

EFFECT OF SPRAYING BORDEAUX MIXTURE ON FOLIAGE.

taken out and to work in plenty of well-rotted manure or superphosphate, with a good handful of salt for each bush. The currant, like the raspberry, is willing to keep shady, but only because it is modest. It is one of the fruits that thrive better among trees than in too dry and sunny exposures. There-

fore, in economising space of the home acre, it may be grown among smaller trees, or, better still, on the northern or eastern side of a wall or hedge. In giving this and kindred fruits partial shades the bush should not be compelled to contend to any extent with the roots of trees.—Bush Fruit Culture.

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IN bulletin 86 of the Cornell Experiment Station, Mr. E. G. Lodemann makes the statement that the large number of applications of Bordeaux mixture applied at that institution during the year 1894, seemed to have an influence upon the thickness of the foliage.

On October the 15th, he says, "leaves were taken from sprayed and unsprayed trees of three varieties of plum—Fellemburg, Bradshaw and German prune,—five leaves from each lot, and in all cases from corresponding portions of the trees. In making the sections the material was uniformly cut from near the midst, in the vicinity of the centre of the leaf, so that no error might creep in under this head.

The average measurements were as follows:

<i>Fellemburg.</i>		
Sprayed—10.6 micromillimetres	}	a gain of 1.9 per cent. from spraying.
Unsprayed—10.4 "		
<i>Bradshaw.</i>		
Sprayed—10.9 micromillimetres	}	a gain 2.8 per cent. from spraying.
Unsprayed—10.6 "		
<i>German prune.</i>		
Sprayed—12.9 micromillimetres	}	a gain of 10.2 per cent. from spraying.
Unsprayed—11.7 "		
A micromillimetre = .000039 of an inch.		

The difference between the sprayed and unsprayed foliage although slight in the first two cases, was nevertheless in favor of the sprayed foliage. This is plainly shown in the case of the German prune. The particular cells of the plum

leaves which were enlarged could not be determined with certainty, but the palisade cells appeared longer in the sprayed leaves."

These statements aroused my curiosity and I suggested the matter to Mr. J. C. Macdonald, one of our third year students, as a line of investigation which he might pursue with interest and profit to himself and others. He commenced the work in January last and the results of the investigation may be briefly stated as follows:

It is a well-known fact among those who have sprayed with the Bordeaux mixture, that if the quantity of lime is not sufficient to neutralize the acid properties of the copper sulphate, the leaves to which it is applied will be scorched or burned by the acid; hence one of the objects of the experiment has been to determine the comparative effect of mixtures containing different quantities of lime.

Twelve seedlings, having an average height of about 20 inches were used for the experiment. They were potted and placed in the green houses in the first week of January, and forced into leaf. On February the 10th, the first leaves had attained about half their normal size and the first spraying was done.

The seedlings were paired as closely as possible, according to size and species;