

infected with the scab. Check trees not inoculated showed no signs of the disease. Later observation showed that there was no spread from these first scabs to the new leaves that came out later.

EXPERIMENTS FOR CONTROL

In 1896, Swingle and Webber reported that their experiments had shown that either Bordeaux mixture or ammoniacal solution of copper carbonate was effective in controlling scab.

In the fall of 1909 and spring of 1910, the writer conducted some spraying experiments on the Experiment Station grounds with Bordeaux mixture and various strengths of Avenarius' carbolineum. It was found that weak Bordeaux mixture was more effective than any mixture of carbolineum up to 25 per cent.

In September, 1909, small sour orange trees which were badly affected with scab were sprayed with Bordeaux. Others next to them were left as checks. All the trees put on some new growth. The new growth on the sprayed trees was healthy and vigorous, while the growth on the unsprayed trees continued to show infection. These lots were contiguous to one another, there being a space of only six inches between them. As would be expected, a little infection came over from the unsprayed lot on growth which came out after the spraying was done; but the effect of the spraying was quite marked.

In March, 1910, half of the trees sprayed in September, 1909, were sprayed with Bordeaux for the second time, and half of the check trees were sprayed with Bordeaux for the first time. The effect of the Bordeaux was again quite apparent. Those trees sprayed in November and March had their leaves entirely free from scab. On those sprayed only in November the lower leaves were free from scab, while the upper and new growth was affected. On those sprayed only in April, the lower old leaves of the summer before were badly scabbed, while the upper leaves that were rapidly growing at the time of the spraying were free from scab. Those not sprayed at all showed scabs on leaves and on twigs all the way out from the oldest to the newest growth.

At the same time a number of the larger trees on the Experiment Station grounds were sprayed with Bordeaux, and others near them left as checks. While the growth subsequent to the spraying showed no infection for at least two months, the unsprayed trees showed considerable infection on the growth of the same age.

Mr. H. B. Stevens, an orange grower at DeLand, reported that he had been successful in preventing the spread of scab on grape-