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Storm damage in viticultural areas

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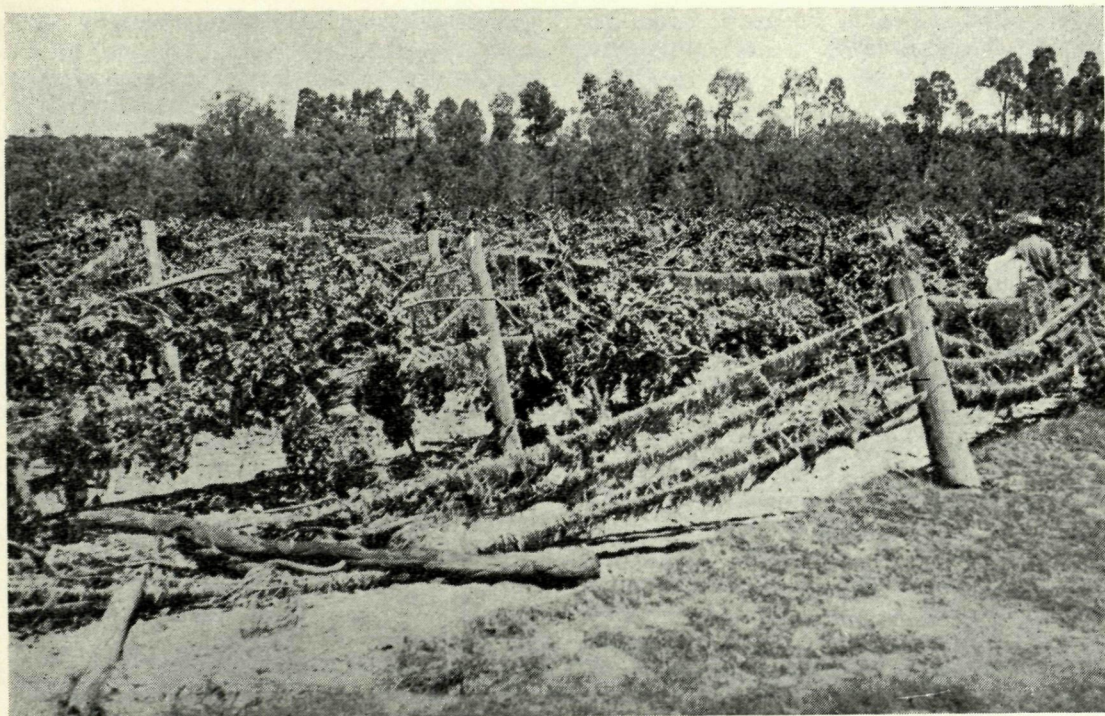


Fig. 1.—Portion of a vineyard in the Swan Valley after inundation. Fences and trellises were festooned with mud and debris

STORM DAMAGE IN VITICULTURAL AREAS

DURING the period February 14-17, very heavy rains fell over most of the State. The rainfall in the Avon Valley-Toodyay districts caused an extremely high flood level to be reached in the Swan River between Guildford and Upper Swan. It is doubtful whether the Swan River in these parts has ever before attained such a high level during the summer months. On the night of February 17, there was a rise in some places of as much as 19ft.

Rainfall recorded at Guildford during the period was as follows:—

	inches.
24 hours ending 9 a.m. February 15	70
24 hours ending 9 a.m. February 16	161
24 hours ending 9 a.m. February 17	211
24 hours ending 9 a.m. February 18	13
	<hr/> 455 <hr/>

Vineyards along the river flats and flood plains of the Swan Valley basin were inundated, and consequently suffered much damage. Many acres of vines were completely submerged for from three to seven days, causing severe damage to the vines, including loss of leaves which died beneath the water, and complete loss of fruit.

In some areas the current was so swift that trellises and fences were destroyed, vines were uprooted and much damage was done by heavy logs and tree trunks that were swept through by the water. Soil erosion on some properties was severe,



Fig. 2.—Large trees were carried by the swift current and deposited in vineyards on the river flats

many acres of surface soil being completely removed, but other vineyards gained a deposit of silt ranging from $\frac{1}{2}$ in. to 3 in. in depth. There was some damage to machinery and loss of livestock.

In the viticultural areas ranging through Bindoon, Chittering, Upper Swan to Guildford, Toodyay, Northam and Bakers Hill, which were not inundated by flood waters but subjected to the torrential drowpours, there was also an appreciable loss of crop. The vines themselves did not suffer in these areas, but the rain fell in the middle of the currant harvest and fruit already on the racks became affected with mould. Fruit picked after the rain was affected with split berries and the quality of dried fruit will be reduced appreciably.

DISTRICT DAMAGE REVIEWED

1. The area embracing the flats and flood plains of the Swan River, where vineyards were completely inundated. There was almost a complete loss of crop and damage of a more or less serious

nature to vines, trellises, and equipment. One vineyard on the plains of the Avon River at Northam was flooded and suffered severe damage. There was a total loss of crop on $247\frac{1}{2}$ acres through inundation.



Fig. 3.—Bunches of currant grapes were left encased in mud and dried grass when the floods subsided

2. The districts in the Swan Valley between the river and the Darling Range were subjected to continuous heavy rain, but were not actually flooded. In this area, the greater proportion of grapes had been picked before the weather broke, and although there has been damage to the currants on the racks and also to those picked after the storm, most of the crop was still suitable for delivery to the packing sheds. A proportion of the fruit was mouldy and almost all has been reduced in grade. It was generally agreed that the damage incurred could have been caused in any season by rain of much less extent falling about the same time. This remark also refers to table grapes, export grapes, and wine grapes in this area. Most of the export grapes (Canon Halls) had been picked before the storm.

Some varieties of wine grapes were completely ruined through splitting of berries, whereas other varieties suffered no damage and in fact had even benefited.

Throughout this area, as throughout the whole of the vine-growing districts, the sultana crop, the harvest of which had

not commenced prior to the storm, was completely ruined through splitting and mould.

3. Mooliabeenie, Bindoon, Chittering, Muchea, Toodyay, Northam, Bakers Hill. Although vines in these districts were not inundated, the excessive rainfall on the heavy class of soil caused more damage than in other districts. The percentage of split berries was greater. The fruit in these areas is later maturing than the Swan Valley, and less currants had been picked prior to the storm. There was also a greater incidence of mould in currants drying on the racks.

Sultanas have been almost completely spoilt on the vines. Inexperience on the part of growers was the cause of excessive mould damage to currants on the racks in this area. Very few had sprayed with sodium bisulphite or potassium metabisulphite as a mould prevention, as recommended by a Departmental press paragraph issued at the time, while many growers had left the protective screens on the sides of the racks even after the fine weather returned.

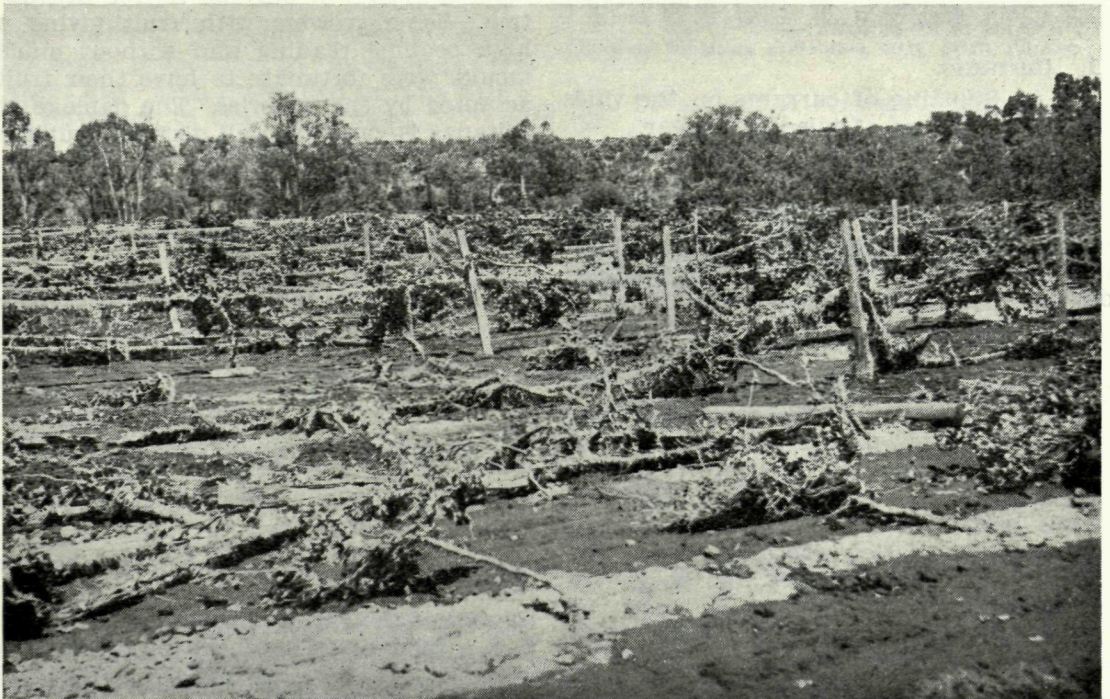


Fig. 4.—A typical scene of desolation on a flood-swept property. Topsoil to a depth of several inches has been swept away, fences are down and vines and trellises coated with mud and rubbish. Vines in the foreground have been uprooted



Fig. 5.—A tangle of mud-encrusted wire, posts and vines following upon the flooding of the river flats

HOW THE GRAPES WERE AFFECTED

Damage incurred by the various types of grapes is as follows:—

1. Currants.

- (i) Splitting of currants on the vines and loss of juice and sugar.
- (ii) Mould damage on the vines.
- (iii) Mould damage on the racks.

In all vineyards where currants were split by the rain, mould damage occurred, but in some vineyards mould was serious on almost the entire crop. This occurred particularly where currants were on low trellises and the vines were heavy with foliage.

Mould damage on the racks occurred where fruit was picked after the rain or immediately prior to the rain, and was aggravated on properties where racks and trays had been heavily filled with fruit or where ventilation was inadequate. The use of sodium bisulphite or potassium metabisulphite sprays when used by growers reduced the incidence of mould considerably.

2. Sultanas.

Throughout all areas, the sultanas split very badly, and none of the fruit remained

fit for dipping. Where sultanas had been dipped, most will only be fit for distillation. Some growers with fruit giving a high beaumé reading and without much mould, were fortunate to have their fruit accepted by the wineries. The damage to sultanas is general in all districts, but the quantity grown is not great.

3. Table and Export Varieties.

Most of the Canon Hall Muscats and some of the Red Prince and Flame Tokay varieties were picked before the rain. The risk of breakdown has prevented vignerons from packing Red Prince and Flame Tokay for export. Where packing has been continued, the trimming of bunches to remove split and damaged berries has increased the labour required in preparing the fruit for market.

Muscat Gordo was little affected by the rain, although it has been noticed in many cases that the variety has become soft and flabby soon after reaching maturity.

The valuable export varieties Red Emperor and Ohanez have improved since the rain, and an increase in yield can be expected.

The varieties Wortley Hall, Santa Paula and Waltham Cross were affected by the rain, but the extent of the damage varied from place to place.

In general, apart from properties that were inundated, the damage to table and export varieties of grapes was not severe, although there has been some reduction in quality in certain districts and an increase in the cost of cleaning and packing the fruit.

4. Wine Grapes.

The varieties Pedro and Semillon split badly, and much mould damage and shedding of berries occurred. These varieties which suffered most amongst the wine grapes, comprise only a small proportion (roughly 10 per cent.) of the area under wine varieties. There was less splitting in Grenache and Burgundy, and consequently less mould. In some vineyards, the quality of Grenache has improved.

FOOTROT CONTROL

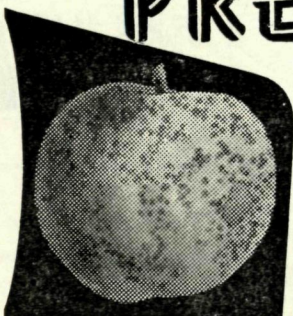
ON several occasions recently sheep from properties in quarantine for footrot have been forwarded for sale without reference to the Department.

The removal of sheep from a property in quarantine and their subsequent sale by auction to other graziers whose flocks are free of the disease is a serious offence for which a heavy penalty has been prescribed under the Stock Diseases Act regulations, and flock owners are warned that it will become necessary to take legal proceedings should this practice be continued.

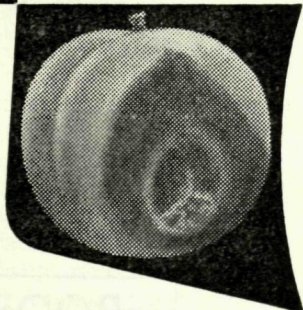
When any property is found to be affected by footrot, quarantine restrictions are imposed as a precaution against the further spread of the disease to other properties and this quarantine is maintained until the flock has been freed of infection.

Permits for the sale of sheep for the purpose of immediate slaughter at Midland Junction from properties affected by footrot may be obtained upon application to the Department either direct or through any of the livestock agents.

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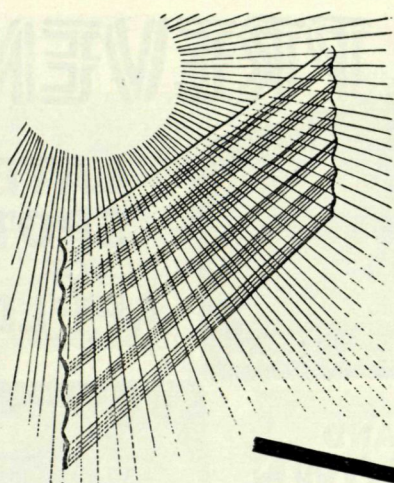
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