

# Soils and Crops

By Agronomist.

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.

## Farms Less Fertile Than 40 Years Ago.

Canada has about 28,000,000 acres in field crops of which probably 20,000,000 acres are in the three Western Provinces. Is the fertility of the soil being kept up, is it being exhausted, is it being increased? To get an answer, the Commission of Conservation carried out a survey of 2,245 farms located all over Canada. We took them in groups of about thirty or forty—in all about 60 groups, from British Columbia to Prince Edward Island. On this point, we made a definite enquiry of the farmer as to whether the fertility of his farm was being maintained or was deteriorating.

Here is the answer: 30 per cent. of them reported about the same yield per acre as 20 years ago, 40 per cent. reported some increase in yield, and 30 per cent. reported some decrease. That is to say, the land, as used by 30 per cent. of all the men reported, was poorer in its power to produce crops, than it was 20 years before. From Manitoba, 32 per cent. of the farmers reported about the same yield per acre as 10 years before; not one man reported an increase; and 46 per cent. reported some decrease. That is a summary of the answers to the question when put under an intelligently conducted survey.

We want in Canada more serious and intelligently conducted surveys of our conditions in order that we may acquire real knowledge of facts as they are. Then we can come to conclusions and plan our course of action to deal with the facts discovered and properly interpreted. In the West, the lure of land was for a time similar to the lure of the Yukon; and the lure of the Yukon in the main led on to disappointed men, deteriorated health, and parts of the Yukon left with less material substance than could be called wealth than it had been.

There is some excuse for the pioneers taking more than one generation's share of the fertility stored in soil by the beneficence of nature during long ages of preparation. In the pioneer days they needed and had some right to more than their share of this store of natural wealth while making the place ready for occupation; but after that first need is satisfied, it becomes their duty to make the place more fertile while in their hands.

The history of other countries and other farmers sheds light on our problems; and we may be instructed, to our great advantage, by their experience. In central New York, wheat growing was followed successfully for 40 years. During 20 years more the success was doubtful. Then it became definitely unprofitable. With a climate favorable for agriculture and propitious for crop-growing, it took 40 years of exclusive grain growing to make that system unprofitable, and 20 years more to compel the farmers to stop that sort of practice. Ohio, Indiana, Illinois, Iowa and other Western States either have or are making similar history. I have gone over them and talked to the old men; from 30 bushels of wheat to the acre they came down to 14.

We can afford to take a lesson from even our enemy, Germany, is a country with a soil which on the whole is not naturally very fertile. Within about 30 years she has been able to effect an increase of about 30 per cent. in the yields per acre of her crops.

On the other hand, over large areas of Canada our methods of farming are exhausting the fertility of our farms to some extent, and there is danger that the fertility of considerable areas will be reduced below the point of profitable farming.—Dr. J. W. Robertson, Chairman of Lands Committee, Commission of Conservation.

## Poultry

When goslings over six weeks of age are to be fattened they are fed three times per day with a ration of one part corn meal and one part bran. Geese which have been pastured through the summer can be fattened on a ration composed entirely of corn meal. This should be given over a period of four or five weeks.

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depending upon the condition of the birds when the forcing begins.

Sometimes young geese are marketed as "green geese." Then the fattening process begins when the long wing feathers have developed until they reach the tail. The birds can be penned up and fed the following ration with good results: Four parts corn meal and one part beef scrap, given three times per day. A sprinkling of salt added to the wet mash is good for the birds and acts as an appetizer.

Ducks fatten well on the mash composed of one part corn meal and two parts bran. About five per cent. of beef scrap and a little fine grit should be added to the mash to bring the best results. Green food should be given occasionally to help in keeping the digestive system in good order.

In fattening both ducks and geese the principle is to increase the amount of food consumed and reduce the exercise. Sanitary conditions in the yards and pens are very necessary. The profit in fattening either ducks and geese can be determined by comparing the cost of good quality corn with the price that will be received for the ducks. At the present price of feed it requires more than the usual amount of skill to fatten the birds at a profit, but underfed birds never pay so it is undoubtedly best to give the geese and ducks a certain amount of fattening and then endeavor to place them on a market where quality stock is appreciated.

**Lime in Old Plaster.**  
When a ceiling falls, as they sometimes do, there is the slight consolation that the old plaster can be used to advantage in the garden.

Crushed limestone spread over the soil is beneficial; it is slow in its action, but is beneficial just the same, accomplishing the same result as burnt lime, but requiring more time to do it. So it is with old plaster, which is slower in its action than lime but in time produces the same result.

If old plaster is to be had do not neglect to work it into the garden, breaking up the lumps as fine as possible.

Next spring after the garden has been limed with the old plaster a lot of decayed leaves may be worked in. Sheep manure should be applied liberally to the growing crops and the abundant crops will more than pay for the trouble.

The Sahara Desert is three times as large as the Mediterranean Sea. When I see a farm of poor soil I know just how the farmer looks. When I see a careless, shiftless, improvident farmer in town I can tell that the soil on his farm is poor; he is surely a poor soil farmer. The thrifty, enterprising farmer, who steps lively and wastes no time, can be counted on as a good soil farmer, and the soil of his farm will be found to be good. Naturally, soil may be good or bad, but finally it will be whatever it is made by what I call a good soil or poor soil farmer.

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**Doing Over the Old Barn.**  
For a moment when I came in sight of the place I did not recognize it, so changed was it in appearance. The buildings did not look like they used to; the fences were different, and the fields had been arranged on a new and more economical plan for saving time and lessening labor.

But the barn was the outstanding feature of the place. The old barn had stood in the midst of a low, wet place, quite a distance from the house. The man who owned the place before it changed hands must have travelled many miles every day to do the chores.

This old barn was taken down, and the solid timbers moved away to a site 200 feet from the house. Such of the old sills, beams and other timbers as were of the right size and length were worked over for the new frame. The woods afforded logs for what more heavy timbers were needed, as well as for the siding. These siding boards were all surfaced, so that they could be painted. Some of the old siding was used in the new barn, although much of it was worn very thin by the weather. A basement was put under the new barn, with a thirty-foot shed attached. The whole was given a fine coat of red paint, and trimmed with white. It looks fine now, and it is as good as it looks.

Inside are some devices to save time and strength. Stairs lead from the basement to the first floor and up to the scaffolds. Good swing stanchions make it comfortable for the cows and easier for the men folks. Feed carriers and litter carriers lessen the

## GOOD HEALTH QUESTION BOX

By Andrew F. Currier, M.D.

Dr. Currier will answer all signed questions pertaining to health. If your question is of general interest, it will be answered through this column; if not, it will be answered personally for individual cases or make diagnosis. Address: Dr. Andrew F. Currier, care of Wilson Publishing Co., 73 Adelaide St. West, Toronto.

### Measures for Preventing Infectious Diseases.

Armed with the facts in regard to the nature of infectious diseases we are in a position to eliminate them to a certain extent. This must come about, first by keeping the body in as fine a condition for its daily work that it will be able to offer successful resistance to the great army of disease germs ever lying in wait to attack it. A good engineer never overlooks the requirements of his machine, he gives it pure water, good coal, good draught; he keeps it clean and well oiled, he is constantly on the look-out for weak spots and when he finds them he remedies them at once, if he can. In this way he gets the maximum of efficiency from his engine. Precisely in the same way if one would keep off disease he must have proper food, exercise, sleep, clothing, recreation and everything else which will enable his physical organism to work smoothly. There are also extra precautions which he might take but in the majority of cases does not. He can take better care of his skin, which is one of the avenues for the elimination of poisons, by more frequent and thorough bathing and scrubbing, especially with warm water and plenty of soap. He can be more particular about the functions of his bowels and bladder which are identically as important to his well-being as sewers to a city. He can accustom himself to deep breathing, flooding his blood current with oxygen and getting rid of poisonous carbon compounds. It is from the want of this vital oxygen that so many people are dying to-day of pneumonia. Furthermore if it is true that germs are omnipresent and so malevolent, so abundant in the mouth and nose and so prone to migrate from this base to the parts of the body which are more vulnerable, the neglect is inexcusable if they are not destroyed before they have had an opportunity to accumulate and move on. In other words, the daily toilet of the mouth and nose with suitable sprays, atomizers and mouth washes is as important as, is even more important than the use of the tooth brush. Good atomizers are easy to get and there are many combinations of antiseptics which will efficiently disinfect the upper air passages, destroy germs and prevent much of the sickness which is now so

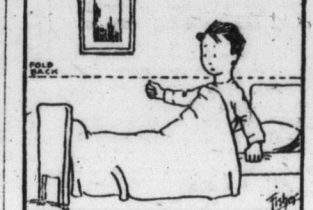
## FUNNY FOLD-UPS

CUT OUT AND FOLD ON DOTTED LINES



LAST NIGHT I DREW THIS FUNNY MAN OUT OF THE BARN—AND GEE!

WHEN I WAS FAST ASLEEP IN BED I DREAMED THAT IT WAS ME—



labor necessary to feed the stock and clean the barn. A drilled well nearby affords water. Altogether, it is a good, labor-saving barn.—E. L. V.

### To Keep Chickens at Home.

A yard surrounded by a five foot fence will under most conditions keep chickens at home. If the hens show a tendency to fly over such a fence, flight feathers of one wing should be clipped. A fence made of woven wire is preferable to a fence made of board or other material. A board should not be used at the top of a wire fence, as this gives the hens a visible place to alight and tends to teach them to fly over. The larger the yard which can be provided the more contented the hens will be. It not only gives them greater opportunity to exercise but often makes it possible to maintain a sod on the yard, which is advisable.

Seed corn selected at husking time should be stored where it will thoroughly dry out before winter. The ears should not touch each other during the drying process. The ears can be suspended in a well ventilated shed or attic. Seed corn that is thoroughly dry will not be injured by freezing.

## MOTHER-WISDOM

One Speck of Dirt Too Small to See May Bring Disease to You and Your Child.

They are worth every ounce of the west love and utmost care we can give them, the little ones from Heaven.  
By Helen Johnson Keyes.

How much knowledge and wisdom go into the making of a good mother! Constantly I am surprised by discovering new things which a good mother should know and do. The truth is, there is scarcely any knowledge, scarcely any skill which cannot be used directly in bringing up children.

Two strong children went from home one summer to visit an aunt. Two days after their arrival they were taken violently ill with cramps and vomiting. After a week of illness they recovered, with the help of a doctor, and by following his very wise counsel to go without food entirely for twenty-four hours and then to begin with the very lightest diet. After a week, however, one of them fell ill again in just the same way. The doctor happened to be brother-in-law of the aunt and he quietly made an investigation of her kitchen, for he had often been called into this household to cure cases of acute indigestion and ptomaine poisoning. Before very long he found the explanation of these many illnesses: There were saucers of left-overs which had been standing uncovered evidently for more than twenty-four hours; yesterday's milk was beginning to sour in the pantry; a loaf of bread which had not been put away in an air-tight box was coated with mold. The doctor's imagination pictured a dish of scalloped fish made from some scraps of canned salmon left-overs, some inside cuts of that moldy loaf, plus the souring milk. In his fancy he saw every one of the family ill after that feast and being a man who believed in preventing illness, if he had a chance, instead of waiting for it to develop and then curing it, he took the left-overs and the milk and the bread and pitched them out into the place where such things belong.

Now this article is not intended to discourage thrift, it is just a reminder of those tiny disease-carrying organisms, bacteria, yeasts and molds, which develop in foods if these are exposed to slow heat, dampness and air. When foods "spoil" bacteria, yeast or molds are spoiling them. These are hundreds of varieties of bacteria, many of which are useful, even necessary to life. I am now speaking about the poisonous bacteria which breed in foods, dust and dirt, and which cause more death among children and among grown-ups whom the children need than has ever been put on record. Twenty thousand of these bacteria might scarcely cover the head of a pin, none the less, they have the power to bring desolation into families, robbing parents of children and children of parents. Milk rapidly develops great colonies of bacteria as soon as it is standing in a warm condition. That is why I insist that when baby's bottle has been warmed for a feeding what is left in it must be thrown away, not kept for the next feeding. Many a fatal case of diarrhoea has resulted from the practice of warming baby's bottle twice or more. (This is not to be confused with warming once after pasteurization.) Ice cream which has melted into a warm fluid and is then refrozen is very dangerous, for freezing does not kill bacteria; it only checks their further development. Many epidemics of indigestion which have swept through villages after a party or picnic have been due to the fact that the ice cream eaten was refrozen in this way. Other bacteria develop in meat, fish and in canned goods which are allowed to stand in the cans after they are opened. These are ptomaines.

Dust is not dangerous in itself, it is dangerous because in it grow death-dealing bacteria. A mother must know how to sweep so as to collect the dust and destroy it, not merely to scatter it. She must diligently scrub floors and corners with soap and water and expose her rooms, particularly her kitchen and pantries, to bright, direct sunlight. After food has been cleanly prepared and served it must be cleanly eaten. Children should be obliged always to wash their hands and to scrub and clean their nails before coming to the table. Most bacteria are conveyed from the hands to the mouth and thus eaten. Children put their hands without dainty scruple, in and on everything. Dirt crowds under their nails and may contain bacteria, which lodging on their food and passing into their digestive tracts are likely to cause cramps, nausea and all the symptoms of indigestion. A child-specialist once said to me that if all children in Canada were forced to wash their faces, hands and nails before eating there would be a truly amazing fall in the death rate.

Cabbages furnish a great, succulent food for dairy cows but usually they are worth so much for human food that it would be impracticable to feed them to the cows. Cabbage should be fed rather sparingly. It will not do to give a cow all the cabbage she wants to eat, especially at first, because it will taint the milk and the cow will not do well, but a comparatively small feed of cabbage in the morning to take the place of roots or of corn silage would be very beneficial. They are not only a good food but their succulence assists digestion and a cow would eat more dry food and digest it better by including cabbage as a portion of the ration.

If you would attempt to feed a cow nearly an entire ration of cabbages you would be very likely to get extremely poor results because of the large percentage of water. There would be so little dry matter and food nutrients in the cabbage that a cow couldn't eat enough to produce a good flow of milk for any considerable length of time. That, I imagine, is the reason why some people have had poor results with cabbage. You get the same results with beet tops. People harvest their beets and then they turn the cows into the beet field and if there are plenty of beet tops they think they don't need hay or grain, but they make a sad mistake. It would be much better to haul the beet tops up and feed a small feed in

## MOVEMENTS IN RURAL HOMES

That there are large opportunities in rural real estate, aside from its worth as a strictly agricultural proposition, is the opinion of a young man who speaks out of a profitable experience.

He was teaching country school, about six miles from a fair-sized city. Near the scene of his duties was an eye-sore in the form of a dilapidated old farm house. The ten acres of gullied, worn-out land adjoining it were the remnant of a good farm, the main part having been sold off by the shiftless owner who had inherited it. His present holding was mortgaged, and he wanted to sell his equity and move to town.

In connection with this property, a rather bold idea had developed in the school teacher's mind by the time his term expired. He laid it before a banker of his acquaintance, with the result of securing financial backing. The young man bought the premises in question. For the purpose of his plans, he divided it into three parcels. One contained the old farm house and some tumble-down sheds. Upon possession being gained the place was cleared of everything except the house and a few trees that were worth saving. By previous investigation he had found that the framework of the house, which was of the massive type of a former day, was still good.

By throwing a deep verandah across the rambling front, putting on new weatherboarding, and a roof of stained shingles with projecting eaves, the architectural appearance was transformed. The exterior was painted in harmonizing colors, and the interior was largely torn out and rearranged. The chief attraction of the property had been the location—not alone that it fronted on a main pike that was in first-class condition, but that most of the acreage lay on a beautiful knoll that sloped up gracefully from the highway. The improvements included grading and grass-sowing, sodding a space about the house and introducing here a little shrubbery and a flower-bed or two. The place was advertised as a country home, and found a prompt customer at the price asked. Before excavation could be started on a second parcel the buyer of the first had persuaded a friend to come out and be neighbor to him. The latter preferred to make his own improvements. The two men took over the third parcel, dividing it between them as addition to their grounds.

Within a few months a young man had cleared up several times the amount of a year's salary at school teaching. Several similar enterprises which he has since put through—though not with the same promptness as the first—have been very profitable.

He was led to make his original venture by chance reading of a magazine article, telling of the extent to which wealthy people were acquiring country homes for year-round occupancy, since the coming of the automobile has made them independent of public means of transportation in going to and from the city, where they spend their business hours. The article insisted that there was a general tendency, though perhaps not yet manifest everywhere, among city people to live in the country. The incentives were fresh air, the charms of nature, more elbow room, and the interest and pride which goes with owning an estate, if only of a few acres.

In the belief of the school teacher, who is now giving his whole time to the business, there will be an increasing demand for such property within reasonable distance of every important town, and that fancy prices for acreage are to be realized. His choice is for sites that command a good view and which permit of pleasing effects as observed from the highway—on the theory that the average person likes both to see and to be seen.—G. E. S.

### Tremble They Now!

With hearts uplifted, not in pride—  
Not pride,  
Merciful God!—but gratitude to Thee—  
God of the nations struggling to be free—  
Now, at long last, the turning of the tide  
Proclaimed by signs of victory far and wide,  
Hail we in thankfulness—rejoiced to see  
Thy Guiding Hand revealed in destiny  
And the approaching doom of those who Thee denied.

They denied Thee who broke the Ordinance—  
Sinned the great sin against the Holy Ghost—  
Deified Might—abandoning Right for Wrong—  
Tremble they now, seeing Thy cause advance  
Resistless, knowing full well theirs is lost,  
Hearing Thy Hosts singing the Triumph song.

### Bulbs Are Satisfactory.

Apart from their beautiful flowers, the charm of bulbs is that put into any ordinary soil that has merely been freshly dug over, sound bulbs will not fail to flower without any further attention. Indoors or out success with bulbs is almost certain.