

Large and Small Fruits.

WINTER WASHES AND SPRAYS.

These are used for two purposes, i. e., to kill the winter spores of fungi and for insects. Among the latter are many of the scale insects as well as a few which hibernates under the rough bark of trees. The San Jose scale is taking a prominent place of late and is the most destructive insect which fruit growers have to fear. Twenty-five per cent kerosene and water used on a bright sunny day will kill it. Crude petroleum also promises to be effective.

The most popular insecticide in Cal for the San Jose scale is the lime, sulphur and salt mixture applied as a winter wash, or a coarse spray before the buds break. This is made of 50 lbs each of unslaked lime, sulphur and salt and 150 gals of water. Slake the lime, add the sulphur, cover with water and boil briskly for an hour or until the lime and sulphur are all dissolved. Then add the salt and boil for 15 or 20 minutes. When ready to use dilute to 150 gals. A mixture somewhat similar is made by using 1 or 5 lbs copper sulphate in place of the salt.

The resin wash is another favorite on the Pacific slope for scale insects on citrus fruits and plant lice. Place in a kettle 20 lbs resin, 5 lbs of 78 per cent crude caustic soda and 2½ pts fish oil with sufficient water to cover to a depth of 2 or 3 in. Boil for about two hours. Dilute to 33 gals with hot water for a stock mixture. When ready to use dilute to 100 gals.

For the oyster shell bark louse so common on apple trees, scrape the trunk and larger branches with a hoe and then apply with a stiff brush this solution: Dissolve 2 qts of soft soap or ½ lb hard soap in 1 gal boiling water, to seven parts of this mixture add one part of crude carbolic acid. Spray with kerosene emulsion in May or June after the young lice have hatched. The pear psylla is an insect which winters in the mature state under the bark and in crevices. A 25 per cent kerosene and water mixture is only partly effective. George T. Powell of N Y has tried spraying with a plain, thin whitewash, on bright warm days when the insects had crawled out of their hiding places, and with satisfactory results. The bud moth is another serious pest in some parts. Spraying with paris green just as the buds are swelling and before they open is the most satisfactory method of control. For the peach borer a coating of skim milk and hydraulic cement has been tried. This is mixed up like paint and applied with a brush at the base of the tree. It sets very quickly and makes a coating through which the young larvae cannot bore.

Many fungous troubles are easily treated during the winter and spring. Where apple scab is bad give a spraying during March with copper sulphate at the rate of 4 lbs to 50 gals of water and another application just before the buds break. Never use this on foliage, as it will burn the leaves. This is a

standard remedy to use for most kinds of scab, rusts and rots of apples, pears, plums, peaches and grapes. Supplement the work by gathering and burning all leaves, dried and mummified specimens of fruit.

It is a common practice in gardens to go over the grapevines with a wash, put on with a brush. Bordeaux mixture is used. It is made by dissolving 6 lbs copper sulphate in 25 gals water and slaking 4 lbs lime and diluting to 25 gals and then the two are mixed. This is the spraying formula, but for the wash only half the quantity of water should be used. There is no harm in using more lime. Some add flowers of sulphur or thicken the mixture with fresh cow manure to give it more consistency. Where black rot of grapes is very destructive the vines should be washed in the spring with a 50 per cent solution of sulphate of iron. Before spraying with bordeaux mixture when the leaves appear.

MULCH FOR STRAWBERRY BED.

The particular kind of mulch which a strawberry grower may use often depends more upon the ease with which it can be secured than its suitability as a protective material. Mulches of three kinds are used in la. Oat or wheat straw, prairie hay, barnyard litter, which may include a mixture of manure, corn stalks and straw or hay.

All things considered, I believe that oat straw is the best material to use. It has this objection—that if much chaffy material is included in it, the ground may be seeded with oats to a disagreeable extent. If strawy manure is used, on the other hand, the bed may be seeded with noxious weeds, which add considerably to the expense of care and cultivation. Prairie hay, so far as weeds are concerned, is perhaps a more desirable covering, but if the bed is of considerable extent the cost of covering is materially increased as compared to the straw mulch.

In the fall, after threshing time, the straw can be bough in the stack at about \$1 a load, while prairie hay will cost between \$5 and 6 a load. It would seem, therefore, that the advantages are mainly on the side of the straw mulch. Another objection to the prairie hay rests in the fact that it lies closely on top of the plants and in the case of heavy sleet storms is more apt to favor injury from smothering than is straw.—[Prof John Craig, la Agr'l College.]

MAKING BORDEAUX MIXTURE.

When properly made, bordeaux mixture is the best remedy for apple scab and the different fruit blights, rots, rusts and mildews that is now in use, but if improperly prepared it may be very unsatisfactory in its results. The formula is 6 lbs copper sulphate or blue vitriol, 4 lbs slaked lime and 50 gals water. Put the copper sulphate in a splint basket or bag and hang it in a cask or tub containing several gallons of water and it will dissolve in a few hours. Put the lime in another tub and pour on a little hot water, having plenty more at hand to add as the lime slakes to prevent burning or drying out. When slaked slowly in this way the lime will be very fine and free from lumps and not apt to clog the nozzle in spraying.

Dilute the copper sulphate solution to 25 gals in one vessel and the lime mixture to 25 gals in another and pour the two together. Don't try to prepare the bordeaux mixture in any other way. It is less work to fill the spray tank with water and then add the lime and the copper sulphate mixtures, but you can't get good results from bordeaux mixture prepared in this way. If you have a large amount of spraying to do, slake 2½ lbs of lime at once, which is enough for six times, and dilute to 24 gals. Then measure out 4 gals of the mixture for each 50 gal tankful. In the same way, dissolve 24 or 26 lbs sulphate of copper in as many gallons of water and take 6 gals for each application. Put in ½ lb paris green to every 50 gals and you will kill the tent caterpillar, codling moth, potato bugs and other eating insects.

Strawberry Prospects are reported as discouraging by many growers. The dry summer and fall prevented a good growth of vines, although in some cases the growth was sufficient. Fruit buds have not been made and it will be im-

possible to supply this deficiency this spring. Those who have been able to irrigate have obtained a good growth of vines and have every prospect for a fair crop. Irrigation seems to be as valuable to secure a good growth of plants as to stimulate a heavy yield of fruit.

A Good Cooking Cherry is the May Duke. It is suitable for home use or for market, very productive, tree healthy and the fruit mildly acid, ripening over a considerable season. Fruit is roundish and bright red, stones small. Flesh is red, tender, very juicy and sub acid. Season middle June.

The Wealthy Apple is a vigorous grower, very hardy and productive. The fruit is handsome when well colored and of fair quality. It is from medium to large in size, roundish oblate, slightly conical. The skin is whitish yellow, mostly overspread with dark red. The flesh is white and juicy and of fair quality. Season Oct to Jan. It is an annual bearer and does well in localities where many other sorts will not thrive. One of the hardestiest varieties grown. The Elenheim Pippin, another good variety, is very large, roundish oblate, skin bronze and colored on the sunny side with red. The quality is good. Season Nov to Feb. In some sections the tree is not fruitful. It likes good, light, warm soil. The tree is a regular and good bearer.—[Prof W. S. Blair, N S School of Horticulture.]

Saw Flies on Strawberry Plants—J. F. S.'s strawberry plants have been eaten by a very small, pale-green worm, probably a saw fly. Spray with a rather strong kerosene emulsion, or apply white hellebore through a rose sprinkler watering pot.

Bordeaux Mixture Applied to Plums is liable to injure the foliage of the Japanese plums, but no better fungicide for spraying this class of fruit is known. To avoid injury, use a very dilute mixture.

The Home Garden should always contain a plot of strawberries large enough in size to supply the family plentifully all through the berry season. It is well to have an excess, for when company comes they always like strawberries and cream and the good housewife does not like to cut the allowance of her own family, be they friends ever so near and dear. So plant enough to go around. Strawberries are not as hard to grow as some seem to think. Set in hills 20 to 24 in apart each way and let them mat over the ground to some extent.—[A. V. Springer, Tipton Co, Ind.]

Peach Frauds—The Daniel Boone, Deaconess and Saint Clair peaches are frauds. They have been sold extensively at high prices in some sections by the use of highly colored plates and talk, but prove to be either worthless varieties or old, standard sorts, which were bought and relabeled. One buyer found that his bore two kinds of labels—the variety bought and Elberta, which had not been removed.

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