

is due to shock, caused by depriving a tree of its head and so destroying the natural balance between root and top, or whether it is caused by the large scars left uncovered. It is a matter on which there is no general agreement. About one thing, however, there is no room for doubt, and that is the deadliness of the disease once it gets a firm hold on a tree: it is bound to kill the tree in a few seasons.

It may be as well to refer here to another affection often mistaken for silver-leaf. This occurs on ornamental shrubs—rhododendrons, laurestinus, and many others. In these cases the appearance is due to insects sucking the chlorophyll from the leaves, leaving them whitish-looking but without the glassiness exhibited on fruit-trees suffering from silver-leaf. The insects responsible are most commonly thrips, but a species of red mite is sometimes responsible, and more rarely mealy bug. Instances of this have come under my notice.

Referring to the serious condition of plum-orchards in Britain due to silver-leaf disease the *Gardeners' Chronicle* of a recent date remarks as follows:—

There is no doubt but that this pernicious disease is increasing at a rapid rate. Not only is this the case, but it is also spreading to apple-trees; and although its progress on the apple is less swift than on the plum it is probably only a matter of time for the fungus (*Stereum purpureum*), which is the agent of the disease, to make itself as fully and as disastrously at home on this fruit-tree as it has done on the plum. For it is to be remembered that parasitic fungi have a considerable power of adaptation, and can gradually so organize their attack as to break down defences which for a time sufficed to offer a strong resistance to attack.

One factor which we are convinced from personal observation contributes to the spread of the disease is the slight regard which is often paid to the disease in its early stage. This, perhaps, is due more than anything else to the curious aspect of the silvered leaves. In that stage there is nothing to suggest the deadly nature of the attack; and, moreover, the next stage, in which the branch dies back, is often not associated in the mind of the grower with the first, silvery stage. If he cuts away the dead branch at all the grower often fails to cut it back far enough, and hence leaves the fungus to renew its attack. Even in the case of a dead tree which is cut down growers often omit to grub up the roots, and hence and particularly if the stock is the mussel plum, suckers are thrown up, every one of which is apt to be silvered, indicating that all unwittingly the grower has left a source of infection from which the disease spreads to other trees. Nothing short of a crusade against this pest will suffice to rid our orchards and gardens of it, and, much as we dislike "orders" and scheduling of pests, we are inclined to believe that steps in this direction will have to be taken before the disease can be brought under control. In the meantime, much can be done by spreading information as to the symptoms and mode of treatment of silver-leaf disease. For of all common maladies of fruit-trees it is the easiest to recognize, and drastic treatment in the early stage, when the disease is confined to a single branch, may often save the tree. Once the infection is general throughout the branches no remedy avails, and the only course is to leave the tree no longer to cumber the ground. Vigilance should be exercised, not only with respect to plum and apple trees, but also to other plants, since this disease is known to attack many different species common to gardens—among others, the peach and laburnum. Wherever found it should be treated surgically, for there is no known medical treatment which can be counted upon to effect a cure.

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The practical man should have a sound working knowledge of economic insects, and consider that not only is he tampering with nature when he opens up virgin territory, but also that he cannot expect to fully develop his resources without forestalling the possible outbreak of any noxious forms.—D. M.