

NURIOOTPA VITICULTURAL
RESEARCH STATION

FIELD DAY

1965

NURIOOTPA VITICULTURAL RESEARCH STATION

When, in response to requests from the industry, the South Australian Government decided to establish a research station for non-irrigated viticultural areas, a site was selected in the Barossa Valley.

An area of 50 acres, one mile east of Nuriootpa, was chosen and this is typical of the better vine growing soils of the Barossa. This area was purchased in 1938 and the first vine trials were planted in 1939.

LONG TERM TRIALS

The original plantings were mainly long term trials including investigations in variety testing, planting distance, fertilizer responses, cultivation and cover cropping practices. In the past 25 years, other long term trials have been established.

SHORT TERM TRIALS

At the Viticultural Station, short term experimental work has been carried out on many different aspects of vine growing. The research station, situated in a frost prone area, has been well suited to research on frost control. Trials on irrigation, weed control, pests and diseases, trellising and growth substances have been completed, while new trials in some of these fields have recently been started.

RECENT DEVELOPMENTS

Vine improvement - An important new field of research work at the Viticultural Station on vine variety improvement, was started in 1958. This work is primarily aimed at selecting high yielding clones of the more useful wine grape varieties.

Laboratory facilities - The new office-laboratory which was built this year will provide facilities for research staff working on and from the research station.

RESEARCH STATION TRIALS 1965

Fertilizer trial - A manurial trial planted in 1939 has given crop increases with phosphate and lower yields with nitrogen during the past 13 years. The effect of treatments on bunch size and number of bunches has been examined in the past two seasons.

Cultivation trials - Comparing cultivation frequency and method on yield and soil structure. Frequent summer cultivation did not improve yield but did destroy soil structure. No difference in yield is apparent between ploughing versus discing after 13 years of treatment.

Planting distance trial - A long term trial planted in 1939 comparing three planting distances with five zinc treatments and two pre-planting subsoiling treatments. Although yields from close planting were higher initially, during the past fifteen years, yields from all planting distances have been similar.

Pruning severity trials - Trial 1 - Planted in 1952, using two varieties and five levels of pruning severity. Lighter pruning levels have increased yield. A detailed analysis of the response of yield components to pruning severity has been carried out during the past two years.

Trial 2 - Started in 1963 on 12 varieties of 23 year old vines to measure the effects of three levels of pruning severity on vine growth and yield.

VINE IMPROVEMENT

Vine selection - Selection of high yielding clones in 18 varieties from individual vine performance over a number of years. Comparison trial of cuttings from six highest yielding

vines in 18 varieties planted 1963.

Vine breeding - Started in 1958 with the aim of developing quality high yielding wine grape varieties suited to a warm climate.

Cabernet Sauvignon Rootstock Trial

Planted 1959 to measure the effects of five rootstocks on yield of Cabernet Sauvignon.

Mite Investigations

To study the type and distribution of vine mite populations and their relation to various unidentified symptoms of vine damage.

Maturity Studies

A study of the factors affecting time and rate of ripening of 18 wine grape varieties.

Bud Fruitfulness Studies

Started in 1963 to measure variations in bud fruitfulness between varieties and between years, and its relation to climate and management practices.

Variety Collection

A collection of 100 varieties was replanted in 1960. This block is currently being used in the preparation of a variety identification handbook, and also as a source of cross breeding material.

Tying Down Trial

Started 1963 to compare tight and loose twisting of fruiting canes on two cane pruned varieties. Tight twisting has not increased percentage of budburst or yield.

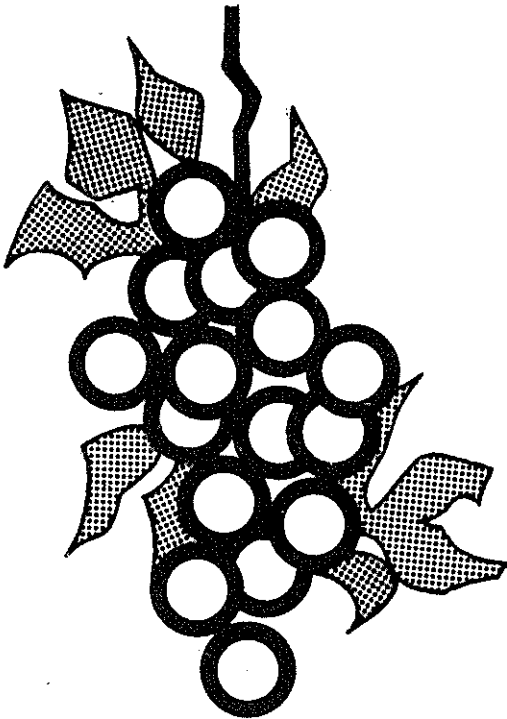
Apricot Training Trial

Planted 1958 with five pruning treatments. Unpruned trees have highest yields and lowest rate of gummosis infection.

Meteorological Station

A well equipped meteorological station is maintained to provide daily records of temperatures, wind, cloud, sunshine, rainfall and humidity.

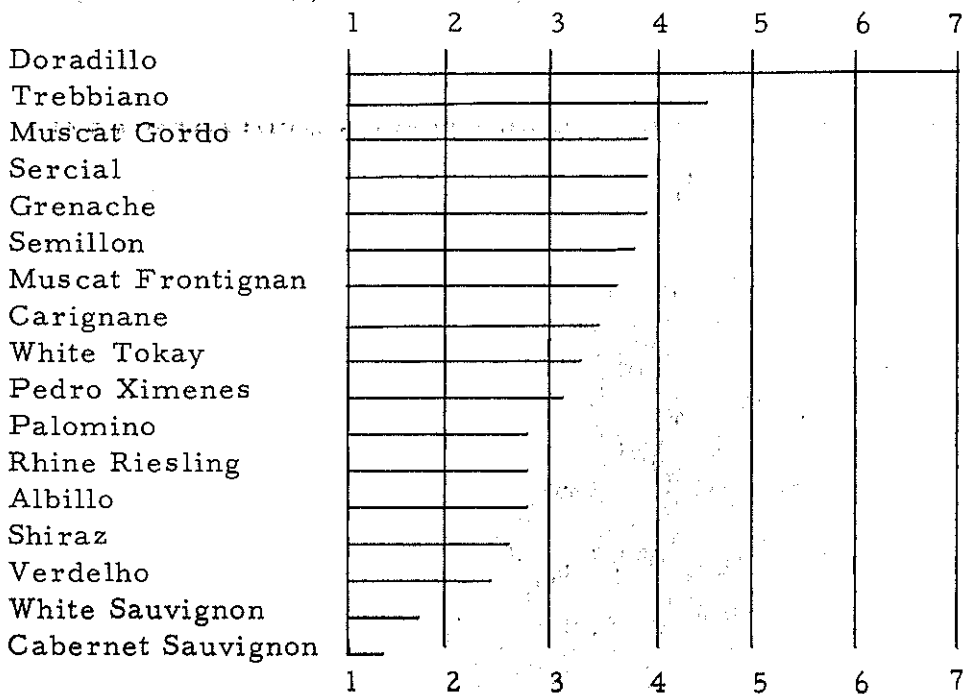
These records are necessary for the research programme, and also play an important part in the frost warning service for the Barossa Valley.



WINE GRAPE YIELDS 1950 - 62

The following yields are an average for the twelve year period 1950 to 1962 from the variety trial. Each variety is represented by 1/3 acre planted in 1940.

The figures indicate relative yields which can be expected from mature plantings of different varieties grown on deep sandy loam with 20. inches of rainfall.



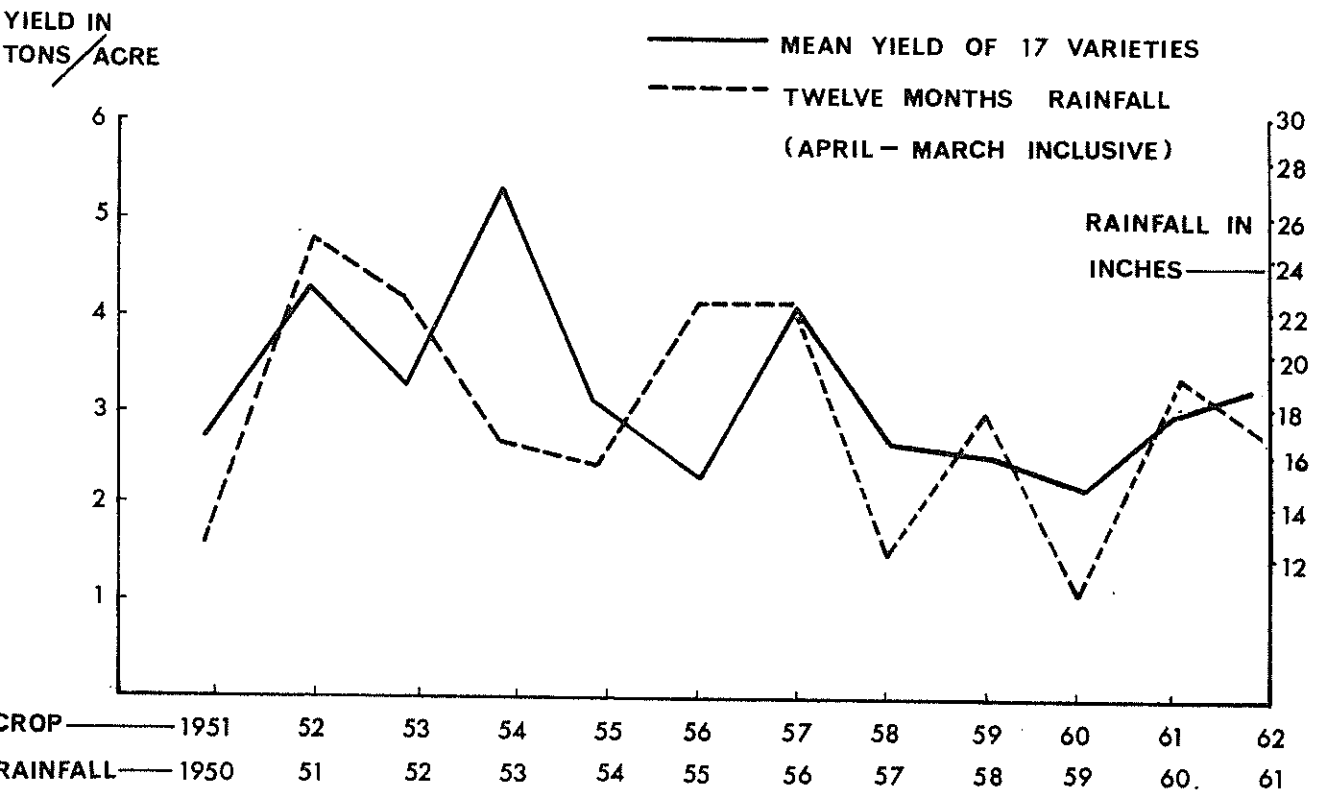
Comparative Yields

Note: Pedro and Palomino are much lower than the average for the district.

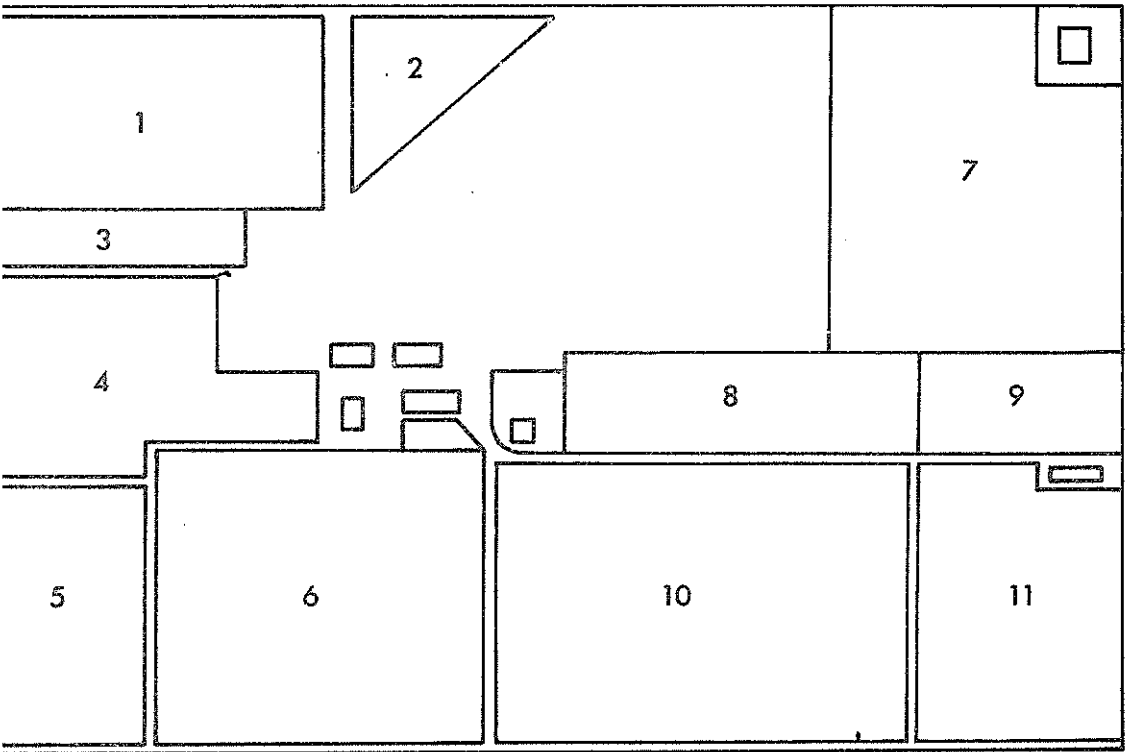
ANNUAL VARIATIONS IN YIELD

1950 - 62

The following graph shows the relationship between annual variations in yield and annual variations in effective rainfall for the crop.



NURIOOTPA VITICULTURAL RESEARCH STATION



S.A. DEPARTMENT OF AGRICULTURE
BAROSSA VITICULTURAL RESEARCH CENTRE

Programme

Friday May 21st 1965

Commencing 1.30 p.m.

Chairman of Proceedings - Mr. M.A. Loder,
Officer-in-Charge

1. Vine Fertilisers - Mr. W.B. Harris,
Senior Research Officer, Horticulture
2. Vine Improvement - Mr. H.W. Tulloch,
Viticultural Research Officer
3. Official Opening by the Honourable the
Minister of Agriculture, Mr. Bywaters

Vote of Thanks to the Honourable the
Minister - Mr. A.G. Strickland,
Director of Agriculture
4. Vine Pruning - Mr. E.W. Boehm, Senior
Research Officer (Viticulture)
5. Mites in Vineyards - Mr. M.A. Loder

Afternoon Tea

Close about 4.30 p.m.