

## MISCELLANEOUS.

Written for this Paper  
TREATMENT OF APPLE SCAB.

For this disease either modified eau celeste or ammoniacal solution of carbonate, preferably the former, may be used. At least four sprayings should be made, with twelve to fourteen days interval. In case the season is wet one or two additional treatments will undoubtedly pay. For trees 15 to 18 feet high the cost of four sprayings with either of the fungicides mentioned last week need not exceed 20 cents per tree. When the work is done on a large scale 16 to 18 cents per tree will cover the cost of four treatments. Two additional treatments will add to the cost from 6 to 8 cents per tree.

## APPLE POWDERY MILDEW.

It is only in nurseries that this disease is destructive. Seedlings are especially subject to the mildew, the leaves being attacked as soon as they appear. As a result the trees make very little growth, are bark bound, and consequently unfit for budding. The ammoniacal solution has proved the cheapest and most effective remedy for this disease and five sprayings seem to be required. The first application should be made just as the leaves start in spring. At least three other sprayings should be made at equal intervals between the time of the first treatment and the time for budding. Ten or twelve days after budding the last spraying should be made, making five in all. For blocks of 50,000 to 100,000 seedlings the total cost of the treatment, as indicated, need not exceed 8 cents per thousand. In smaller blocks the average cost per thousand trees will be somewhat greater, as it requires practically as much time to prepare to spray 25,000 trees as it does 50,000. The knapsack pump is well adapted to this work and is extensively used by nurserymen.

## TREATMENT OF PEAR SCAB, CRACKING AND LEAF BLIGHT.

These diseases, caused by two different species of fungi, are now successfully combated by one line of treatment. In most sections all three diseases are found associated. Bordeaux mixture has given the best result in this work, although ammoniacal solution has proved almost as effective. The only objection to the latter is that it sometimes gives the fruits a rusty appearance, which is not at all desirable. The first spraying for these diseases should be made before the flowers open. In about twelve days the second treatment should be made, followed by a third and a fourth at the expiration of two and four weeks respectively. In the nursery, pear leaf-blight is often exceedingly troublesome. It may be almost entirely prevented by spraying five or six times with the Bordeaux mixture, making the first application when the leaves are about one-third grown and the others at intervals of ten or twelve days throughout the season.

The cost of treating full grown standard trees with the Bordeaux mixture as indicated will average from 12 to 14 cents per tree; for dwarf trees the cost

will range from 8 to 12 cents each. The cost of treating with the ammoniacal solution will be considerably less, probably not exceeding ten cents for standard and 8 cents for dwarf trees. In the nursery pear seedlings can be treated six times with the Bordeaux mixture for 50 cents per thousand.

## TREATMENT OF LEAF BLIGHT OF THE CHERRY, PLUM AND QUINCE.

This disease, which seriously damages the trees both in the nursery and orchard, may be readily held in check by the proper use of either Bordeaux mixture or the ammoniacal solution. In the orchard and nursery the directions laid down for the treatment of pear scab, cracking and leaf blight are applicable here.

## TREATMENT OF BLACK ROT OF THE GRAPE.

*Method A.*—After pruning the vineyard and putting the ground in thorough order spray the vines first, as the buds begin to swell, with Bordeaux mixture. When the leaves are one-third grown make a second application of the same fungicide, following with a third when the vines are in full bloom. After this, applications should be continued at intervals of ten or twelve days, until the first signs of ripening are noticed. This will usually be three weeks or a month before the grapes are ready to pick. In no case should the treatments be continued up to the time of harvest, as this is entirely unnecessary; moreover, it is sure to render the fruit unsightly. It is important to bear in mind that in case of dry weather the spraying should cease.

*Method B.*—Following the direction laid down under method A; with the exception that the ammoniacal solution be used instead of Bordeaux mixture.

*Method C.*—For the first three sprayings use the Bordeaux mixture, then substitute the ammoniacal solution for the rest of the season.

The cost of the treatment as laid down in method A. need not exceed two and a half cents per vine. Method B. will cost two cents, and method C. the same.

So far as efficacy is concerned there is little choice. All things, however, method A. will doubtless prove the most satisfactory.

## DOWNY MILDEW OF THE GRAPE.

When this disease occurs alone ammoniacal solution or modified eau celeste may be used. The first spraying should be made when the fruit is well formed, the others at intervals of ten or twelve days, as recommended for black rot. What is known as brown-rot is caused by the fungus of downy mildew. It is seldom that brown rot occurs in the berries without the leaves being also affected. In regions where this happens the treatment recommended for black rot should be followed. In some sections eau celeste has been more effective against these diseases than any of the other fungicides. Eau celeste, however, sometimes injures the foliage, and I will not advise its extended use.

## ANTHRACNOSE OF THE GRAPE.

Use Bordeaux mixture the same as

recommended for black rot under method A.

In another issue I will call the attention to the use of copper compounds from a hygienic standpoint. Any information in regard to horticulture will be cheerfully given.

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## WYOMING TO YUMA BY BOAT.

Captain J. A. Mellon of Yuma the widely known steamboatman of the Colorado river, who has been in the city for the last day or two, says the San Francisco *Examiner*, is making arrangements for a novel and extremely hazardous trip.

It is for the navigation by specially built boats of the affluents of the Colorado and that river itself, from the crossing of the Union Pacific on Green river in Wyoming to the mouth of the Rio Virgin, on the Colorado, and on to Yuma.

Nobody has attempted this since Powell, and nobody but Powell ever accomplished it. It took him four months to do it, however, and he lost two of his four boats. He had a fearful time of it, and four of his men who were wrecked and struck across the country were murdered by Piutes.

Captain Mellon says he will accomplish this long trip in thirteen days. For thirty-two years he has been a navigator of the Colorado, running regularly from Yuma past where the Atlantic and Pacific station of the Needles now is, and on past straggling mining settlements into the Grand and El Dorado canyons, and even up into the terrible Black canyon, as he did once during high water, to the mouth of the Virgin.

All that is a wild country, perhaps wilder than most any other that lies out of doors in the world anywhere.

But beyond this there stretches a *terra incognita* of wonders which Major Powell had little opportunity to view in detail, so beset was he with difficulties on his trip. So Captain Mellon, with half a dozen hardy voyagers of his own choosing, will undertake the same task. He says where Powell made his mistake was in having boats that were inadequate to the task. This is why it took him four months and why he lost his men and boats.

The captain is, therefore, having some special boats made by a well-known builder, of this city, and with them he thinks he can make the long journey in the marvelous time before stated. He will make the trip both to gain a personal knowledge of the country and make such a record for fast time over dangerous cascades as has never been equaled.

He told about it yesterday. Said he: "I propose to transport these boats overland on the Central Pacific to the station of Green River and there drop them off into the water. There will be but two of them and they will be similar to boats that I have aboard the steamers Gila and Mojave on the Colorado river, but will present some peculiar characteristics.

"Major Powell's boats were too deep in the water, which is a great objection in rivers like these, for there are many rocks in them and many waterfalls. What is wanted is a light-draft boat. Mine will draw only about four inches of