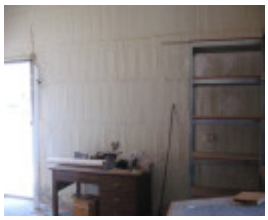
FORMER HORTICULTURE RESEARCH STATION

CSIRO Horticulture Research Station 1919 laboratory



CSIRO Horticulture Research Station 1919 laboratory

CSIRO Horticulture Research Station 1919 laboratory

CSIRO Horticulture Research Station 1919 laboratory

CSIRO Horticulture Research Station 1937 laboratory

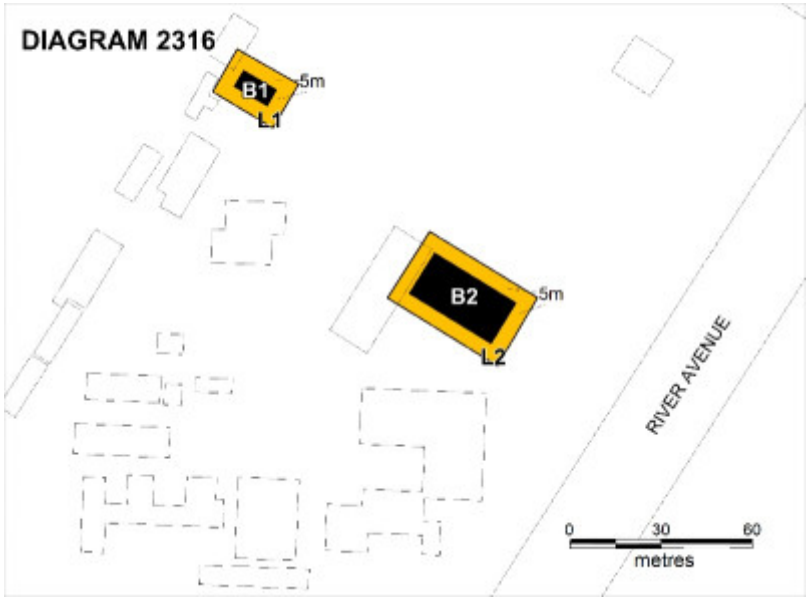
CSIRO Horticulture Research Station 1937 laboratory

CSIRO Horticulture Research Station 1937 laboratory

CSIRO 1937 lab interior

CSIRO Horticulture Research Station 1919 laboratory

1937 lab.jpg



merbein research station plan.jpg

Location

571-585 RIVER AVENUE MERBEIN SOUTH, MILDURA RURAL CITY

Municipality

MILDURA RURAL CITY

Level of significance

Registered

Victorian Heritage Register (VHR) Number

H2316

Heritage Overlay Numbers

HO181

VHR Registration

December 13, 2012

Heritage Listing

Victorian Heritage Register

Statement of Significance

Last updated on -

What is significant?

The former Horticulture Research Station at Merbein, about 10 km west of Mildura, retains two early laboratory buildings, the first built in 1919 by local growers and the second built in 1937 by the Commonwealth Government's Council for Scientific and Industrial Research (CSIR), which was renamed Commonwealth Scientific and Industrial Research Organisation (CSIRO) in 1949.

The land around Merbein was opened up for irrigation in 1909 and proved successful for growing vines for dried fruit. A disastrous outbreak of the fungal disease black spot in 1917 led to the establishment of the Mildura and District Research Committee, made up of and funded by local growers. After the state government donated land for an Experimental Farm in 1919, the Research Committee built a concrete laboratory and planted a 10 acre (4 ha) experimental vineyard. It was noted in 1922 that the research into fertilizers, control of pests and diseases, and fruit drying processes carried out at Merbein had led to substantial improvements in viticultural practice. In 1926 the Commonwealth Government established CSIR, which began to establish laboratories to assist Australia's primary industries. It was decided that the new national research body would work within the framework of existing organisations, and CSIR took over complete control of the Merbein Research Station. Research activities continued to be located in the 1919 laboratory until a new laboratory was built by CSIR in 1937. A major focus of research in the 1930s was the salination of irrigated land, which led to improved practices in fruit production in irrigation areas. During World War II activities were redirected towards determining the requirements for growing vital supplies such as medicinal drug producing plants. In the 1960s activities were extended to include a research group at the Waite Institute in Adelaide, but Merbein remained the base for field investigations, with research conducted into other fruit crops, including citrus, avocadoes, pecans and pistachios. The Merbein Research Station closed in2009 and its activities were transferred to Adelaide. The site was sold in 2012.

The 1919 laboratory at the former Horticulture Research Station is a single storey concrete building on a solid concrete plinth with a hipped corrugated iron roof, sash windows and a small brick chimney. The shuttered concrete is still visible internally, but between 1927 and 1930 the exterior was rendered with pebble dash. The interior is divided into two rooms with a shared chimney between, but no original fittings survive. The 1937 laboratory is a single storey red face brick building with a rectangular plan and an Art Deco style portico over the entrance. It has been re-roofed, has a new front porch, and is linked at the rear to a laboratory built in 1995. It was refurbished internally in 2006 to create more open laboratory spaces.

How is it significant?

The 1919 and 1937 laboratories at the former Merbein Horticulture Research Station are of historical significance to the state of Victoria.

Why is it significant?

The 1919 and 1937 laboratories at the former Horticulture Research Station at Merbein have historical significance for their association with one of Victoria's early agricultural research establishments. Research into primary production had always been a major focus of state and federal governments, and the research which has been undertaken at Merbein since 1917 has been important in the development of the viticulture industry in Victoria and other states and is associated with the growth of the irrigation settlements along the Murray River. The 1919 laboratory, the first scientific research laboratory for viticultural research in irrigated areas, demonstrates the involvement of local growers, and later of the Commonwealth government, in agricultural research in Victoria and reflects the growing importance of the dried fruit industry during the early twentieth century. The 1919 and the 1937 laboratory buildings are significant for their association with Commonwealth Government's CSIR (Council for Scientific and Industrial Research), renamed CSIRO (Commonwealth Scientific and Industrial Research Organisation) in 1949, Australia's premier research organisation, which has a long history associated with research into agriculture. The two buildings reflect the beginnings of the national coordination of scientific research in Australia, the taking over of existing research facilities by CSIR, and the expansion of the organisation's activities, during the 1930s.

Permit Exemptions

General Exemptions:

General exemptions apply to all places and objects included in the Victorian Heritage Register (VHR). General exemptions have been designed to allow everyday activities, maintenance and changes to your property, which don't harm its cultural heritage significance, to proceed without the need to obtain approvals under the Heritage Act 2017.

Places of worship: In some circumstances, you can alter a place of worship to accommodate religious practices without a permit, but you must notify the Executive Director of Heritage Victoria before you start the works or activities at least 20 business days before the works or activities are to commence.

Subdivision/consolidation: Permit exemptions exist for some subdivisions and consolidations. If the subdivision or consolidation is in accordance with a planning permit granted under Part 4 of the *Planning and Environment Act 1987* and the application for the planning permit was referred to the Executive Director of Heritage Victoria as a determining referral authority, a permit is not required.

Specific exemptions may also apply to your registered place or object. If applicable, these are listed below. Specific exemptions are tailored to the conservation and management needs of an individual registered place or object and set out works and activities that are exempt from the requirements of a permit. Specific exemptions prevail if they conflict with general exemptions.

Find out more about heritage permit exemptions here.

Specific Exemptions:

General Conditions: 1. All exempted alterations are to be planned and carried out in a manner which prevents damage to the fabric of the registered place or object. General Conditions: 2. Should it become apparent during further inspection or the carrying out of works that original or previously hidden or inaccessible details of the place or object are revealed which relate to the significance of the place or object, then the exemption covering such works shall cease and Heritage Victoria shall be notified as soon as possible. General Conditions: 3. If there is a conservation policy and plan all works shall be in accordance with it. Note:A Conservation Management Plan or a Heritage Action Plan provides guidance for the management of the heritage values associated with the site. It may not be necessary to obtain a heritage permit for certain works specified in the management plan. General Conditions: 4. Nothing in this determination prevents the Executive Director from amending or rescinding all or any of the permit exemptions. General Conditions: 5. Nothing in this determination exempts owners or their agents from the responsibility to seek relevant planning or building permits from the responsible authorities where applicable. Minor Works : Note: Any Minor Works that in the opinion of the Executive Director will not adversely affect the heritage significance of the place may be exempt from the permit requirements of the Heritage Act. A person proposing to undertake minor works must submit a proposal to the Executive Director. If the Executive Director is satisfied that the proposed works will not adversely affect the heritage values of the site, the applicant may be exempted from the requirement to obtain a heritage permit. If an applicant is uncertain whether a heritage permit is required, it is recommended that the permits co-ordinator be contacted.

Theme

4. Transforming and managing the land 9. Shaping cultural and creative life

Construction dates	1919,
Heritage Act Categories	Registered place,
Other Names	FORMER RESEARCH STATION, CSIRO,
Hermes Number	183834

Property Number

History

CONTEXTUAL HISTORY

Agricultural and horticultural research in Victoria

Until the twentieth century most scientific research in Victoria was carried out by the state government, with some also undertaken by the university or by industry. Large-scale experimentation in agriculture was too risky and expensive for individual farmers. In Victoria the improvement of primary production was always a focus of research, and a number of important Government research stations were established during the nineteenth and early twentieth centuries. The first Government research facility was established at Royal Park in 1858 (and closed in 1862) under the direction of the Board of Agriculture, but no evidence of this survives.

A separate Department of Agriculture was created in Victoria in 1890. It established a number of experimental and model farms to try out new and different agricultural methods and to teach young farmers. The majority of farms did not focus on one product only but had both animals and crops. Four experimental farms were operating: at Werribee (mainly concerned with cereals and stock), Rutherglen (grapes and wine), Wyuna north-west of Shepparton (irrigated agriculture, mainly related to pastures and the dairy industry), and Bamawm near Echuca (tobacco and citrus fruit). The objective was to assist in raising the standard of cultivation and production in every part of the State by means of demonstration plots and regular courses of lectures.

The Mildura irrigation area

Following a drought in northern Victoria in 1877-84, Alfred Deakin, then a minister in the Victorian government and chairman of a Royal Commission on water supply, visited the irrigation areas of California in 1885. He discussed the possibility of a major irrigation scheme in Victoria with the brothers George and William Chaffey, partners in the new irrigation colonies there. George Chaffey arrived in Victoria in 1886, and after discussions with the Victorian parliament the brothers took possession of a derelict sheep station called Mildura on the Murray River in northern Victoria. The brothers considered that the soil was inherently fertile and only needed irrigation from the Murray River to be productive. In 1887 they commenced development of 250,000 acres (101, 170 ha) of land at Mildura (and a similar area downstream around Renmark, provided by the South Australian government).

Immigration and settlement was encouraged by the circulation in England and other countries of the Chaffey's 'Red Book', which gave glowing accounts of the conditions in the irrigation colonies, despite the realities of clearing the land and establishing farms and homes in this initially harsh environment with little in the way of facilities.

The first plantings at Mildura were generally fruit trees: apricots, peaches, lemons and oranges, with some grape vines. Vines were to prove more successful however, mainly for producing dried fruit, and wine was also made from 1891.

The scheme did not prosper initially and the area under cultivation had fallen by the end of the 1890s. However the fortunes of the area were revived with the opening of the railway to Mildura in 1903.

In 1909 the land to the west of Mildura, now known as Merbein, was opened up for irrigation farming. William Chaffey set up the Mildura Winery Company in Merbein with a large plant producing brandy and fortifying spirit. It was intended to develop the area for mixed farming, but vines and citrus proved more successful. The first soldier settlement took place in the Merbein district in 1917 when an area of 360 acres was made available.

Despite many problems, the irrigation colonies around Mildura eventually grew to prosperity, with assistance from the relevant governments. Mildura is now known as the centre of Victoria's Food Bowl. It produces 95% of Australia's dried fruit, 69% of its table grapes and 21% of its citrus. The area also grows most of the country's almonds, pistachios, olives, carrots, asparagus, and 21% of its wine grapes.

CSIRO

The CSIRO is Australia's premier research organisation, with a long history associated with research into agriculture and the natural environment.

The origins of the CSIRO lie in the Advisory Council of Science and Industry established by the Australian Government in 1916 to advise on the establishment of a Commonwealth Institute of Science and Industry. However it was poorly funded and most research was carried out by state governments, universities or industry.

A report into the organisation of Australian science in order to coordinate scientific research nationally resulted in 1926 in the establishment of the Council for Scientific and Industrial Research (CSIR). Its aim was to carry out scientific research to assist primary and secondary industries in Australia - in farming, mining and manufacture - but it was primarily oriented towards agricultural research. In its first year the CSIR had 41 scientists working in rented rooms at a technical college in Brunswick, Melbourne.

During the 1930s and 1940s CSIR's research focused on animal and plant pests and diseases, fuel problems and food preservation. The organisation's activities have always been aimed towards areas of national need. During World War II research shifted to projects related to military areas, such as radar. In the post-war period, activities expanded to include areas such as building materials, wool, coal, atmospheric physics, metallurgy and assessment of land resources such as soils.

In 1949 the organisation was renamed the Commonwealth Scientific and Industrial Research Organisation (CSIRO). It grew rapidly during the 1950s and 1960s and consolidated its pre-eminent position in Australia's scientific research.

HISTORY OF PLACE

Despite a decrease in grape plantings in Victoria as a whole in the first decade of the twentieth century, there was an increase in plantings around Mildura. In 1907 the total area under vine in Victoria was 25,855 acres, 6422 of these at Mildura.

Research into the causes and control of the fungal disease 'black spot' on grape vines had been undertaken since 1914 by A V Lyon, a teacher of agricultural science at Mildura Agricultural High School. A particularly disastrous outbreak of black spot occurred in 1917, stimulating further scientific research into the problems and needs of the irrigated vineyards, and led to the establishment of the Mildura and District Research Committee, made up of local growers. From 1918 research was carried out under the direction of the newly-established state government's Mildura Vineyards Protection Board. The work of the Research Committee was supported by the Protection Board and funded by a levy on dried fruit, initially one shilling and later two shillings and sixpence per ton of fruit produced, collected from the growers by the Protection Board at the end of each season.

In 1919, impressed by the work of the research committee, land for an Experimental Farm at Merbein was donated by the Victorian State Rivers and Water Supply Commission. The Commonwealth Advisory Council on Science and Industry offered a subsidy to match the voluntary contributions made by growers. It was reported in *The Mildura Cultivator* in July 1919 that the Research Committee planned to immediately construct 'a concrete laboratory equipped with the necessary scientific apparatus, erect a cottage, fence the land, clear, prepare and plant about 10 acres of vines, procure working plant, make necessary ditches and water supply'. The new concrete laboratory consisted of two rooms, one used as an experimental laboratory and the other as an office and library.

In 1920 the Protection Board took over the research station, with funding from the sale of fruit from the farm, a compulsory levy on growers and a grant from the Commonwealth Institute of Science and Industry. The Institute noted in 1922 that substantial improvements in viticultural practice had come about as a result of the work at Merbein, largely directed towards the dried fruit industry. These included:

the use of systematic and adequate fertilizers; preventive treatment for fungal diseases and insect pests using copper sprays; special precautions to preserve the quality of drying fruit; use of the Beaume test to measure ripeness of fruit; control of *Plodia interpunctella* (meal moth) by fumigation.

In 1926 the Institute of Science and Industry was reconstituted as the Council for Scientific and Industrial Research (CSIR), which began to establish laboratories to assist Australia's primary industries. It had been decided that the new national research body would work within the framework of existing state organisations, and CSIR took over complete control of the Merbein Research Station, transferring financial and administrative control to the Commonwealth.

Research activities continued to be located in the 1919 laboratory well into the 1930s, although by then, with Commonwealth funding available, staffing had increased to more than eight scientists. A new laboratory was built in 1937, following a visit by the first Chief Executive of CSIR, Professor (later Sir) A C David Rivett.

A major focus of research in the 1930s was soils, salinity and drainage. The main problems facing dried fruit producers then were the irrigation, drainage and salting of irrigated land. The station's findings led to improved irrigation practices which decreased water distribution costs and increased vine productivity. The recommendations made at this time remained the basis for irrigation practice until the late twentieth century.

During World War II activities were redirected towards determining the requirements for growing vital supplies such as medicinal drug producing plants, including opium poppies and pyrethrum, and essential vegetables.

In the early 1960s the Merbein station, then under the control of Dr John Possingham, was extended to include a research group in Adelaide, based at the Wine Research Institute at the University of Adelaide. The two laboratories were jointly named the Horticultural Research Section of the CSIRO. By 1965 the headquarters of the Section moved from Merbein to Adelaide. The Section became the Division of Horticultural Research in 1967, with research conducted into all woody perennial fruit crops, not just vines. Merbein remained the base for field investigations and research. The research by the Division into imported wine grape vines in the mid 1960s and 1970s was the basis of the expansion of the viticultural industry into cooler areas such as the Adelaide Hills in the early 1980s.

A 1971-73 report noted that the 1919 laboratory was being renovated to serve as a visitor centre. Plantings of wine grapes overtook dried fruit plantings at Merbein during the 1970s, and in 1975 a new wine grape quality laboratory opened which supported the Division's activities in improving wine production.

The late 1970s was a time of budget cuts, staff reductions and curtailment of activities within the CSIRO, but the Division's research into viticulture and horticulture continued, and was even extended to Darwin. In the 1980s Merbein began breeding citrus varieties and rootstock as an expansion of fruit crop research, and carried out research into other fruit crops such as avocadoes and pecans.

In 2008 the funding for CSIRO activities was severely cut and the Merbein Research Station was identified for closure and all the activities of the station were transferred to Adelaide.

REFERENCES

McDougall & Vines, 'Preliminary Heritage Assessment. CSIRO Research Station, Merbein, Victoria', June 2009

Sydney Wells, *Paddle Steamers to Cornucopia: the Renmark-Mildura Experiment of 1887*, 1986.

Brad Collis, *Fields of Discovery. Australia's CSIRO*, 2002 (online at SLV)

Plaque Citation

The two laboratories built here in 1919 (by local growers) and 1937 (by the Commonwealth government) reflect the research carried out here until 2009, which was important in the development of the fruit industry in irrigated areas.

Assessment Against Criteria

a. Importance to the course, or pattern, of Victoria's cultural history

The 1919 and 1937 laboratories at the former Horticultural Research Station at Merbein have historical significance for their association with one of Victoria's early agricultural research establishments. Research into primary production had always been a major focus of state and federal governments, and the research which has been undertaken at Merbein since 1917 has been important in the development of the viticulture industry in Victoria and other states and is associated with the growth of the irrigation settlements along the Murray River. The 1919 laboratory, the first scientific research laboratory for viticultural research in irrigated areas,

demonstrates the involvement of local growers, and later of the Commonwealth government, in agricultural research in Victoria and reflects the growing importance of the dried fruit industry during the early twentieth century. The 1919 and the 1937 laboratory buildings are significant for their association with Commonwealth Government's CSIR (Council for Scientific and Industrial Research), renamed CSIRO (Commonwealth Scientific and Industrial Research Organisation) in 1949, Australia's premier research organisation, which has a long history associated with research into agriculture. They reflect the beginnings of the national coordination of scientific research in Australia, the taking over of existing research facilities by CSIR, and the expansion of their activities during the 1930s.

b. Possession of uncommon, rare or endangered aspects of Victoria's cultural history.

c. Potential to yield information that will contribute to an understanding of Victoria's cultural history.

d. Importance in demonstrating the principal characteristics of a class of cultural places or environments.

e. Importance in exhibiting particular aesthetic characteristics.

f. Importance in demonstrating a high degree of creative or technical achievement at a particular period.

g. Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions.

h. Special association with the life or works of a person, or group of persons, of importance in Victoria's history.

Extent of Registration

1. All of the land marked L1 and L2 on Diagram 2316 held by the Executive Director, being part of Plan of Consolidation 362084

2. All of the buildings marked B1 and B2 on Diagram 2316 held by the Executive Director