The Leaf Spot of Plums and Cherries.

Badly defoliated cherry and plum trees are annually a common sight in many Ontario orchards. The condition is due to attacks from a disease which shows up early in the season by making the leaves turn yellow or become ragged and shot-holed in appearance.

This trouble is known as leaf spot, a disease which results from the attacks of a parasitic gungus or microscopic plant which makes no food for itself but steals its living from the cherry or plum tree. The fungus gains an entrance through the leaves, grows in the tissues and produces brown dead spots. In some cases the spots dry, become brittle and are eventually whipped out by the wind. At other times a dark spot about one-sixteenth of an inch in diameter is found on the leaf, which turns yellow as a result of the parasite's work. At the same time, on the under side of the diseased leaves white or pinkish gummy masses may be noticed. These are made up of enormous numbers of the small seed-like, reproductive bodies of the fungus—the spores. When these gummy masses are wet, the spores float in the water and are splashed about by rains. This explains why the disease is most severe in seasons of abundant rainfall. Spores splashed from a leaf and lodging on the new leaves sprout and bore into the tissues, causing similar spores with other crops of spores in a week or two.

Disease Winters on Leaves

The general effect of the fungus is to produce a casting or dropping of the leaves. The diseased leaves of cherries drop at the slightest jar. The fungus lives over winter on these fallen leaves and produces on them its winter spores. In the spring the spores are popped, under favorable conditions of moisture and thus reach the leaves. For such infections the unfolding summer spores are produced, and the infection of new leaves is repeated with each rainy period.

The disease cripples badly the leaf surface of the trees. All the starch and sugar which is found in the fruit is made by the leaves. Therefore, anything which cripples them cuts down the crop. But as the disease commonly appears after the crop is harvested the fruit grower frequently fails to recognize the loss which it brings about. The dropping of the leaves produces its greatest effect on the next year's crop, keeping it always mediocre and frequently producing conditions in which the trees produce only small, poorly-flavored fruit, which ripens unevenly. Much of the food material found in the fruit must be made by the leaves of the preceding season and stored in the twigs. Another effect of this disease is to render trees which have lost their leaves very susceptible to winter injury.

Readily Controlled.

The "leaf spot" is readily controlled by summer sprays of dilute lime sulphur. Ordinary commercial lime sulphur used at the strength of one part to forty parts of water, is commonly employed in Ontario orchars, applied according to following schedule:

First—Just before the buds open.

Second—Immediately after the blossoms fall.

Fourth—Every two or three weeks, depending upon the weather conditions throughout the growing season.

In the first two sprays two and a half to three pounds of arsenate of lead should be added to every fifty gallons of spray. This poison controls curculio. With Japanese varieties of plums self-boiled lime sulphur mixture should be sustituted for the commercial lime sulphur.

In addition to this control measure, plowing under the leaves from the preceding crop before infection of the new leaves in the spring can take place is strongly advised. This is a sanitary measure and gets rid of the greater part of the sources of infection.

CEREALS WE OUGHT TO EAT

They Should Have Daily Place on Our Tables For Reasons of Health As Well As Economy.

"Save wheat!" This great slogan of our national food campaign has been echoed and re-echoed for months but do we yet realize that it means US?

Can we live without wheat? Certainly and live well. We must recognize the scientific fact that no one food (with the exception of milk) is indispensable. There are four letters in the food alphabet, A. Fuel for the body machine; B, Protein for the upkeep of the machinery; C, Mineral salts, partly for upkeep and partly for lubrication—to make all parts work smoothly together; D, Vitamines, subtle and elusive substances upon whose presence depends the successful use by the body of all the others.

These four letters, rightly combined, spell health. They are variously distributed in food materials. Sometimes all are found in one food (milk for example), sometimes only one (as in sugar), sometimes two or three. The amounts also vary in the different foods. To build up a complete diet, we have to know how many of these items are present in a given food and also how much of each is there.

Now cereals are much alike in what they contribute to the diet. In comparing them we are apt to emphasize their differences, much as we do in comparing two men. One man may be a little taller, a little heavier, have a different tilt to his nose but any two men are more alike than a man and a dog. So corn has a little less protein than wheat and considerably less lime, yet corn and wheat are, nutritionally, more alike than either is like sugar.

To Make a Complete Diet

None of the cereals will make a complete diet by itself. If we take white bread as the foundation, we must add to it something containing lime, such as milk or cheese; something containing iron, such as spinach, egg yolk, meat, or other iron-rich food; something containing vitamines, such as greens or other vitamine-rich food; something to reinforce the proteins, as milk, eggs, meat or nuts. It is not possible to make a perfect diet with only one other kind of food besides white bread. It can be done with three; bread, milk and spinach for example.

If we substitute whole wheat for white bread, we can make a complete diet with two foods—this and milk. We get from the bran and the germ what in the other case we got from the spinach. All the cereals can be effectively supplemented by milk and green vegetables. If green vegetables (or substitutes for them like dried peas and beans or fruit) are hard to get, we should give preference to cereals from which the bran coats have not been removed, such as oatmeal and whole wheat. Then the diet will not be deficient in iron, which is not supplied in large enough amounts from white bread and milk. Oatmeal is the richest in iron of all the cereals.

With such knowledge, we may alter our diet very greatly without danger of under-nutrition. But we must learn to cook other cereals at least as well as we do wheat. Without proper cooking they are unpalatable and unwholesome, and they are not so easy to cook as wheat. They take a longer time and we cannot get the same culinary effects, since with the exception of rye, they will not make a light loaf. Fortunately we are not asked to deny ourselves wheat entirely, only to substitute other cereals for part of it. Let each housewife resolve when next she buys flour, to buy at the same time one-fourth as much of some other grain, finely ground, rye, corn, barley, according to preference, and mix the two thoroughly at once. Then she will be sure not to forget to carry out her good intentions. Bread made of such a mixture will be light and tender, and anything that cannot be made with it had better be dispensed with in these times.

In The Interests of Economy

Besides the saving of wheat for our country's sake, we shall do well to economize in it for our own. Compared with other cereals wheat is expensive. We can get more food, in every sense of the word, from half a pound of oatmeal than we can from a twelve-ounce loaf of white bread, and the oatmeal will not cost one-half as much as the bread. A loaf of brown bread made with one cupful each of cornmeal, oatmeal (finely ground), rye flour, molasses and skim milk will have two and one-half times the food value of a twelve-ounce loaf of white bread and will cost about the same. One-half pound of cornmeal, supplemented by a half a pint of milk will furnish more of everything needed by the body than such a twelve-ounce loaf, usually at less cost.

It pays at all times to use cereals in other forms than bread, for both health and economy. Does your family eat cereal for breakfast? A dish of oatmeal made from one-fourth cupful of the dry cereal will take the place of two slices of white bread, each about half an inch thick and three inches square, and give us iron besides. Served with milk, it will make a well-balanced meal. When we add a little fruit to give zest and some crisp corn bread to contrast with the soft mush, we have a meal in which we may take a just pride, provided the oatmeal is properly cooked.

The Value of Oatmeal

A good dish of oatmeal is as creditable a product as a good loaf of bread. It cannot be made without taking pains to get the right proportions of meal, water and salt, and to cook thoroughly, which means at least four hours in a double boiler, over night in a fireless cooker or half an hour at twenty pounds in a pressure cooker. Half-cooked oatmeal is most unwholesome, as well as unpalatable. It is part of our patriotic duty not to give so useful a food a bad reputation.

The man who does hard physical labor, especially in the open air, may complain that the oatmeal breakfast does not "stay by" him. This is because it digests fast. What he needs is a little fat stirred into the mush before it is sent to the table, or butter as well as milk and sugar served with it. If one must economize, the cereal breakfast should always be the rule. It is impossible in any other way to provide adequately, on a small sum, for a family especially where there are growing children.

Next to oatmeal, hominy is one of the cheapest breakfast foods. It has less flavor and is improved by the addition of a few dates cut into quarters or some small stewed seedless raisins, which also add the iron which hominy lacks. For the adults of the family the staying qualities of hominy and cornmeal can be increased by cutting the molded mush in slices and frying till a crisp crust is formed. This can be obtained more easily if the cereals are cooked in a mixture of milk and water instead of water alone. The milk supplements the cereal as acceptably as in a dish of mush and milk. Cornmeal needs even more cooking than oatmeal to develop an agreeable flavor. It can be improved by the addition of an equal amount of farina or cream of wheat.

Cereals for dinner are acceptable substitutes for such vegetables as potatoes, both for economy and for variety. The whole grains, rice, barley and hominy, lend themselves best to such use. Try a dish of creamed salmon with a border of barley; one of hominy surrounded by fried apples; or a bowl of rice heaped with bananas baked to a turn and removed from their skins just before serving, and be glad that the war has stirred you out of food ruts!

Cereals For Dessert

Cereals combined with milk make most wholesome puddings, each almost a well-balanced meal in itself. They are easier to make than pies, shortcakes and other desserts which require wheat flour and they are splendid growing food for boys and girls.

For the hard-working man who misses the slowly digesting pie, serve the puddings with a hard sauce or add a little butter when making them. For the growing children, raisins, dates and other fruits are welcome additions on account of their iron. From half a cupful to a cupful of almost any cereal pudding made with milk, is the equivalent of an ordinary serving of pie.

Aside from the avoidance of actual waste of food materials, there seems to be no one service so imperative for housewives to render in these critical times as the mastery of the art of using cereals. These must be made to save not only wheat but meat, and for most of us, also money.

The most economical diet possible is built upon a plan wherein we find for an average working man fourteen ounces of cereal food and one pint of milk, seven ounces of meat or a good meat substitute, two ounces of fat, three ounces of sugar or other sweeteners, at least one kind of fruit and one kind of vegetable beside potatoes (more if one has a garden).

The cereal may furnish half the fuel value of the diet, partly in the form of bread-stuffs and partly in some of the other ways which have been suggested above, without any danger of under-nutrition. Remember the old fable of the farmer who told his sons that he had left them a fortune and bade them dig on his farm for it after his death, and how they found wealth not as buried treasure but through thorough tillage of the soil. So one might leave a message to every farmer's wife and daughter to look in the cereal pot, for there they can find a key to health and wealth, and a weapon to win the greatest war the world has ever seen.

Your Problems

Conducted by Mrs Helen Law

Mothers and daughters of all ages are cordially invited to write to this department. Initials only will be published with each question and its answer as a means of identification, but full name and address must be given in each letter. Write on one side of paper only. Answers will be mailed direct if stamped and addressed envelope is enclosed.

Address all correspondence for this department to Mrs. Helen Law, 233 Woodbine Ave., Toronto.

R.E.S.:—Of course you do not need to deny your children candy altogether but be careful in the kinds you let them have. It would be a good plan if, instead of letting them buy from the village store, you make some wholesome candies at home, using fruits, nuts, popcorn, molasses and so forth. The children will get to prefer them to the sugared confections they usually buy in the stores and they will be much better for them. Do you know that the money spent on candy in the United States and Canada in the past year is double the amount needed to keep Belgium supplied with food for a year? It is rather appalling when you look at it in that way, isn't it? Give the children syrup, honey, molasses and preserves. Day by day impress upon them the necessity for leaving clean plates no matter what it is they are having. Show them that in leaving scraps they are robbing other little children. Do you know that in England the kiddies have a wonderful realization of their war time duties and give things up, on principle, for the sake of the little French, Belgian, Italian and Serbian children, and, most of all, for the sake of their brothers and fathers in khaki.

An Old Timer:—"Why not ship our corn to Europe and keep our wheat at home?" asks Old Timer. There are many reasons: listen to some of them: (1) Cornmeal spoils easily in shipping. Cornmeal and corn are less compact and take more cargo space than wheat flour. (2) Corn bread is a home product and cannot be handled by bakers. To be liked it must be eaten when freshly baked. On this continent where a large percentage of the baking is done at home, the consumption of corn bread can easily be increased; in Europe, where practically all bread is baked by bakers, corn bread cannot readily be adopted unless housewives reconstruct their homes, for the baking oven does not exist in the average European household. (3) Our allies are already using a mixture of wheat flour with potato rice, rye flour and some corn, but this mixture cannot well go beyond 25 per cent. and produce a good bakery product. Corn flour as a further ingredient, therefore, is scarcely advisable.

A Soldier's Mother:—It is little wonder that you are anxious to know of the best ways and means of saving wheat seeing that you have a boy "over there." It is imperative that we in Canada cut our own use of wheat by one-fourth if we are to have enough to send to the Allies. Keep in mind that the use of whole wheat and graham flours is not regarded as saving wheat for each has its quota of white flour. However, here are some simple economies you may practise. Make them the golden rules of your household:

Cut bread on the table, so that none is left to dry.

Do not have stale bread.

Do not use toast as a garnish or serve food on toast.

If there are pieces of bread left, dry and grind or pound them up, using the crumbs in place of flour.

Do not use crackers made from wheat flour, or serve croutons with soup.

Do not use breakfast cereals made from wheat.

If you use macaroni or spaghetti, remember that they are made of wheat and do not serve bread at the same meal.

Use cornstarch or rice flour for thickening sauces and gravies; also whenever possible, in puddings.

Barley bread is excellent and very simple to make. Here is the recipe: 1 cup liquid, 1 teaspoon salt, 2 1-3 cups white flour, ⅛ to ¼ cake yeast, softened in ¼ cup lukewarm water, 1 1-6 cups barley flour.

Scald the liquid, cool to lukewarm, add the salt, the softened yeast and half the flour. Beat thoroughly, cover and let rise until very light. Then add the remainder of the flour. Knead, cover and let rise until double in bulk. Shape into a loaf, cover and let rise again until double in bulk. Bake.

INTERNATIONAL LESSON
JANUARY 27.

Lesson IV.—Jesus Forgiving Sin.—Mark 2. 1-12. Golden Text, Mark 2. 10.

Verse 1. Again into Capernaum—The enthusiasm aroused by the jubilant leper made it necessary for him to change his plans, so he ends his brief circuit among the synagogues of Galilee and comes back—Matthew says from the other side of the lake. Noised that he was in the house—That is, that he had returned home. In all probability in the home of Simon.

2. No room even about the door—A graphic picture of the eagerness of the people—excited, pressing crowds, thronging all available space, as is the case to-day, occasionally in a Palestinian village where the entire populace in harmless curiosity will crush into a house on the advent of strangers. The extraordinary item here was the presence of the great Healer. He spake the word unto them—Was speaking his message of good news, simply and informally.

3. A man sick of the palsy—An episode of intense interest, wonderfully augmenting the excitement. Four neighbors bring their paralyzed friend, but find they cannot even get near the door.

4. They uncovered the roof—Literally, "dug out the roof." One of the finest pictures in all the Gospel narrative. The eager, determined friends, bearing the sick man on his pallet, carry him up the stone steps on the outside of the house, leading to the flat roof, and dig through the sod and dirt and branches covering the roof timbers, while the debris rattled down into the midst of the listening throng below, making a hole big enough to let down the paralytic into the very presence of the Saviour.

5. Jesus seeing their faith—Made evident by their persistence in overcoming every obstacle which stood in the way of getting their friend into his presence. Seen also in their absolute confidence in his ability to heal. The sick man himself was probably unable to express himself, but no doubt there had been aroused in him a great hope as his confident friends literally broke their way to the gracious Healer. Son—A word with a shade of affection, and an encouragement to the sufferer. Sins—Suggesting that his condition was due to some personal wrongdoing. The generic idea of sin in the New Testament is "missing the mark"; from this as a root proceed all manner of specific sins, which as a rule involve both mind and body. Forgiven—Not merely a cure for his physical condition, but a removal of guilt, in accordance with the Jewish idea that restoration and forgiveness went hand in hand.

6. Scribes—The first encounter of Jesus with these influential Jewish teachers, the guardians and interpreters of the law. They were watching everything, saying nothing, but intensely criticising and objecting, "reasoning in their hearts."

7. He blasphemeth—Assumes God's prerogative in pronouncing the forgiveness of sin.

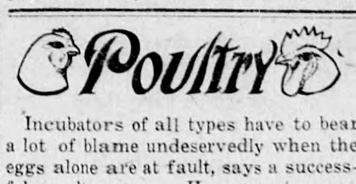
8. Perceiving in his spirit—He perceived this intuitively as he did on other occasions. (John 2. 24, 15.)

9. Which is easier to say—He contrasts two declarations—which is the more difficult claim to make, to heal the paralytic or to forgive his sins. The contrast is not between healing and forgiving, but between saying "be forgiven" or "be healed."

10. That ye may know—He now gives a practical test as to whether he has this authority or not. The forgiveness is shown by the cure, just as the sin had manifested itself in the disease. The Son of man—This is Jesus' favorite title for himself in the first three Gospels. In Mark it occurs fourteen times. Son of man was a Messianic title, as is seen in Dan. 7. 13-27, but Jesus' use of it identifies him with humanity as a whole. He is thus our elder brother, as shown by his title and his life. Authority on earth—Exercised by God in heaven, but also by the Son of man on earth. He does not disclaim divine authority.

11. Take up thy bed—The mat or pallet, which could be easily rolled up, and in doing which he would display his restored powers. Some of the old illustrators represent the paralytic as shouldering a four-post bedstead.

12. Straightway—The man is whole and every mark of disease has vanished, which is evident to every one. Were all amazed—The cure was open to every eye, and the event justified the assurance that the Son of man had the authority. Glorified God—The murmuring and disgruntled scribes are silent, for nothing can be said against the marvelous restoration of the sick man. They recognized in it the hand of God.



Incubators of all types have to bear a lot of blame undeservedly when the eggs alone are at fault, says a successful poultryman. Here are two examples from my own experience:

Last year I set an incubator with 200 eggs—100 from two different flocks. From one lot I got an 80% hatch, and from the other 9% Both parties from whom I purchased eggs were selling and shipping eggs away for hatching in considerable quantity, and both flocks had farm range. The eggs were delivered to me in baskets without experiencing any of the common dangers from shipping or any chance to get damaged. The fertility of the eggs in the poor hatching lot was wholly at fault. Some years previous, I bought eggs for hatching in my incubator from two other farm flocks, and one lot hatched over 75 per cent., and the other under 40 per cent.

I find that free-range farm flocks produce weak and infertile eggs about as often as town flocks kept in confinement; and anyone who has not made a careful test of his eggs for fertility before setting an incubator may expect an expensive surprise at hatching time.

Healthy hens kept strong and vigorous with exercise and correct feeding are one essential to good hatches. And another just as important is cock birds equally fit. Don't expect good hatches from hens that are mated to cocks or cockerels that have been pampered and stuffed and closely confined for weeks during the fall and early winter in preparation for exhibition. Such males are no better than capons.

My experience is that hens that have been laying only a few weeks furnish higher fertility in their eggs as a rule than those having laid heavily for months. I find it far better to separate one or more pens of my best breeding hens and handle them to insure their laying not over a month before hatching eggs are wanted. When kept thus for breeders their feed bill is considerably less, as they can be kept largely on screenings and cheaper grains, and should be kept scratching most of the time in deep litter for grain. The exercise thus enforced puts them in hardy, vigorous condition. The male with which the breeding hens are to be mated should also be made to scratch actively for his grain, and when the breeding stock is handled as I have recommended the male can be allowed to run with the breeding hens throughout the winter and on account of the better acquaintance of the birds the fertility of the eggs will be greater.

When piling wood high in the shed, keep the front the highest. Then the pile will not tip over.

A Coasting Song.

Oh, the sky is blue as steel,
And the wind has a biting chill,
But never a touch of the cold we feel—
Hurrah for the coasting hill!

Oh, down the slope we go,
And we never stop until
We tumble off in a drift of snow—
Hurrah for the coasting spill!

Lucky Priscilla.

Of all who go a-coasting
When the hill is white with snow
Our little Miss Priscilla
Is the luckiest one I know.

Along with all the others,
As soon as school is done,
She takes her sled and hurries
To join them in their fun.

The others go a-flying,
And when at last they stop,
They find it weary plodding,
Returning to the top.

But when our Miss Priscilla
Has reached the bottom, then
There's always some one waiting
To haul her back again.

A Winter Evening.

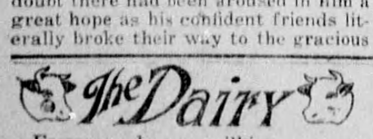
Soft bands of white across a sunny sky—
And then the low-toned twilight creeping on,
A neighboring roof deep etched with burdening snow;
Hill, field and tree beyond
Blending in one wide, gentle blur of gray;
Brown shrubs and withered grasses wave aloft
Their invitation to a passing feathered guest;
While here, and there, and here again
Faint wisps of smoke curl upward,
Telling once more the tale of little homes,
Whither the toil-worn hasten, to sit them down and rest.

So I will spread a table, here beside our hearth;
A joyful feast, for Love broods over it,
Lending the snow-white luster of his wings.
And now, all things made ready, I will wait,
And listen for the voice I know so well.

—Louise May Gridley.

To Clean Window Shades.

When your window shades become soiled clean them by rubbing gently with a soft cloth wrung out of a mixture of one pint hot water and three tablespoonfuls of benzine. Then wipe with a soft, dry cloth.



Farmers who are milking cows as a side line can increase the profits from this source by breeding their cows so that they will freshen in the fall or early winter months. Dairy farmers and experiment stations have found many things in favor of fall calving, the most important of which is the fact that a cow freshening in the fall will produce more milk and butterfat in a year than a cow which freshens in the spring or summer. It used to be generally believed that the most natural time for a cow to come fresh was in the spring of the year, when the cow as well as the calf could soon go on pasture and be but little trouble and expense. While this is true as far as it goes, when we consider the production of the cow for a year it is in favor of fall calving. A cow calving in the spring gives her maximum flow of milk on pasture and at a time when flies are bad and the weather hot, both of which are not conducive to the maximum production of milk. Later in the summer the short pasture causes a still further decrease in production, and in the fall of the year, unless one has a silo, the cow goes on dry feed, which does not have a stimulating effect upon the production of milk.

In the case of the cow freshening in the fall she gives her maximum flow on dry feeds at a time when the farmer has more time to spend with her. She is also producing her maximum of milk when dairy products are high in price as compared with the cow fresh in the spring during the flush season when dairy products are at their lowest price. Toward spring, as her milk production declines, she goes out on pasture, which has a tendency to stimulate a higher production and will also keep up her flow longer. As the pasture becomes short and the weather hot she can be dried up. Thus the cow calving in the fall not only gives her maximum flow when dairy products are highest in price, but she will also produce more fat and milk during the year and can be dry during part of the busy season.

The fall calf will generally show as much size at the end of the year as the calf dropped the previous spring, and is ready when spring comes to go out on pasture and will take but little further attention.

There is much in favor of the farmer having cows freshen in the fall. It cannot be done in the case of all cows, but it can be more generally practiced than at present. To have cows freshen in the fall they should be bred within the next three months.