

## LEGAL QUESTIONS AND ANSWERS.

[Answers to legal questions of subscribers, by a practicing barrister and solicitor, are published for our subscribers free.]

To the Editor of the FARMER'S ADVOCATE.

DEAR SIR,—Will you kindly answer the following questions through your paper and oblige:—A bought a piece of land of a company and hired B to break, backset and put in a crop on it. B has not been paid. A offers B a first mortgage on this year's crop. If A gets into difficulties can B hold the crop against all comers (the company included) until it is returned?

J. T. R.  
ANSWER.—B's rights will depend entirely upon what agreements A has entered into with the company, and what rights A has given to the company. Before we can answer we must see the agreement or mortgage between A and the company.

## GARDEN AND ORCHARD.

## Spraying Fruit Trees.

The successful use of Paris green as a means of destruction for the codling-moth and curculio is being further demonstrated each year by practical fruit growers, who declare that the practice of spraying their trees makes the difference between success and failure. Any fruit grower who neglects to spray his fruit trees is considered as foolish as a man who would grow a large acreage of potatoes and neglect to use Paris green on them to destroy the potato bug. To those who have never used it, but will do so for the first time this spring, a few words of explanation will doubtless be of use. For codling-moth, use 1 pound of Paris green to 200 gallons of water. Never spray while the trees are in bloom, for it will not only be a waste of labor and material, but will be liable to injure the blossoms at this stage. The law also forbids the use of any poisonous material on fruit trees while in blossom. The codling-moth deposits her egg in the blossom as soon as the fruit is set; in a short time the egg hatches and the larva works its way into the apple towards the core. To be effective the Paris green must be applied in such a fine spray that a portion will fall into the calyx where the eggs are laid and before the calyx closes with the growth of the fruit. Spray as soon as the blossoms fall and again in about ten days; two applications are usually sufficient, unless washed off by rains. For curculio spray as soon as the blossoms fall, and then two applications at intervals of about ten days, or sooner if rain has fallen. The mixture must be of less strength for plums, or the foliage will be injured. Use one pound of Paris green to 250 or 300 gallons of water. The different brands of Paris green will often vary so much in strength and purity that it is a good practice to spray a couple of trees, noting the result, and if any of the leaves turn brown use a less quantity of Paris green. As the Paris green does not dissolve, merely being held in suspension in the water, great care is necessary to keep the mixture properly stirred, for if this is not done the Paris green will settle to the bottom and the last of the barrel will be so strong that the leaves will be found to be severely burned. This is a convenient and well tried remedy, and there is absolutely no danger when ordinary care is used. A great deal of nonsense has been written about the danger of eating fruit which had been sprayed. Such statements are about on a par with the exploded notions that potatoes are rendered poisonous through the plants having been sprayed with Paris green. To test this matter the chemist at the Ottawa Experimental Farm analyzed a sample of apples which had been sprayed, but could find no trace of Paris green, though the process used would reveal so small a quantity as one fifty-thousandth of a grain of arsenic. Similar results have been obtained by chemists at the different experimental stations in the United States. Neither is there any danger to stock, for when four times the usual amount of poison was used on trees, Prof. Cook pastured sheep and a horse under them without injury. While spraying for the above enemies it was found that we were killing two birds with one stone, for all leaf-eating insects grew less, such as canker worms, tent caterpillars, web worms, Tussock moth, bud moth, fern slug, etc. For insects which live by puncturing the bark and sucking the juice, spray with kerosene emulsion. The proportions are as follows:—One half of a pound of ordinary soap is dissolved by boiling in one gallon of water, and when it is boiling hot it is poured into two gallons of coal oil (kerosene), and churned with a syringe or a force pump, and in about five minutes it becomes thick and creamy; when this cools it consolidates into a jelly-like mass, which can be diluted with nine parts of cold water. Such insects are destroyed by the oily material filling up the air pores along the body, so that the insect cannot breathe. For plant lice spray whenever they are noticed in sufficient numbers to cause alarm. The Oyster-shell bark louse is one of the worst pests of the orchard, the more so because in many cases it is not recognized as an enemy until it has overrun the whole orchard. At this time of year it may be seen on the trees in the shape of a small elongated scale like a miniature oyster shell. This is really the dried up body of the female insect, beneath which will be found a large number of white eggs. In the month of May the young emerge from beneath the scales in countless numbers. They are minute creatures, hardly visible to the naked eye.

They then climb up to the young wood, where the bark is tender, and through it they insert their little tube-like beaks, and never move again, but remain fixed by their beaks, sucking the sap out of the tree. They gradually secrete a waxy fluid which covers and protects them. Spray with kerosene emulsion in May or June, after the young lice have left the parent scale, but before their own has grown so as to protect them.

Spraying with copper compounds for the prevention of fungus diseases is rapidly gaining in favor, and the value of these remedies has been shown, not only by the experimental stations, but also by the fruit growers in the improved quality and appearance of their fruit.

Prof. Craig, Horticulturist of the Experimental Farm, Ottawa, has published a valuable bulletin on "Spraying for the Prevention of Fungus Diseases," from which we take the following:—

A complete spraying outfit, including chemicals, might be purchased by a person who would be prepared to spray under contract, by the acre, or at a stated figure per tree. If this system of combating fungus and insect enemies was introduced, it would obviate much of the prejudice and inconvenience now connected with the work, and spraying would probably in a few years, to the great benefit of orchardists, become the general practice.

SPRAYING MIXTURES.—1. DILUTED BORDEAUX MIXTURE.  
Copper Sulphate.....4 lbs.  
Lime.....4 lbs.  
Paris Green.....4 oz.  
Water.....50 gallons.

This may be prepared by dissolving in a barrel, four pounds of powdered copper sulphate, in another vessel slake four pounds of fresh lime with as many gallons of water. Spread a piece of coarse sacking, held in place by a hoop, over the top of the barrel in which the copper sulphate has been dissolved. Strain through this the creamy mixture of lime and water. Paris green may then be added, after which the barrel should be filled with water. This forms an excellent insecticide as well as fungicide, and, therefore, useful to destroy Codling worm, bud moth, and canker worm. It should be used soon after being prepared.

2. AMMONIACAL COPPER CARBONATE.  
Copper Carbonate.....5 oz.  
Ammonia.....2 qts.  
Water.....50 gallons.

This is more expensive than the former, is more easily applied, and is used as a substitute, especially in the case of grapes, where the Bordeaux mixture might, by adhering to the fruit, injure its sale.

It is prepared by dissolving the copper carbonate in the ammonia and diluting with water to fifty gallons. The concentrated solution should be poured into the water. Care should be taken to keep the ammonia tightly corked in glass or stone jars.

## TREATMENT OF APPLE AND PEAR SPOT.

1. Before growth begins in spring, spray with a solution of copper sulphate, one pound to fifty gallons of water. On no account should this be applied after the foliage has appeared, as it will severely injure it.

2. Just before the blossoms open spray with diluted Bordeaux mixture. Repeat this after the blossoms have fallen, and make a third application two or three weeks afterwards. If the season is wet and rainy a later application may be advisable.

If Paris green is added to the two latter applications as recommended in No. 1., this will destroy the Codling moth also.

## GRAPE DISEASES.—(Downy Mildew, Blackrot, Anthracnose.)

Spray the canes with copper sulphate, one pound to fifty gallons, before growth begins. Follow this solution with diluted Bordeaux mixture (omitting Paris green) or ammoniacal copper carbonate immediately after the fruit sets. Repeat at intervals of three weeks, till the bunches begin to color. Ammoniacal copper carbonate should always be used for the later applications.

## PLUM AND PEACH ROT.—(Monilia.)

Without being fully tested, the following course of treatment is recommended for trial. Spray as soon as the fruit sets with sulphate of copper, three ounces to forty-five gallons; follow this with diluted Bordeaux mixture to which Paris green has been added, for the purpose of checking attacks of the curculio. If rot develops late in the season, as is sometimes the case just before the ripening of the fruit, spray again with sulphate of copper solution, or ammoniacal copper carbonate.

## GOOSEBERRY MILDEW.

This disease can be effectually treated by using either ammoniacal copper carbonate or Bordeaux mixture (No. 1), but as potassium sulphide (liver of sulphur) serves the same purpose, is somewhat cheaper and more easily prepared, it is, therefore, recommended here. Dissolve eight ounces in twenty-five gallons of water.

Treatment should commence with the first signs of growth, and continue at intervals of ten or twelve days till five or six applications are made.

SUPPLIES.  
Chemicals for spraying can now be obtained from most druggists. Pumps of all sizes are offered for sale by the leading seedsmen, dealers and manufacturers, at prices ranging from \$3.50 to \$10 or \$12. The barrel pump may be mounted on a stoneboat, cart or wagon, as convenience or circumstances may suggest. Such a pump may be fitted to a barrel and made ready for use at a cost not exceeding twelve dollars. The copper knapsack pump, so called because it is carried on the back of the operator, has a capacity of four or five gallons, and furnishes a convenient means of spraying low growing plants, such as grapes, currants, gooseberries and potatoes.

## Horticultural Notes.

BY W. W. HILBORN, LEAMINGTON.

All grape vines not already pruned should be at once attended to.

Spray your fruit trees this spring; it will pay you. Dissolve one pound of sulphate of copper in a barrel of water and spray early, or before the foliage appears. After the blossoms drop use the following formula:—Sulphate of copper, 3 lbs.; unslaked lime, 2 lbs.; Paris green, 1½ oz.; water, 22 gallons. Three or four applications should be made at intervals of ten days or two weeks.

Red Raspberries should be cultivated very early in the spring, and all suckers not required to form canes should be cut off as weeds as soon as they show through the ground; if they are kept well cut off early in the season there will be little trouble with them later on. This will apply to Blackberries as well.

Raspberries and Blackberries should be transplanted as early as possible to obtain the best results. If you do not get enough transplanted early, try leaving a few suckers or sprouts to grow, and when they are about one foot high, transplant some cloudy day. I have often had better success with this method than with the early spring setting.

If you wish to spray your trees or vines before the blossoms drop, leave out the Paris green. To spray for curculio, one oz. of Paris green to twenty gallons of water is sufficient. No good will result from spraying before the fruit is stung by the curculio, as it is the larva that must be poisoned and not the beetle that stings the fruit. You cannot poison the beetle.

Growing fruit at the present time requires much study. Insect enemies have increased to such an extent that only those who are willing to fight them can grow fruit profitably. Were this not true, everyone could produce such quantities that there would be no market for it.

Try an Essex guarded hoe; they are the best I have tried for all kinds of hoeing, where there are no large weeds; more work can be done in a day, and done better. They are to be had from many of the seedsmen now.

*Ampelopsis Veitchii* (Japan or Boston Ivy) is the best climber to cover a brick wall, it clings fast, and will cover a wall more evenly than any other vine; it also colors up beautifully in autumn.

Shaffer Raspberry should be more largely planted for family use. There is none more productive, and the fruit continues to ripen for a long time. The fruit, however, is a dull purple and rather soft, is not therefore desirable for market, except where you can deliver the fruit directly to your customers; then, when once known, it is sought after, especially for canning.

The busy season for the farmer begins this month, and too often the garden patch is left as a secondary consideration. It is the general belief among farmers that they have not time to plant and care for a good garden. This, however, is not correct. The farmer has time to grow what will pay him the best. Want of forethought and knowledge how to manage a garden is perhaps the greatest cause of failure to have them. While the garden may not be a direct source of bringing in the dollars, the whole family will receive a direct benefit which will equal more than twice that they will receive from the same amount of labor bestowed upon any other part of the farm.

The land for a garden should be prepared in the fall, so that all it will require in the spring is to cultivate and harrow well, then mark off in rows far enough apart to cultivate with a horse. Select good seeds of standard varieties, and do not sow too thickly or the young plants will be so close together that they will not succeed, and there is little time to thin them when it should be done. No greater mistake is ever made than to allow the weeds to get the start of the vegetables. A steel toothed garden rake is the best hoe, if used just as the weeds are coming up through the ground. A man can do as much in one hour at this time with a rake as he can in half a day with a hoe after the weeds get up two inches high.

To start early Melons and Cucumbers, make a few frames out of thin boards eight inches wide and just large enough to be covered with a 10 by 12 pane of glass. Prepare good hills by digging out holes one spade deep, then put in two shovels of well-rotted manure and thoroughly mix with good soil. Then draw over this good top-soil without manure to the depth of two inches, in which to plant the seeds. This may be done and the seeds planted a week or ten days earlier than it would answer to plant without the frames. In placing the frames over the seeds, slant them to the south and draw the earth up nearly or quite to the top of the box on the outside to keep out cold. After the plants come up they should be ventilated a little during the middle of the day, if the weather is warm. It is surprising how much faster they will grow under glass thus protected than they will grow in the ordinary way. If planted too early, before the soil has warmed up, the seeds are apt to rot.

PLANTING TREES.—The best time to plant a tree is just when they are starting into growth; at this time they are full of vigor, and every effort is put forth to make growth. If left a little later, or until growth has taken place, part of the energies has been expended, and the tree receives a shock just in proportion to the new growth made. Some trees start into growth much earlier than others, hence require to be planted earlier. Most evergreens are