

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.

THE LITTLE ENEMIES YOU NEVER SEE.

It is important that the barns and cattle yards be kept clean and sanitary to prevent the spread of infectious and contagious diseases. What-ever measures are taken should be reinforced by the intelligent use of chemical disinfectants. What shall we use? How shall we apply it? There are so many new products on the market that we are likely to lose sight of the virtues of some of the older materials in the maze of new preparations.

Many new products are greatly over-rated because in the hands of a careful user exceptionally good results will be obtained. Some of the older materials are discredited because of being used under improper or inappropriate conditions. Almost any substance will give good results under certain conditions when in reality the conditions and not the materials are unfavorable for the development of the disease germs. If the substances favorable as cultural mediums for the disease germs are cleaned up before the disinfectant is applied, an erroneous impression will be obtained as to the germicidal value of the disinfectant in question.

Heat and sunlight are the cheapest and most efficient agents for disinfecting dairy barns and cattle yards. Heat may be used to clean and sterilize the pails, cans, utensils and mangers used in feeding the calves and cows. Sunlight will destroy most disease-producing germs if it can get at them. For the cattle yards a thorough clean up will result in a fairly effective disinfectant. The efficiency of the clean up will be greatly increased, however, if the surface of the yard is covered with a light dressing of fresh burnt lime. The use of lime in the yards not only destroys millions of these disease producing germs but it destroys the breeding places of flies and vermin.

Of the various chemical disinfectants that have been favorably recommended only a few meet the demands for efficiency, economy and practicality. Probably the cheapest and most effective product at the present time is bichloride of mercury in a dilution of one part to one thousand parts of water. It is poisonous and should not be used on metal stanchions and partitions because of its corrosive tendency. This proportion while very effective on clean floors, side walls and partitions is practically worthless unless the organic matter is thoroughly removed before it is applied.

Carbolic acid occupies a foremost position among disinfectants, but it is far too expensive at the present time to be used freely in the dairy barn. When used in a five per cent. solution it is very safe and efficient. During

Raspberry Leaf Curl.

In the interests of market gardeners and small fruit cultivators, this note on Raspberry Leaf Curl has been prepared at the Field Laboratory in Southern Ontario at St. Catharines, and is issued by the Central Experimental Farm, Ottawa.

This disease has been known for some time both under the above name, as well as under the name of Raspberry Yellow. Since the curling of the leaves is the most outstanding feature in connection with the disease, it is preferable to use the term Raspberry Leaf Curl.

The disease affects the leaves and shoots and is often confined to a single bush or part of a bush, some of the shoots being perfectly normal and others with the leaves affected. The affected shoots, instead of producing normal large, broad leaves, bear leaves which are conspicuously small and badly curled downwards. In the early stages this symptom is not so pronounced, and while a small amount of curling may occur then, the disease is more noticeable on account of the yellowing which takes place during the summer because of the unhealthy state of the foliage. Since yellowing of the leaves may be due to a number of other causes, such as wet feet, poor soil, drought, etc., it is best to determine the disease mainly by the Leaf Curl symptoms.

In the advanced stages, the canes bear no fruit. When first attacked, they flower almost normally, but the fruit is small and dry and shrivels up before ripening, so that little or no fruit is ever produced from an infected bush. Of the three varieties which are commonly grown in the Niagara district, Cuthbert, Marlborough and Herbert, the Herbert seems to be freest from the disease. The other two varieties are quite susceptible, but one rarely sees signs of Leaf Curl in the Herbert.

So far as is known the disease is not due to any parasitic organism. It apparently belongs to that type of trouble which has been called physiological disease, and could therefore be put into the same class with peach yellows and little peach, and the mosaic diseases of tomatoes, tobacco, potatoes and so forth. No records are available as to how the disease is brought into the field in the first place, nor how it is transmitted from one plant to another. It undoubtedly does spread once it becomes established in a plantation and many fine plantations are known to have been greatly injured by the presence of a large number of Leaf Curl plants. If the disease corresponds closely with the mosaic or yellow disease, one would suspect that it is carried either by insects or pruning operations.

Although too little is known about Leaf Curl to advise a sure means of control, one should always remove the affected plants as soon as they show signs of disease. They are of no use in any case and are likely to spread the disease to other parts of the plantation. In taking out Leaf Curl plants, one should be careful to get the whole root system, otherwise the parts that are left will start to grow and produce new shoots which will also show Leaf Curl. It is possible that some of our Leaf Curl originates from nursery cuttings and some care should be taken when setting out a new plantation, to avoid this disease.—Experimental Farms Note.

GOOD HEALTH QUESTION BOX

By Andrew F. Currier, M.D.

Dr. Currier will answer all signed questions of general interest. It will be answered through these columns; if not, it will be answered personally if stamped, addressed envelope is enclosed. Dr. Currier will not prescribe for individual cases or make diagnosis. Address Dr. Andrew F. Currier, care of Wilson Publishing Co., 73 Adelaide St. West, Toronto.

Dentifrices and the Care of the Teeth.

The importance of the teeth is so great that every means of protecting them should always be welcomed.

Dentifrices do not take the place of ordinary care; they are not a substitute for the removal of those teeth which are hopeless and decayed and a means for removing food between and around them, which decomposes, and causes decay of teeth, indigestion, offensive breath, etc.

But when combined with a suitable tooth-brush, properly used, they may help in the disinfection of the mouth, improve the condition of the gums and retard decay.

The frequent recurrence of receding and suppurating gums with decay and loss of teeth in Riggs' disease or pyorrhoea is one of the arguments for their better care and the persistent use of dentifrices.

The shockingly defective teeth in early life among the poor, especially in cities could often be prevented by suitable hygienic precautions, including the use of proper dentifrices.

People are beginning to realize the important bearing of teeth upon the general welfare.

It is impossible to resist disease successfully when the mouth contains innumerable colonies of disease germs, decayed teeth, suppurating gums, decomposing food, together with adenoids and enlarged tonsils.

Poor teeth are said to have emphasized the pain and distress of many of the soldiers in the trenches in Belgium and France, and they have suffered not only from toothache and neuralgia, but from the clumsy dentistry of their comrades.

A good dentifrice can be made by any competent pharmacist.

It is immaterial whether it is in the form of powder, paste, or fluid, so long as it is good and effective.

The pharmacopoeias of the nations of the world show plainly what a good dentifrice should consist of.

It should contain a fine powder of

some alkaline substance, pink, red or black coloring material, fragrant powder to give body to the alkali and invigorate the gums, something to remove stains from the teeth and some kind of aromatic oil to deodorize the mouth and leave a pleasant and persistent taste after the dentifrice has been used.

Carbonate of lime, perhaps in the form of powdered oyster shells or carbonate of magnesium or cream of tartar is often used as the basis of a dentifrice.

Florentine orris root, camphor, myrrh, cinchona bark or sage leaves may be used for the invigorating substance; charcoal is often used to remove stains and absorb bad odors; carmine or cochineal to give the necessary color and oil of peppermint, cloves or cinnamon for the flavoring.

With these substances and knowing the condition of the mouth in a given case, it is a simple matter for a dentist or pharmacist to compound a good dentifrice and it would not be a difficult matter for any one who is accustomed to mixing and handling drugs.

QUESTIONS AND ANSWERS

Mrs. L. R.—Can infantile paralysis be cured? My little girl is suffering from its effects for seven years and I have been told by different authorities that it was incurable.

Answer—My advice to you would be to take the child to the Orthopedic Hospital in Toronto and have the condition examined. It is true that many of the cases of infantile paralysis remain permanently paralyzed, to a greater or less extent, but an expert opinion on the subject would be desirable for you.

L. P.—I should think it probable that you were suffering from some form of neuralgia. If walking seems to relieve you, the best thing for you to do is to continue with this means of relief, massaging the feet and legs regularly every night, in addition to the walking.

THE COMMUNITY DRYING PLANT

One Hundred Families Can by This Means Insure Most of Their Winter's Food Supply.

The Canada Food Board conservation programme has emphasized the great importance of drying vegetables, fruits and all perishable foods. If each community would in fact save enough home-grown food to care for the needs of that community, thus doing away with the habit of depending upon factory-canned products during the winter time, it would be a very material aid to the government, relieving the burden of transportation and allowing all surplus food to go directly for export.

Aside from the aid given to the government by saving in the community the winter's food supply, the preservation of perishable products either through canning or through drying is highly desirable from an economic standpoint. Because of the stimulus given to food production, an enormous surplus of garden stuff has been produced last year and this year. There is no possible market for this perishable stuff aside from the local demand and much of it will necessarily go to waste unless it is preserved for winter use either by canning or drying.

In either canning or drying it is very practical for several families to club together for doing this work. Equipment can be purchased jointly and installed in the schoolhouse or in a vacant store or at the home of one of the members of the enterprise. A committee can be selected to purchase the equipment and superintend the work. Where a number of families do canning or drying together it becomes possible to do the work much more cheaply than it can be done in the individual home and also permits a trading of supplies so that each family can have a variety of products.

A typical drying plant consists merely of a cabinet about sixteen feet long, two feet high and three and one-half feet wide. The top and sides and floor may be made of flooring or ungrooved ceiling or compo board. The top of the cabinet is closed by hinged doors.

The cabinet is divided into five sections, four of which are large enough to accommodate two stacks of drying trays of ten each. These trays are of convenient size for community drying, being one and one-half feet wide, three feet long, two inches deep, made of half-inch material for sides and braces and pearl-wire screen for bottom with wire screen at one end. The trays are inserted in the cabinet from the top and may be placed in one at a time. The compartments are lettered and the trays are numbered so that the product of each patron can be identified.

An exhaust fan is placed at one end of the cabinet. This fan may be operated by electricity or by a gasoline engine, and the air should be drawn through the cabinet at a rapid rate. The plant is operated by an electric motor of two to five horsepower or by a gasoline engine of similar power. The end opposite the fan is covered with ordinary wire screen so that flies may be kept from the drying fruit or vegetables. Air should enter the cabinet at a rate of not less than one thousand feet per minute and even better results will be secured if the speed is greater. A good test of this air movement is to see if a piece of card-board or a straw hat can be held against the screen at the in-take end of the drier by the suction produced.

The patrons have their vegetables and fruits all prepared when they come to the plant. Two or three slicing machines are provided for the convenience of those who do not have them at home. Every person is urged to have everything in readiness before bringing to the plant, even to the slicing.

A plant such as this has a capacity of one hundred trays, which will take care of about twenty-five bushels of green vegetables per day.

After drying, the product can be stored in jars, paper receptacles or any place where the product will be kept dry and away from the insects. No heat is used in connection with these driers, although it would be well to locate the drier with the open end in a room where a fire could be built, so that, if a prolonged wet spell came, the relative humidity of the air could be lowered by the heat of stove or furnace.

All manner of fruits and vegetables may be dried successfully if due attention is paid to their preparation. Corn, peas, beans, carrots, apples and the like turn out unusually well.

The dried product can be stored in fruit jars, paper sacks or tins. Moisture, insects and rodents are the enemies to watch for but it is easily possible to avoid them. In preparing the dried product for use it is only necessary to soak in water long enough to get back the normal supply. This will depend on the product, soaking over night being the usual rule. When you dry vegetables or fruit in this way all you take out is the water. The food value and the flavor remain. Put back the water and you have the equal of the fresh product.



INTERNATIONAL LESSON

AUGUST 4.

Lesson V. Christian Growth—Luke 2. 42-52; 2 Peter 1. 5-8. Golden Text, Prov. 4. 18. Luke 2. 42-52.

Verse 42. When he was twelve years old—We have no knowledge of the life of Jesus from his infancy to this period. At the age of twelve the Jewish boy was called "a son of the law" and began his instruction in the law as to worship, fasting, and unto his parents. It was therefore quite in place that he now should go up with his parents to the great feast of the Passover, which was one of the three important festivals (Pentecost and Tabernacle of Moses (Pentecost and Tabernacle being the other two). It was the educational effect of these festivals which was so important to the growth of the boy, for in them were crystallized much of the real essence of the Jewish faith. After the custom of the feast—Meaning that they followed the custom of the annual attendance upon this feast.

43. When they had fulfilled the days—Seven days, according to Exod. 12. 46. "Seven days shall yet eat unleavened bread." The boy Jesus tarried behind in Jerusalem; and his parents knew it not—Here is a picture of the usual mode of traveling to the feast—in caravans, neighbors and friends moving freely getting together in groups, among their relatives, as they traveled. Thus, as Luke tells us, the parents supposed their boy was somewhere in the caravan and did not worry about him.

45. Returned to Jerusalem, seeking for him—A lost child was a serious affair, especially at this time, when great crowds thronged the city. It was an anxious and sorrowful time for the parents, who doubtless pictured the disasters which might have befallen him.

46. After three days—According to the Jewish mode of speaking this probably means on the third day. Sitting in the midst of the teachers—We may conceive of him at the feet of a teaching rabbi, sitting in their circle. But to conceive of him as on an equality with the teachers is not in accordance with the text, since the report would not have limited the action of the child to the "hearing and asking." The questioning here is of the pure and holy desire for knowledge, not that of a guest joining in the conversation.

47. Amazed at his understanding and his answers—They were the responses of an unusual "son of the law," as indicating unusual discrimination and spiritual perception for a twelve-year-old boy.

48. Were astonished—Son, why hast thou thus dealt with us?—A natural rebuke that he had not told them of his wish to remain behind and also a picture of the absorbing interest the boy had in the discussions over the law.

49. Knew ye not that I must be in my Father's house—Literally, "in the things of my Father?" "Why did you have trouble in finding me, when here would be the natural place to look for me—where my Father's affairs were concerned?"

50. Thus his first appearance at the feast was a marvelous revelation to them of something extraordinary in him.

51. He went down with them, and came to Nazareth—He was subject to them—Here, after all, was the normal boy, not puffed up with conceit but considerate and obedient. On the so-called holiday at Nazareth today is read the Latin phrase "subjecit parentibus"—"He was subject unto his parents." His mother kept all these sayings in her heart—Here, evidently, was in Jesus a consciousness of divine sonship, the expression of which his parents did not understand.

2 Peter 1. 5-8. Adding on your part all diligence, in your faith supply virtue—Faith as an attitude of the soul is to have certain elements of positive strength in the progressive development of the Christian character. Virtue—The word means literally any eminent endowment or quality. In one version it is used of God to denote his excellences (1 Peter 2. 9) and in the Septuagint is used also to set forth the splendor and glory of God (Hab. 3. 3). Applied to men it means moral excellence, such as purity, modesty, etc. The term "virtues" is thus the usual mode of referring to the note the distinguishing excellences of a man. Peter says in effect, Let your faith be associated with noble qualities of mind and heart. Knowledge—This signifies in general intelligence and understanding but here refers to moral wisdom which is seen in right living. Patience—The characteristic of a man who is unwavering from his deliberate purpose and his loyalty to faith and piety even by the greatest sufferings. Godliness—A reverent attitude toward God and a life conformed to divine ideals. Brotherly kindness—The love which Christians cherish for one another as brethren; the social bond which connects us as members of the family of God. Love—Inadequately translated "charity" in the Authorized Version. While we are to have a special regard for the "brethren," the characteristic of love is to mark our relations with all mankind; an attitude of good will and benevolence and kind consideration for men generally. If these things are yours and abound—An idle or unfruitful life is impossible if these great qualities mark your Christian character, for they inevitably indicate the spirit of Christ and a growing knowledge of him.

A one to two-year old sod, when ploughed under, will enrich the soil as much as would manure applied at the rate of 10 to 12 tons per acre.



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SMOKE CIGARETTES
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farmers have ridden to independence. For the sweet corn there is a good market at canning factories, often sold on contract. The cornstalks are put through cutters and stored in silos. Other parts of the farm produce hay for the dairy herd, which in turn furnishes year-round employment and year-round income, besides contributing to solve the fertilizer question.

John E. Potter was one farmer who made good with cows and sweet corn. Mr. Potter bought an interval farm capable of carrying, at the time of purchase, 12 cows and 3 horses. In six years the same land carried 35 cows and 6 horses, and the retail sales of milk in town reached 450 quarts a day. He raised 20 acres of sweet corn. In one average year his sweet corn brought \$2,000 in cash, and his milk \$6,000. He doubled his barn room in these six years, built two silos, and cut off 50 acres of woodland for pasture.

Of course, a farming business of this type cannot be built up in every locality nor by every man. Canning factories are not always close at hand. Mr. Potter's farm was only a mile from town, so that it was possible to retail milk. Moreover, he had lots of push and business ability. Given the proper business conditions—and they exist on hundreds of farms—sweet corn and dairy cows will make good.

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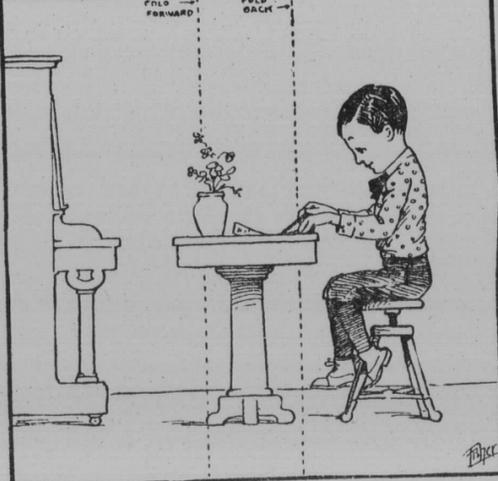
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