils. A bulletin on manures and fertilizers given in the list of free publications contains all the necessary information on this subject.

Tool requirements are of the simplest. A good spade, a digging fork, a hoe and a rake generally suffice for gardening on a small scale. In

GOOD HEALTH QUESTION BOX

By Andrew F. Currier, M.D.

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The Wrong Idea.
Some parents carry the idea that it is a good plan to let their children become exposed to contagious diseases so they will have them all and get over them. This idea is entirely wrong. Most of the children's diseases are very serious propositions and the younger the child is when it encounters them, the more serious they are.

From infancy until fifteen or sixteen years of age the child undergoes a period of development during which the tissues of the body are easily damaged by infection. This applies to teeth infections as well as to other infections like contagious diseases.

The damage is often, in fact, generally permanent but does not manifest itself until considerably later in life. Such damage is often recognized by the observing dentist, who can frequently tell the age at which the person suffered some illness. After the age of puberty the system is more resistant to disease and individuals occasionally escape some of the children's diseases altogether.

In my opinion, it is the duty of all parents to protect their children as long and as well as possible from contagious diseases. Bear in mind that measles and whooping cough are not trifling ailments but quite formidable because they are accompanied by more serious complications than are many other diseases. Fortunately indeed is the child who escapes measles altogether. When there is more than one child in a family the one first complaining should be isolated until entirely well. This precaution can always be arranged with

it helps to make the soil more spongy.

Sowing the Seed: The seed should be sown either immediately before or after rain. The damp soil ensures quicker germination and this generally results in more vigorous plant growth. After sowing the seed the soil should be firmly pressed, to ensure its close contact with the seed.

If the weather is likely to be dry just after sowing, it is wise to cover the row with a little loose soil to form a mulch. The purpose of the mulch is to prevent the drying out of the soil.

Subsequent Care and Culture: This consists of keeping the young plants free from weeds and the soil loose between the rows. It also entails thinning out the young plants and keeping them free from insects and diseases. Frequent cultivation is very necessary, especially when the plants are young. After every rain it is important to loosen the soil and break any surface crust which may have been formed.

Harvesting the Crop: Some of the root crops have a fine flavor when harvested before they are fully mature. This is especially true of beets. As a rule, however, it is wise to let most of the root crops mature. If they are left in the ground too long, the fibre is apt to become hard and stringy. Exceptions to this rule are parsnips and salsify. These crops may be left in the ground until the following spring, if desired. All roots should be harvested on a dry day and left on the ground for a few hours before they are taken into the cellar. This will prevent taking in too much of the soil which is sure to adhere to them if they are pulled during a wet period. Their keeping qualities are also likely to be enhanced when harvested under proper conditions.

It is when we forget ourselves that we do things that are remembered. We on the torn fields of battle could only have been our purpose to keep on fighting until Christianity and civilization were vindicated and re-established. And now we have reached our goal. The foe is vanquished. The powers of darkness are defeated.—General Currier.

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Bringing In the Bucket.

"Oh dear!" sighed Mary. "I really must write that letter to Mrs. Norton to-night. It's got to be done this week, or there'll be trouble."

"And this is Saturday, if I'm not mistaken," said Uncle Jim looking up from his newspaper. "In fact, Saturday afternoon. Why not postpone it till to-morrow, if I may ask?"

"Why, Uncle Jim!" cried Mary. "That from you! 'Why not wait till to-morrow!' I've got to write it before!"

Uncle Jim hid a quizzical smile behind his newspaper. "Well—since you suggest the question—why didn't you write it on Monday—or Tuesday—or Wednesday—or—"

"Oh, Uncle Jim!" Mary interrupted him. "Do stop! You make it sound so terrible! I've got to write it before!"

"Well, I suppose it's a great deal easier to do to-night, of course."

"What in the world do you mean? It's harder, if anything."

"Oh-h? Harder? Well, at any rate I suppose you don't dread it so much?"

"I dread it just as much!"

Mary's voice showed that she was becoming a little annoyed, but Uncle Jim apparently did not notice, and kept on with his questions.

"Then you're feeling pretty well again, are you?"

"I'm feeling tired to death! You know I said so at lunch. What do you mean by all these questions, Uncle Jim? Are you making fun of me?"

But every trace of the quizzical smile was gone from Uncle Jim's face.

"I was just trying to find out," he said quietly, "why any sensible girl waits a week about doing something that grows harder the longer she waits, and that she dreads more and more. Besides, the delay makes her every day more and more tired. No, don't shake your head, Mary. You would have felt a great deal better physically as well as mentally if you had got that letter off your hands earlier in the week. Did you ever hear the story about the little boy who was sick with all the symptoms of overwork? The doctor asked how much work he had to do. And they said, 'To bring in a bucket of water every day.'"

"At any particular time?" inquired the doctor.

"Well, he is supposed to bring it early in the morning, but he usually puts it off till the last thing at night."

"And brings it in all day long!" said the wise old doctor. "You make him bring that water in before he has his breakfast, and he'll be all right."

"And he was!"

Mary laughed in spite of herself. "That's all very well for a small boy," she said, "but for a girl as old as I am it's different."

"How much older do you think you are than Mr. Howard Carpenter?" inquired Uncle Jim, with one of his surprising conversational changes.

"Older? Why Mr. Howard Carpenter is as old as father! What do you mean?"

"Simply that he was the one who told me the story yesterday and informed me how he used it for a watchword. I was asking him how he managed to get so much done without ever acting tired or showing strain as so many men do. And he said, 'I bring in my bucket of water the first thing in the morning.' Then he explained that for a good many years he had chosen the hardest thing in each day's work, or the thing he dreaded most to do, and had deliberately done that thing first of all—thereby losing neither time nor nervous energy in dreading it. I've determined to adopt the plan, Mary, and I respectfully pass it on to you. And now, since the sermon's over, how about a nice little walk through the woods?"

"Thanks, kind sir," said Mary, with a smile, "but that's no bucket. I'm going now to draw mine; better late than never."

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