

BULLETIN No. 86.

AUGUST, 1897.

ALABAMA

Agricultural Experiment Station

OF THE

AGRICULTURAL AND MECHANICAL COLLEGE,

AUBURN.

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MONTGOMERY, ALA.:
THE BROWN PRINTING COMPANY, PRINTERS
1897.

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I. MORE ABOUT THE SAN JOSE SCALE.

In the inspection of various nurseries made in Alabama this spring, several facts of interest regarding this pest were noted. In nurseries where all stock was kept moving every three years, there were no cases of evident infestation among the nursery trees. Although on some of these places apple trees in old orchards and the old wood of pear grafting stock over five years of age, bore the San Jose scale. I was told by experienced nurserymen that it would be entirely practicable to move also all blocks of grafting stock every three years. On the places above mentioned this plan will be followed, and the orchards removed entire. All of which will practically preclude the possibility of the San Jose or any other scale gaining a foothold in these nurseries. Acting on my advice, all the nurserymen visited (and most of the larger nurseries in the state were inspected) have undertaken thorough methods of fumigation. Thus, while the first move will protect the nurserymen the fumigating will still further protect purchasers of stock.

Food Plants Other Than Fruit Trees.

The question is often asked as to what trees other than the fruit trees, the San Jose scale will attack, Webster, in Ohio, has found it on Basswood or Linden, Sumac, Elm, Walnut, Willow, several Poplars, Catalpa, Chestnut, Osage Orange, and Snowball. A specimen of Cotoneaster, coming from a Long Island nursery and sent to Webster for examination, was found to be very badly infested.

Varieties of Fruits Possessing Immunity.

Inquiries have frequently come to me as to whether there were any varieties of the various fruits possessing immunity from the attacks of this pest. I have heard of but one, and that was reported by Webster. He says: "The Early Richmond Cherry I believe to be exempt from attack, as I have found trees whose branches interlocked with those of a pear that had been killed by the scale, yet the cherry was uninfested; and in two cases that came under my observation, where this variety of cherry had been grafted upon

mahaleb stock, and shoots had sprung up from below the graft, the shoots were badly infested with scale, while none at all could be found on the trees themselves.

What Does This Scale Look Like?

This question has come up for reply more often than any other in connection with the San Jose scale. And right here I would say that the "San Jose Scale" is a *bug* pure and simple, and not a "fungus" or a "blight." It is a very small bug and forms minute, grayish, circular scales, having a small dark dot at center. These scales are closely attached to the bark, and when numerous and covering more or less completely the entire surface they give the bark the grayish, scurfy appearance mentioned in Bull. 77. The infested twig shown in fig. 1, a, will give some idea of the gross appear-

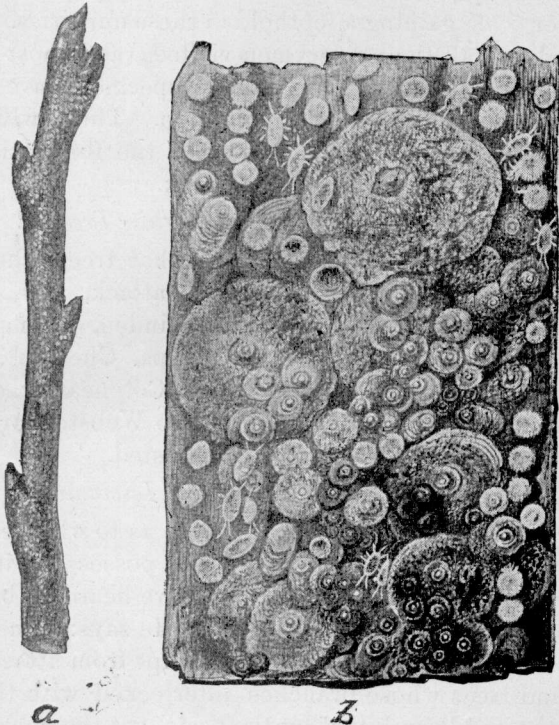


FIG. 1. Appearance of scale on bark; a, infested twig, natural size; b, bark as it appears under hand lens, showing scales in various stages of development and young larvæ. From Bull. No. 3 N. S. U. S. Dept. Agrel. Div. of Entomology.

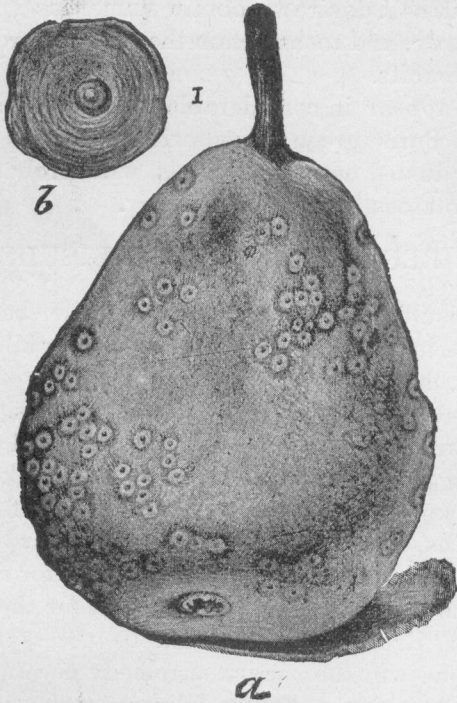


FIG. 2. Appearance of scale on fruit; a, infested fruit, natural size; b, a single scale enlarged. From a Div. of Ent. Bull. U. S. Dept. Agrcl.

ance, while placed under a good magnifying glass this same twig may show the appearance at fig. 1, b, in which can be seen numerous scales and several of the minute active young. The scale also occurs sometimes on the fruit and then may present the appearance shown in fig. 2, a, one of the scales enlarged being shown at fig. 2, b.

II. A SWEET POTATO PEST.

Several years ago specimens of a larva injuring sweet potatoes were sent from Ocean Springs, Miss., to the U. S. Entomologist. Now, what is apparently the same thing has turned up in Alabama. But little is known of it, so that further facts would be very desirable. It is mentioned here to draw the especial attention of growers of sweet

potatoes to it, as I desire to obtain numerous specimens of the living larvæ, and to ascertain the facts regarding its life history and habits.

Should it appear in considerable numbers an application of one part Paris green mixed with ten parts of flour or plaster and dusted onto the plants, will probably protect the sweet potatoes from further injury.

III. REGARDING CARBON BISULFID.

Carbon bisulfid is a clear, very volatile bad smelling liquid, which has become extremely useful for killing insects in granaries, mills, and in stored food products of all kinds it is also used for gophers, rats and ants in hills.

Here in our Southern homes we are bothered by a great many very aggravating little household pests, like bedbugs, crickets, cockroaches, ants, the little silvery "fish moths," clothes moths, book lice, carpet beetles, flour beetles, etc. Numerous remedies have been suggested for combatting these various pests, so many in fact that for their accurate use a special "Receipt Book" would be necessary to point out to the housewife the particular remedy necessary in each case. However, now, a happy deliverance has come to us in the form of the beneficent Carbon Bisulfid. By its use a house can be completely ridden in one night of not only all these, but all rats and mice with them. It will necessitate leaving the house for one night, but the end will, in most cases, justify almost any means.

Carbon Bisulfid is an extremely explosive substance, and it will not do to inhale it, but it can be used readily if ordinary care be exercised. Its odor, while very rank, will yet disappear very rapidly and completely in fresh air. Moreover, when used to kill insects infesting various food products, like the weevils in grain or peas, or beetles in flour, it leaves no discernible taste behind it. If the proper care be taken to see that not a spark of fire exists anywhere about the house or is carried near the house while it is being treated, no ill effects will follow the use of Carbon Bisulfid.

In making preparations to treat the house, first see that all windows, doors, ventilators, chimney openings and fire-places are securely closed, and all fires *entirely* extinguished. Now go through the house and rapidly pour the liquid into large pans, previously conveniently placed, at least a pound to the medium sized room. It would be better if these pans were set up on tables or shelves. Place some also in closets and cupboards. Start with the attic, if there be one, and proceed rapidly down and out, closing all the doors. If the outside doors have broad open spaces beneath, close these with rugs or something of the sort, and look for any other openings that might be stopped up. Next morning the doors may be opened and the house aired out. It is used on these same principles in stores, warehouses, granaries and mills.

The Carbon Bisulfid costs ten cents per pound in fifty pound lots, and twelve cents in ten pound lots, and can be ordered direct from Mr. Weed in New Orleans (see below). Several clubbing together could thus obtain it at very small cost. When not in use store the tightly closed can in a cool place.

IV. INSECTICIDES AND PUMPS IN GENERAL.

Fortunately we now have a dealer in these special wares here in the South, who will supply anything in this line at the lowest possible prices. This is Mr. H. E. Weed, 1809 Marengo St., New Orleans. He supplies all the best grades of standard insecticides, and the most improved forms of dusting bellows and spray pumps. Every farmer and gardener should certainly own a good spray outfit, and a small stock of the standard insecticides and fungicides like Paris Green, Copper Sulphate (for making Bordeaux mixture), Whale-oil Soap and Carbon Bisulfid. It *pays*, most emphatically, as has been proven by repeated trial and long actual use. To the most successful operators they have become essential.

A great many patent insecticides are now on the market

under various trade names, though most of them are mixtures, with some one or more of the old staple insecticides as a base. These are often not to be compared in effects and generally not in price with the best brands of the pure articles, and I would recommend that the latter always be purchased. Prepared Bordeaux mixture and kerosene emulsion are sold in small packages, but I should always advise the use of a fresh preparation,—home made.

NOTE ON PYRETHRUM.

Through a typographical error in Bull. 77 I find myself advising the “melting” of Pyrethrum, which would be rather a difficult thing to do. For “melted” read “moistened.” Perhaps better still than the method there mentioned for its use against flies, would be the scattering of some of the powder onto a hot stove or into a pan of coals, or by means of a dusting bellows throwing the dust into the air among the swarm of flies.

WHENEVER YOU ARE TROUBLED BY INSECTS

of any kind whatever, in the house or barn, on the farm or garden, in the orchard, in the store, warehouse or mill, or anywhere else, send specimens at once, safely packed in a small wooden box with the facts concerning them, to the Entomologist, Agricultural College, Auburn, Ala. He is stationed here at your service, and will give prompt attention to all communications, furnishing you with information regarding the insects and remedies for them, free of all charge.