

# CHICORY KILN



Chicory kiln Maddingley



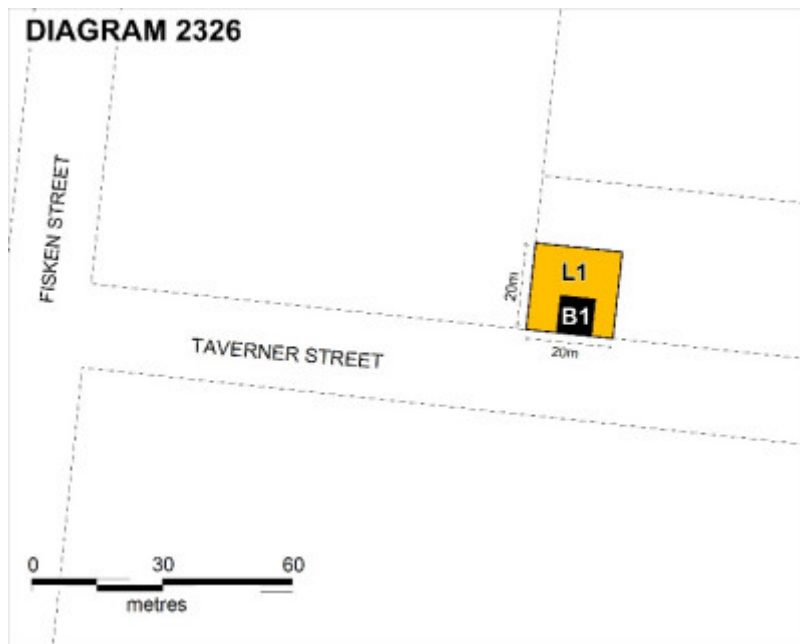
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chicory kiln.jpg

## Location

30 TAVERNER STREET MADDINGLEY, MOORABOOL SHIRE

## **Municipality**

MOORABOOL SHIRE

## **Level of significance**

Registered

## **Victorian Heritage Register (VHR) Number**

H2326

## **Heritage Overlay Numbers**

HO14

## **VHR Registration**

June 13, 2013

## **Heritage Listing**

Victorian Heritage Register

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## **Statement of Significance**

Last updated on -

What is significant?

The Chicory Kiln at Maddingley, south of the Werribee River at Bacchus Marsh, is a large brick structure that was built in 1885 for the process of drying chicory roots.

History Summary

Chicory was grown in Victoria from the 1860s to the 1960s for use as a coffee substitute and additive, with production centred largely on Phillip Island and French Island. Kilns were constructed to dry the roots of the chicory plant to reduce the weight and bulk for packing and transporting to Melbourne for roasting and grinding. Of thirty three kilns known to remain in Victoria, twenty eight are located on Phillip and French Islands and one in Bacchus Marsh. Chicory was grown in Bacchus Marsh from as early as 1867 by the Pearce family, owners of the first general business store in Bacchus Marsh, and by 1877 T G Pearce had installed innovative equipment to irrigate his crops, including chicory, with water from the nearby Werribee River. In 1885 the Pearce brothers constructed a brick chicory kiln with associated equipment on their property. After much agitation from farmers in the district, the railway line from Melbourne was finally extended to Bacchus Marsh in 1887, providing convenient transportation for the dried chicory. Chicory was a labour-intensive crop and by the 1890s its production in Bacchus Marsh had declined. Pearce established an extraction plant at his kiln in 1895 for the processing of another crop: sugar beet. By the 1910s the kiln was recorded as disused.

Description Summary

Constructed on the Taverner Street boundary of a farming property in Maddingley, immediately south of Bacchus Marsh and about 200 metres south of the Werribee River, the chicory kiln stands alone with no associated shedding, wash trough or other equipment remaining on the site, though archaeological evidence for these may survive. It is a large, square, red brick building, constructed in colonial bond brickwork, and set on bluestone and

sandstone foundations. It has a hipped corrugated galvanised iron roof and a crowning cylindrical, corrugated iron vent. The western wall of the kiln is parapeted while the other three walls are eaved. The drying floor is situated about three-quarters of the height of the kiln above ground level and comprises a wire mesh rack supported on iron beams and rafters. A number of original window and door openings remain, generally at ground level and at the level of the drying floor. The south facade, which faces the road and the railway line beyond, features a large painted advertising sign for 'Dr Morse's Indian Root Pills'. This sign is highly visible from the railway line and probably dates from the mid to late 1890s when advertisements for this medicine first appeared in Victorian newspapers. The kiln was originally fitted with a root slicing disc, elevators to take the cut root to the drying floor and bagging facilities. The brick kiln was constructed by Mr J F Taylor and carpenter, Mr Murphy.

This site is part of the traditional land of the Wathaurung people.

### **How is it significant?**

The Chicory Kiln, Maddingley satisfies the following criterion for inclusion in the Victorian Heritage Register:

Criterion A Importance to the course, or pattern, of Victoria's cultural history

Criterion B Possession of uncommon, rare or endangered aspects of Victoria's cultural history

Criterion C Potential to yield information that will contribute to an understanding of Victoria's cultural history

Criterion D Importance in demonstrating the principal characteristics of a class of cultural places and objects

Why is it significant?

The Chicory Kiln, Maddingley is significant at the State level for the following reasons:

The Chicory Kiln at Maddingley is historically significant for its associations with the early chicory industry in Victoria. Chicory was commonly grown at Phillip and French Islands and to a lesser extent at other Victorian locations, and the kiln at Bacchus Marsh demonstrates the early evolution in the chicory industry of drying the crop to enable easier and cheaper transportation. [Criterion A]

The Chicory Kiln at Maddingley is the largest known chicory kiln in Victoria and is the oldest remaining substantially intact example of its kind in Victoria. Built in 1885 by a professional builder, the kiln was of considerable size. Later kilns tended to be of a smaller, more uniform size, as the design was refined for maximum efficiency. The majority of kilns remaining in Victoria were constructed in the twentieth century. [Criterion B]

The Chicory Kiln at Maddingley has the potential to contain historical archaeological deposits, features and/or objects associated with previous uses which could reveal further information about chicory production in Victoria. [Criterion C]

The Chicory Kiln at Maddingley is a fine and substantially intact building which displays the typical characteristics of this building type. The building retains its square brick structure, corrugated iron roof, cylindrical roof vent, many original openings and its internal iron supports and drying rack. Despite the lack of any associated shedding or equipment, the kiln is an important remnant of the chicory industry which clearly demonstrates an important aspect of the process of chicory drying. [Criterion D]

The Chicory Kiln at Maddingley is also significant for the following reasons, but not at the State level:

The Chicory Kiln at Maddingley is of local historical significance for its association with the early history of Bacchus Marsh and for its association with the locally important and progressive Pearce family. This family pioneered chicory growing and crop irrigation in the district and subsequently built the only known local kiln for drying chicory crops. [Criteria A & H]

The Chicory Kiln at Maddingley is of local aesthetic importance as a well known and highly visible landmark. Located in an isolated setting, the kiln can be clearly seen from the surrounding landscape, including the railway line constructed two years after the kiln. The latter is likely to have resulted in the painting of an advertising sign which covers the entire front facade and was highly visible from the passing trains. The kiln's aesthetic appeal is evident in its popularity as a local photographic subject, its use as a photographic backdrop, its appearance in numerous publications and its identification in the Melway Street Directory of Greater Melbourne. [Criterion E]

## Permit Exemptions

<span class="c1">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.</span> <span class="c1">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. Note: All archaeological places have the potential to contain significant sub-surface artefacts and other remains. In most cases it will be necessary to obtain approval from the Executive Director, Heritage Victoria before the undertaking any works that have a significant sub-surface component.</span> <span class="c1">General Conditions: 3. If there is a conservation policy and plan endorsed by the Executive Director, 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.</span> <span class="c1">General Conditions: 4. Nothing in this determination prevents the Executive Director from amending or rescinding all or any of the permit exemptions.</span> <span class="c1">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.</span> <span class="c1">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.</span>

### Theme

#### 4. Transforming and managing the land

Construction dates            1885,  
Heritage Act Categories    Registered place,  
Hermes Number                192306  
Property Number

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## History

<p class="c1">[Ref: Peter Davies, 'Victoria's Chicory Heritage', Report to Heritage Victoria, 2008]</p> <p class="c2">Contextual history</p> <p class="c3">Chicory Heritage in Victoria</p> <p class="c1">Chicory was grown in Victoria from the 1860s to the 1960s for use as a coffee substitute and additive, with production centred largely on Phillip Island and French Island. The roots of the plant were dried in kilns constructed on the farm properties before transportation of the dried root to Melbourne for further processing. Thirty three remaining chicory kilns were identified in Victoria in 2008; seventeen on Phillip Island, eleven on French Island, one at Corinella, three on the Mornington Peninsula and one at Bacchus Marsh.</p> <p class="c1">Chicory was one of many plants introduced into the Australian colonies in the 1860s and 1870s. It was first grown around Melbourne in the early 1860s, but by the 1880s it was widely grown in Victoria: in the main areas around Western Port and locations such as Shepparton, Romsey and Warragul. By 1889 six 'Coffee Roasters and Chicory Dealers' were listed in the <i>Sands and McDougall Victorian Directory</i>. Essence of Coffee and Chicory was the main form of coffee consumed in Australia until after World War Two, largely due to the expense of coffee. Tea however was a far more popular hot beverage well into the 20th century.</p> <p class="c1">Peaks in local chicory production occurred in 1915-16 and 1943-44 due to a shortage of imports from northern Europe due to World War I and 2. In an attempt to stabilise prices paid for crops, a Chicory Marketing Board was formed in 1936, resulting in the stabilisation of market prices. A bumper crop in 1963 was followed by a glut and years of difficult weather and, together with an increased availability and popularity of instant coffee, chicory farming declined

until the last crop was harvested in Western port in 1987.

Chicory growing in Victoria

Southern Victoria provided an ideal temperate climate for the growing of chicory which was sown in September or October and harvested from March to May. It was ideally rotated with other crops such as maize, beans and peas. Harvesting the crop remained a highly labour intensive job even as machinery improved. Once harvested the roots were bagged, washed in a large wash trough near the kiln and forked or elevated onto a draining platform to dry. They were then sliced and placed onto the drying floor of the kiln and spread evenly to a depth of half a metre. The high percentage of water in the chicory root necessitated kiln drying to reduce both weight and bulk.

The kiln drying floor was made of heavy, closed woven wire mesh suspended above the furnace. A large fire was lit and tended for 24-48 hours while the roots were occasionally turned. Openings on the roof were regulated to maximise the value of the heat produced. The crisp, pale brown chicory was cooled before bagging into hessian bags and was transported from the nearest railway station for distribution to merchants in Melbourne for further processing.

Chicory kiln design

Chicory kilns are similar to hop and tobacco kilns, but have their own distinctive design. They are typically square in plan, 4-5 metres across and up to 5-7 metres in height. The smallest identified kiln, with base measurement of 3.1 metres (10 feet), is at Philip Island and the largest, measuring 6.9 metres (22 feet), is at Bacchus Marsh. Chicory kilns have a hipped roof, usually of corrugated galvanised iron, with a vent at the top to control the updraft of heat, smoke and steam from the kiln below.

A variety of materials were used including rammed earth (pise), timber, stone, corrugated iron, brick and concrete. There were often several doors built into the kiln, including one at ground level and a higher door into the drying floor, usually about three metres above the ground. A staircase provided access for loading and unloading the chicory roots. The heavy, closely woven iron mesh drying rack was supported on small-gauge iron tram tracks inserted into the walls of the kiln. Some kilns were also constructed with tie rods and iron plates to prevent walls from bulging during the heating process. The furnace on the floor of the kiln was often a simple, three-sided structure which acted as a firebox. The kilns were often included in a timber shed structure and were normally located close to property boundaries, and adjacent to homes and sheds.

The earlier kilns show a great diversity in design and materials as growers tried to maximise efficiency and economy in the fledgling industry, however in the twentieth century they tended towards a standard size and construction, measuring 12 feet square and mainly built of brick or concrete. Hop kilns were similar in design to chicory kilns, however they were contained within larger complex due to the extended cooling period which required cooling rooms. They too had pointed and vented roofs, whereas tobacco kilns tend to be gabled structures with venting along the roof ridge.

Place history

Thomas Pearce and chicory growing in Bacchus Marsh

Chicory was grown in Bacchus Marsh from at least 1867 by Thomas Pearce. In 1877 it was recorded in *The Bacchus Marsh Express* that Mr T G Pearce, in conjunction with his father, Thomas, had been growing chicory in Bacchus Marsh for the last ten years, with 12 to 20 acres being cultivated every season. That same year Pearce acknowledged Mr Le Couteur as the first local grower of this crop and as a source of information about chicory for him. Reports in *The Bacchus Marsh Express* in 1873 refer to the Pearce Brothers' 'splendid crops of potatoes, sugar beet, carrots and chicory' and Pearce as 'one of the most successful growers of chicory in Bacchus Marsh'. A storekeeper (Pearce Brothers was described as the 'oldest established general business house in Bacchus Marsh' in 1885) and a farmer, T G Pearce was also an innovator and by 1877 he had installed a water wheel in the Werribee River to power a pump to irrigate 28 acres he had planted with chicory, potatoes, lucerne and onions.

In 1885 the Pearce Brothers constructed a chicory kiln to provide a drying facility for their chicory crops which had previously been sold in a green state. This reduced both their weight and bulk for packing and transporting to Melbourne. It was described in *The Bacchus Marsh Express* on the 18 July 1885 as 'a large brick erection, forming a prominent feature of the landscape, and is fitted in the best style, with root slicing disc, elevators to take the cut root to the drying floor and bagging facilities.' The water wheel, Californian pump, centrifugal pump, wooden plough and three tiered cultivator were all noted at the time. The kiln was constructed only about 200 metres south of the Werribee River and the chicory crop was watered by irrigation. A calico hose carried water to the crop, with each watering delivering about two inches of water. Pearce's crop rotation involved chicory, carrots, hay and potatoes.

The kiln was constructed by a carpenter, Mr Murphy, and the brickwork was undertaken by Mr J F Taylor. The work was described as difficult, particularly the roofing and the brick curves required in the furnace and other portions.

The opening of the railway line from Parwan to Bacchus Marsh in 1887, after much agitation from farmers such as Pearce, had a great impact on the transportation of crops such as chicory to Melbourne. It is also likely to have resulted in the painting of an advertising sign on the highly visible south facade, probably in the mid to late 1890s, with advertising of Dr Morse's Indian Root Pills first appearing in Victorian newspapers in 1896.

*The Statistical Register for State of Victoria* recorded that 25 acres (10.1 hectare) of land in Bacchus Marsh Shire was under chicory in 1883. Ten years later, in 1893, there was no recorded crop in the same Shire, but over 200 acres (80.9 hectares) recorded on Phillip Island. In 1895 Pearce was growing sugar beet and experimenting with apparatus set up at the chicory kiln to extract the sugar to be sent to Melbourne for refining. By 1911 the chicory kiln was recorded as unused and suggestions

were made that it could be used for tobacco leaf curing.</p>

## Plaque Citation

Constructed in 1885 for the Pearce family, to dry the chicory roots they had grown here since 1867, this largely intact chicory kiln is the largest known in Victoria, and demonstrates one of the state's early agricultural industries.

## Assessment Against Criteria

### Criterion

The Chicory Kiln, Maddingley satisfies the following criteria for inclusion in the Victorian Heritage Register:

Criterion A Importance to the course, or pattern, of Victoria's cultural history  
Criterion B Possession of uncommon, rare or endangered aspects of Victoria's cultural history  
Criterion C Potential to yield information that will contribute to an understanding of Victoria's cultural history  
Criterion D Importance in demonstrating the principal characteristics of a class of cultural places and objects

The Chicory Kiln, Maddingley is also significant for the following reasons, but not at the State level:

Criterion A Importance to the course, or pattern, of Victoria's cultural history (in relation to the history of Bacchus Marsh)  
Criterion E Importance in exhibiting particular aesthetic characteristics  
Criterion 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 on Diagram 2326 held by the Executive Director being part of Lot 1 on Plan of Subdivision 431200.
2. All of the building marked B1 on Diagram 2326 held by the Executive Director.

[Victoria Government Gazette G 24 13 June 2013 p.1268]

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*This place/object may be included in the Victorian Heritage Register pursuant to the Heritage Act 2017. Check the Victorian Heritage Database, selecting 'Heritage Victoria' as the place source.*

*For further details about Heritage Overlay places, contact the relevant local council or go to Planning Schemes Online <http://planningschemes.dpcd.vic.gov.au/>*