Plant diseases - Stony pit of pears

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STONY PIT, a virus disease of pears, has been found in a number of districts in Western Australia, the first case having been noted in 1945. Descriptions of pear abnormalities found in old records suggest that the disease was present 30 years ago.

SYMPTOMS

Affected fruits show surface pitting and general malformation (Fig. 1). The worst affected fruits are barely recognisable as pears and are very much reduced in size, while others show only a few pits and retain an almost normal shape and size.

On an affected tree, all degrees of pitting may be seen and some fruits appear to be quite normal. In the flesh beneath the pits, discolored areas ranging from green to brown may be seen if the surface layers of the fruit are cut away (Fig. 2). Hard stone cells occur in these areas and

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Fig. 1.—Packham’s Triumph pear (left) and Josephine pear (right) showing pitting and malformation due to the Stony Pit virus disease.
Fig. 2.—Packham's Triumph pear with surface cut away to show brown discoloured areas beneath surface pits. At an earlier stage these areas were pale green. These, together with other undesirable fruit characteristics, make affected pears unpalatable and generally unsaleable.

On the trunks of old affected trees, a pattern resembling that on oak trees may occur, due to cracking of the bark. The name "oak-bark" has been applied to this symptom (Fig. 3) which may extend up from the trunk on to the main branches.

Leaf mottling and flecking has been observed on some affected trees but there is no certainty that this condition is due to the stony pit virus.

Fig. 3.—"Oak-bark" on the main limbs of a Josephine pear tree infected with stony pit.

**OCCURRENCE AND IMPORTANCE**

From observations to date, the disease has only been found in three districts. Infected Josephines have been found at Mundaring and Argyle and infected Packham's Triumph, at Mundaring and Bridgetown. The percentage of infected trees was low.

As a number of pear varieties have been found to be susceptible to the disease in other parts of the world, further surveys may show more of our varieties to be infected with stony pit.

**TRANSMISSION**

It is by budding or grafting during propagation that the stony pit virus is transmitted in practice. That is, if the scion or rootstock come from infected sources, there is every risk that the progeny will be infected. This does not apply to seedling rootstocks as the virus is rarely if ever transmitted by means of seed.

No other means of transmission are known to occur in the nursery or orchard.

**CONTROL**

Pear tree propagation from scion and rootstock parents known to be free of the
stony pit virus, is the only way of avoiding the disease. There is no treatment that will cure trees which are already infected.

Working infected trees over to resistant or tolerant varieties cannot be recommended at this stage because the reactions of pear varieties to the disease, under local conditions, has not yet been determined.

It is fortunate that the incidence of this serious disease is still low in Western Australia. The use of trees propagated only from virus-free parents, will ensure that new plantings will be free of the disease and will aid also in a gradual elimination of stony pit as diseased trees are replaced.

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