The " black " grapes are purple when ripe, with a greyish bloom. They are acidy and generally a little smaller than a table grape. An average yield is three to four tons to the acre.

The benzine-boxes into which the grapes are picked are carted up to the cellar and weighed to keep a check on the size of the crop. When there are suffiicient on hand a crushing begins.

If a red wine is to be made the grapes are tipped into a " stripper," where the stalks are stripped from the grapes by the blades of a large revolving fan. These stalks are pushed out one end of the large cylinder while the " marc "—the pulp, the skins, and the pips—fall through a sieve to a sump below. The stalks are stripped off because they contain substances that might harm the wine during fermentation.

In the sump quantities of a sulphite solution are added to the marc before it is pumped over to the fermenting-vats. The sulphite kills all bacteria, including the yeast carried on the bloom of the grape. Because it carries its own yeast the grape will ferment without outside assistance, but it is safer to kill this wild yeast which may contain impurities and replace it with a laboratory raised and tested culture.

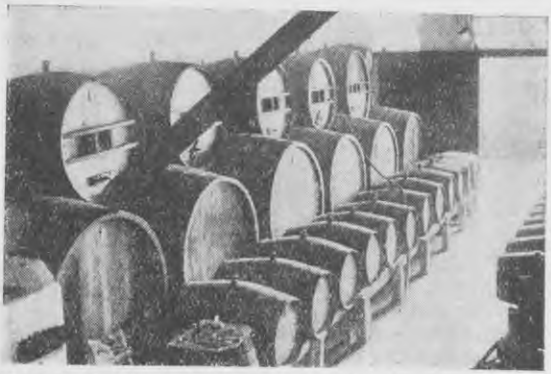
The large, open, concrete vat to which the marc is pumped is specially acid-proofed with a mixture of paraffin wax and resin painted on and burnt in so as to avoid any reaction between the acid in the wine and substances in the concrete. It must always be remembered that wine is a living and delicate liquid—the smallest impurity or germ might sicken and spoil it.

In this vat sugar is added to raise the alcoholic content during fermentation, which lasts from perhaps five days in the early, warmer part of the season to about ten days towards the end. During this time the marc ferments violently and, in the case of a red wine, very beautifully. When the agitator, which pumps the bubbling mixture at intervals for two hours a day, is at work the surface of the vat is covered with a pale-pink foam. In the centre of the vat the agitator is continually drawing up and pouring out into the delicate froth a thick stream of luscious dark-red liquid.

When a red wine is being made it is essential to keep the skins immersed in order to give colour to the marc. To do this a large circular head made of wooden slats in the manner of a shower duck-board is submerged a few inches below the surface of the vat. Through a hole in this board the agitator shaft drops down to the bottom of the vat, and in the morning, at midday, and again at night it sucks up the liquid from the depths and pours it out on the surface so that the liquid percolates back through the slats and in doing so comes in contact with the skins and thus extracts the colour.

During fermentation the temperature of the marc should be kept between 80 and 85 degrees. Pure grade tannin is added to the fermenting wine during this time because New Zealand grapes are deficient in this ingredient vital to a good wine. It encourages precipitation of foreign particles, guards against secondary fermentation and any flattening of the wine, and, where the wine is too acid, will neutralize this sharpness.

When the violent fermentation has quietened and the desired amount of alcohol has been produced (regular tests are taken for temperature and sugar and alcoholic content) the wine is transferred to large wooden maturing or storage



Some of the casks in which the wine is stored.