COMMON DISEASES OF BUSH FRUITS

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CURRANT.

Leaf-Spots.

There are three common leaf-spot diseases of currant found practically throughout the currant-growing regions of North America. Two of these diseases, the Mycosphaerella leaf-spot and Anthracnose, are difficult to distinguish one from the other. The third, angular leaf-spot, is more easily distinguished.

Symptoms and Development.

The Mycosphaerella leaf-spot, caused by the fungus Mycosphaerella Grossulariae (fr.) Lind. often causes the foliage of red and white currants to drop. The spots are small and brown and appear on both sides of the leaf. When fully developed the spots are about one-eighth of an inch in diameter and the centre of each becomes lighter brown. The leaves carry the fungus over winte r and produce the spores which cause infection the following spring. Other spores are formed on the leaves during the spring and summer and serve to spread the infection, especially during damp cloudy weather.

The leaf-spot, which has commonly been called anthracnose, is caused by the fungus Pseudopeziza Ribis Klebahn, but is difficult to distinguish from the Mycosphaerella leaf-spot. The size and color of the spot on the leaves are similar. As a general rule, however, the spots are smaller, dark brown and largely confined to the upper surface of the leaf. The leaves often turn yellow and drop. In the case of this disease, the fungus also affects the petioles, young canes, fruit stalks and berries. The spotting on the fruit is minute and resembles fly-specking. On the fruit-stalks large dark-colored spots are formed. The fungus is carried over winter in the dead leaves and in the spots on the young canes. The first infection in the spring comes from these sources and then during the growing season other spores are distributed from the new spots.

The angular leaf-spot is caused by the fungus Cercospora angulata Winter. The spots although small are angular in outline. They are smoky-colored on the under surface and lighter than the surrounding tissue on the upper surface.

Control of Leaf-Spots.

It is advisable to attempt the destruction of the leaf refuse from the plants by plowing or otherwise, or better by collecting and burning all refuse, in order to reduce the amount of early spring infection. This must be done before the new leaves come out in the spring. The destruction of the old leaves will not, however, be complete enough in any case to avoid some infection and it is only a measure which will assist in obtaining the maximum results from spraying or dusting.

The leaf-spot disease may be controlled effectively by spraying with either Bordeaux mixture 5-5-40, or commercial lime sulphur 1-32 or 1-40. Sulphur dust (90 parts sulphur and 10 parts of lead) has been shown to be equally effective, in experiments carried on in eNw York State. Whichever spraying solution or dust is used, the thoroughness and time of its application are most important. The schedule usually recommended is as follows. Make the first application as the leaves are unfolding. This should be followed by four or five applications at intervals of ten to twenty days. The length of the interval between successive spraying must be left to the grower with the general advice that, should the weather be moist and cloudy, not more than ten days should elapse between sprayings. On the other hand if it is dry, the next spraying may be delayed for twenty days. Two important results are accomplished in controlling these leaf diseases; first, the maximum fruiting of the bushes is insured by keeping the leaves healthy, and second, the leaves are retained on the bushes until the normal time for falling, thus insuring the proper maturation of the new growth and thus avoiding winter injury.

European Currant Rust.

The fungus, Cronartium ribicola F. de Wald, which causes the blister rust on white pine and other five-needle pines, has its summer and autumn stages on the leaves of currants and gooseberries. This fungus was originally confined to Europe but within the last ten or twenty years it has become widely established in eastern United States and Canada. It is now commonly found upon currants and gooseberries in this region but fortunately it does very little injury to these plants even when infection is severe. The grower of five-needled pines, by keeping currants and gooseberries at a distance of three to five hundred yards from his pines, can be reasonably insured against this fungus attacking his pines. On the other hand, the grower of currants and gooseberries has no such means of avoiding the rust since it spreads on these plants over much greater distances. By keeping five-needle pines at as great a distance as possible from the currants and gooseberries a degree of control may be obtained. Spraying has been found to be of little value in controlling this rust.

American Powdery Mildew.

The powdery mildew which occurs on gooseberries is sometimes found on currants. There is some indication, however, that the currant mildew occurs on currants only and that infection does not take place from gooseberry to currant and vice versa. The appearance of the two mildews are identical, as is their control. See the descriptions and control measures given under gooseberry mildew.

Cane Blight or Wilt.

The disease which becomes important at times is caused by the fungus, Botryo-sphaeria Ribis Gros. and Duggar. The most conspicuous symptom is the sudden wilting and dying of parts or whole bushes. This usually occurs after elongation growth has ceased. The tips of the canes die and the leaves turn brown and fall. The wilting is causing by fungus which grows in the pith, wood and bark at some distance below the parts that wilt. The fungus forms spores on the dead parts. There is no control known at present for this disease. The most careful eradication of diseased bushes in summer and winter has failed to control it.

Root-Rots.

The root diseases of currant are little understood at present. Where they are troublesome it can only be suggested that affected plants should be dug and destroyed. The space should be left blank and if lifting the diseased plants does not prevent the trouble spreading to adjacent plants, the practice of lifting adjacent healthy plants for about two feet away from the diseased plants would be adivsable. The fungi causing root-rots usually live over in the soil for some time and thus make control difficult.

American Gooseberry (Powdery) Mildew.

The mildew is serious on European varieties. American varieties are seldom badly affected by it. The mildew first makes its appearance on the lower parts in May or June. It is at first a whitish mouldy growth which later becomes rust brown. All parts of the bushes are affected including the berries. A dwarfing and distorting effect is produced when the young canes and new leaves are attacked. The berries are dwarfed and may crack open.

The mildew is very difficult to control. Even the most persistent efforts often fail. Throughness and the frequency of application are very important. Potassium sulphate (liver of sulphur) one ounce to two gallons is the usual solution used. Commercial lime-sulphur, 1 to 32 has also been found to be satisfactory. It is held to be better to use lime-sulphur for the earlier sprayings and then to substitute potassium sulphite at the time there is danger of spotting the berries. Either of the solutions must be applied so that the under surfaces of the leaves are coated, and the interior foliage of the bush must be reached. The first application should be made just as the buds burst and the subsequent applications at intervals of seven to ten days until at least five applications are made. Further applications depend upon the success of the treatment and the season. Shading the rows is said to lessen the amount of mildew. The shade must be available early in the season.

Leaf-Spot.

The leaf-spot caused Mycosphaerella Grossulariae is more severe on gooseberries than on currants, in that defoliation may result before the fruit matures. The disease may be easily controlled by following the schedules outlined for leaf-spots of currant.

European Rust.

Gooseberries are an alternate host for the fungus, causing white pine glister rust. The discussion under currant rust applies to gooseberries as well. Gooseberries are less heavily affected than currants as a rule, and no material injury is caused.

Cluster-Cup Rust.

The ordinary yellow or cluster-cup rust which is so common everywhere on wild gooseberries sometimes occurs on cultivated varieties. Little injury is caused except where an occasional attack may cause defoliation. The winter stage of this fungus occurs on the two sedges Carex acuta and C. Goodenovii. The only control measure known where this rust may be troublesome is the eradication of the two sedges from the vicinity of the patch.

Raspberry and Blackberry.

Except for yellows or leaf-curl and cane blight the more important diseases of the raspberry occur on blackberries as well.

Crown-Gall.

Crown-gall caused by Bacterium tumefaciens E. F. Sm. and Towns. is probably the most serious disease of raspberries and blackberries. The tree fruits, like peach and apple although commonly affected, do not suffer nearly so much from this disease as these two bush fruits. Knots are formed on the roots and at the ground level which often result in the death of the plant. Knotty excrescences are also formed on the cane. The only control measures konwn are to dig and destroy the affected bushes. These fruits are planted so close that rapid spread in the patch may be expected if the diseased plants are not dug out. It is advisable to discard all bushes when planting which show signs of swelling on the roots or canes.

Beauty Secrets for Women

A woman's fondest hope is to stay young. She often resorts to paints, powders and cosmetics to hide her years. Some women pay large sums to so-called "Beauty Doctors" in the belief that money will buy youth. Others wear girlish dresses, thinking they can fool the world about their age. But no one is deceived. The more you try to hide your age, the more it shows.

There is but one thing that holds old age back, and that is health. Sickness and weakness bring old age early in life. Dr. Pierce's Favorite Prescription is a building-up medicine for women. It makes them healthy and strong when they suffer from women's troubles. It keeps them looking young by keeping them well. It is a woman's tonic for the frail, the delicate and those who are nervous, dizzy and who have backache and "dragging down." Some women took it years ago and have felt younger and well ever since. Doctor Pierce's Favorite Prescription is altogether vegetable and without a particle of alcohol. It is safe to take. Try it *now*. In tablet or liquid form at all druggists, or send ten cents for trial pagkage of the tablets to Dr. Pierce's Invalids' Hotel in Buffalo, N. Y., or branch in Bridgeburg, Ont.

A WOMAN'S RIGHT TO GOOD HEALTH

MOST TROUBLES AFFLICTING WOMEN ARE DUE TO POOR BLOOD.

To every woman belongs the right to enjoy a healthy, active life; yet nine out of ten suffer from some form of bloodlessness. That is why one sees on every side pale, thin cheeks, dull eyes and drooping figures—sure signs of headaches, weak backs, aching limbs and uncertain health. All weak women should win the right to be well by refreshing their weary bodies with the new, rich, red blood that promptly transforms them into healthy attractive women. The new, red, blood is supplied by Dr. Williams' Pink Pills, which reaches every organ and every nerve in the body. Through the use of these pills thousands of women have found benefit when suffering from anaemia, indigestion, general weakness and those ailments from which women alone suffer. Among the many women who tell of the good Dr. Williams' Pink Pills have done them is Mrs. L. Hicks, Round Hill, N. S., who says: "I became very much run down in health; my blood seemed weak and watery, my strength failed, and I was so easily tired that my work was a burden. I had often read about Dr. Williams' Pink Pills and decided to try them, and I can truly say that after using three boxes I found myself gaining, and under a further use of the pills all my old-time energy and vitality was restored. Out of my own experience I can strongly recommend this medicine."

You can get Dr. Williams' Pink Pills through any dealer in medicine or by mail at 50 cents a box or six boxes for $2.50 from The Dr. Williams' Medicine Co., Brockville, Ont.

WOOL MARKET REPORT.

While Canadian mills are still buying for immediate needs, there is evidence of a broadening of their demand. There also appears to be more action to the wool market in general, in sympathy with the better ton to other business. Quotations for Canadian wools are unchanged, as follows:

Fine Western, 27c; fine medium Western, 28c; medium Western, 25c and 26c; low medium, 21c and 23c; low quarter Western, 17c and 18c; clothing wools, 20c and 23c; Eastern, 28c; Eastern, 24c.

X-ray photographs of hands of criminals have been proposed as a more certain method of identification than finger printing.

The Sunday School Lesson

THE WISE AND THE FOOLISH VIRGINS.

Lesson—Matt. 25: 1-13.

Golden Text—"Watch therefore, for ye know not the day nor the hour" (Matt. 25: 13).

Historical Setting.

Time.—April, A. D. 30. Place.—Mount of Olives.

The Lesson Text.

1 Then shall the kingdom of heaven be likened unto ten virgins, who took their lamps, and went forth to meet the bridegroom.

2 And five of them were foolish, and five were wise.

3 For the foolish, when they took their lamps, took no oil with them:

4 But the wise took oil in their vessels with their lamps.

5 Now while the bridegroom tarried, they all slumbered and slept.

6 But at midnight there is a cry, Behold, the bridegroom!! Come ye forth to meet him.

7 Then all those virgins arose, and trimmed their lamps.

8 And the foolish said unto the wise, Give us of your oil; for our lamps are gone out.

9 But the wise answered, saying, Peradventure there will not be enough for us and you; go ye rather to them that sell, and buy for yourselves.

10 And while they went away to buy, the bridegroom came; and they that were ready went in with him to the marriage feast; and the door was shut.

11 Afterward came also the other virgins, saying, Lord, Lord, open to us.

12 But he answered and said, Verily I say unto you, I know you not.

13 Watch therefore, for ye know not the day nor the hour.

Comments.

Verse 1. In most of the kingdom parables the present tense is used because dealing with the after life. There is no especial significance attached to the number 10. Asiatic cities were utterly dark on dark nights. One who went forth was required to carry a light. Processions such as this are still features of eastern weddings.

Verse 2. That which made the difference between the two was the prudence forethought on the part of the wise and the lack of preparation on the part of the foolish.

Verse 3. The foolish had oil in their lamps when they started, but their oil failed and their light went out, and they did not renew it. Many impulsive Christians are like this.

Verse 4. The wise seemed to have considered as uncertain the time when the bridegroom would make his appearance. The main point was to be ready for all possible contingencies. We know not when the Lord may come, but it makes little difference if we are prepared for His coming.

Verse 5. Both wise and foolish, they all "slumbered and slept." This indicates our ignorance as to the time of the coming of Christ.

Verse 6. Figuratively, midnight represents the time of the second coming and the resurrection of the dead.

Verse 7. Of course, the lamps had been burning all the time the virgins had been waiting, in order that they might be ready at the interesting moment.

Verse 8. In the presence of judgment and the final test comes the revelation of preparedness and unpreparedness. Hasty and delayed efforts toward adjustment are not encouraged by this parable.

Verse 9. The wise gave the best possible advice, but it was too late for the foolish to comply with it.

Verse 10. The foolish waited in unpreparedness.

Verse 11. It is probable that the foolish came without oil, hoping for admission and looking for mercy. Their plight was their own fault.

Verse 12. Christ knows those who are worthy to be known.

Verse 13. In every important sense the Son of man is coming to us every hour of the day. But the time of His final coming nobody knows. Every true Christian lives so as to be ready at any time.

Illustrated Truth.

The most valuable things in the world are the intangible ones which can not be borrowed or loaned (v. 9).

Illustration.—At the beginning of the college year, young Singleton attached himself to one of the best students in his class and claimed him for a roommate. "What did you do that for?" one of his friends asked. "Jordan isn't one of your sort. You can't count on him for any larks." "No," Singleton rejoined, with a wink, "but he's the kind that always has full notes of the lectures, and they are easy to read." Singleton had his larks, and he copied his roommate's notes, but he couldn't borrow Jordan's well-trained brain. When it came to a practical test, he was a failure.

Topics for Research and Discussion.

I. The Wise and Foolish Virgins (vs. 1-4). 1. Where was Jesus when he taught this parable? 2. How did ancient Asiatic cities contrast with our cities as to lighting? 3. Can you describe an Oriental wedding procession? 4. What was the chief difference between the wise virgins and the foolish? 5. How do the foolish virgins compare with excitable, impulsive Christians? 6. How did the wise virgins show their wisdom?

II. Preparation and Neglect (vs. 5-9). 7. What is the bearing of this parable upon the time of Christ's coming? 8. What great day will reveal preparedness or the lack of it? 9. If men knew that next week would come the final judgment, how would they act meanwhile? 10. Why should knowledge of an immediate judgment make any difference in conduct?

III. Reward and Punishment (vs. 10.13). 11. Which is the greater incentive to right living, desire for reward or fear of punishment? 12. What bearing has this parable upon waiting till death approaches before repenting? 13. How should all Christians live?

MURINE FOR YOUR EYES

Night and Morning. Have Clean, Healthy Eyes. If they Tire, Itch, Smart or Burn, if Sore, Irritated, Inflamed or Granulated, use Murine often. Soothes, Refreshes. Safe for Infant or Adult. At all Druggists and Opticians. Write for Free Eye Book. Murine Eye Remedy Co., Chicago

In 1918 the milk and cream exported from Canada had a value of $5,862,-976. During the 12 months ended March 31 last the value of these exports was $10,216,861.

Cook's Cotton Root Compound.

A safe, reliable regulating medicine. Sold in three degrees of strength—No. 1, $1; No. 2, $3; No. 3, $5 per box. Sold by all druggists, or sent prepaid on receipt of price. Free pamphlet. Address: THE COOK MEDICINE CO. TORONTO, ONT. (Formerly Windsor.)

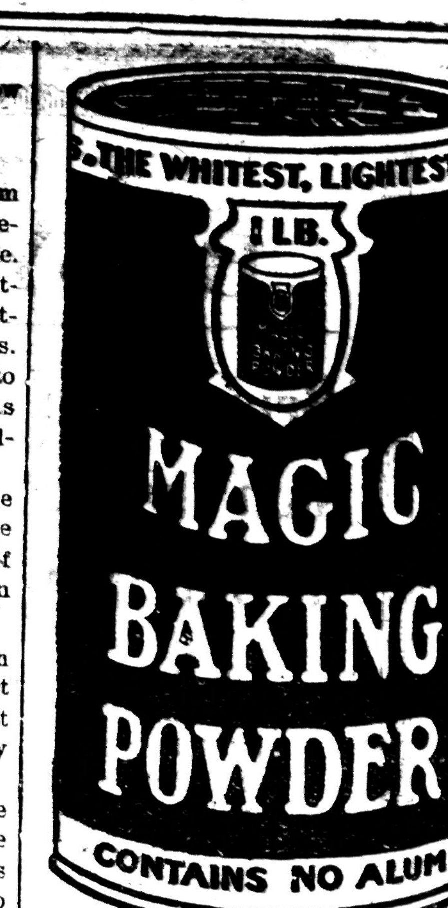
The Massachusetts Minimum Wage Board has handed down a decision granting scrubwomen a minimum wage of $15.40 per week. This is at the rate of 67 cents an hour, fixed on a basis of 42 hours' employment weekly.

WOOD'S PHOSPHODINE. The Great English Preparation. Tones and invigorates the whole nervous system, makes new Blood in old Veins. Used for Nervous Debility, Mental and Brain Worry, Despondency, Loss of Energy, Palpitation of the Heart, Failing Memory. [illegible]

Colored Man As Ship-Master.

The steamship Yarmouth has the distinction of being the only vessel owned and manned exclusively by colored men. She is the property of the University Negro Improvement Association, which numbers among its members negroes from all over the country. Thirteen hundred of her owners recently inspected the vessel on a visit which she made to the port of Boston.

The French government has organized motor laboratories which test wells and other supplies of drinking water on the spot.



FINANCIER SOUNDS OPTIMISTIC NOTE

PRESIDENT'S HOPEFUL WORDS AT MEETING OF MONTREAL BOARD OF TRADE.

An optimistic note was sounded by Mr. George Sumner, the veteran president of the Montreal Board of Trade, at the annual meeting, when Mr. Sumner gave his valedictory.

"The outlook at the present moment," said Mr. Summer in his address, "is possibly not as bright as usual at this season. Nevertheless, my feeling is that we ought not to be discouraged, for from information which has come into my possession recently, merchants are quite hopeful of the future. Moreover, we had splendid crops last year, cotton mills have plenty of orders and in many other lines there is not lacking evidence of an early return to normal conditions. The present is a time for caution, hard work, increased production, and an unshakable confidence in this Canada of ours. We have done well in the past. We are of all things Canadians, and, as Canadians, we must and will succeed."

Is Your Nose Plugged? Have You Catarrh?

If Subject to Colds, Here is Real Good Advice.

Don't load your stomach with cough syrup. Send healing medication through the nostrils—send it into the passages that are subject to colds and catarrh. Easy to do this with **Catarrhozone**, which cures a cold in ten minutes. Even to the lungs goes the healing vapor of **Catarrhozone**—all through the bronchial tubes, nostrils and air passages—everywhere a trace of disease remains will Catarrhozone follow. You'll not have colds, nor will you suffer from sniffles, bronchitis, or throat trouble if Catarrhozone is used. Get it today, but beware of dangerous substitutes meant to deceive you for genuine Catarrhozone. Large size, two months' treatment, cost $1.00; small size, 50c; sample size, 25c; all dealers or The Catarrhozone Co., Kingston, Canada.

An inventor has connected a pair of globular floats that support a person in water with a double crank which, when revolved, draws a user forward.

In China women dress less extravagantly than the men.

ONE WOMAN'S EXPERIENCE

Of Interest to Childless Women.

Toronto, Ontario.—"I suffered for a long time from a female weakness, inflammation, and a terrible backache caused by that condition. One day one of your booklets was left at my door, and I read how other women with troubles like mine had been made well, so I got a bottle of Lydia E. Pinkham's Vegetable Compound and a package of Sanative Wash, and it helped me wonderfully, and I now have the finest little baby boy that any mother could want. I want to recommend Lydia E. Pinkham's Vegetable Compound to any woman who has female troubles."—Mrs. JOSEPH LA BELLA, 773 Shaw Street, Toronto, Ontario, Canada.

The experience of Motherhood is a trying one to most women and marks distinctly an epoch in their lives. Not one woman in a hundred is prepared or understands how to properly care for herself. Every woman at this time should rely upon Lydia E. Pinkham's Vegetable Compound, a most valuable tonic and invigorator of the female organism.

In many homes once childless there are now children because of the fact that Lydia E. Pinkham's Vegetable Compound makes women normal, healthy and strong, and this good old fashioned root and herb remedy contains no narcotics or harmful drugs.