

= Avondale Agricultural Research Station =

Avondale Agriculture Research Station or Avondale Discovery Farm is one of thirteen research farms and stations operated by Western Australia 's Department of Agriculture and Food . In addition to its research , Avondale has historical buildings , a farming equipment museum and operates as an agriculture education centre specialising in introducing primary school children to farming , and teaching of its history in Western Australia .

Avondale is situated on land where the Dale River joins the Avon River 10 kilometres (6 @. @ 2 mi) northwest of Beverley . It is located on land originally granted to the first Governor of Western Australia , Captain (later Admiral Sir) James Stirling and Captain Mark Currie RN in 1836 . These grants were combined in 1849 and with additional land purchases they became known as Avondale Estate , expanding to in excess of 13 @, @ 330 acres (53 @. @ 9 km²) .

On 4 April 1924 the remaining 1 @, @ 740 acres (7 @. @ 0 km²) of Avondale were passed on to the Department of Agriculture and Food . Initially Avondale continued its involvement with the Group Settlement Scheme , it was not until 1926 that research activities commenced . During the 1930s it was to be the laboratory for Dr Harold Bennetts successful research into *Bacillus ovispastoris* . As part of Western Australia 's 1979 sesquicentennial celebrations a machinery museum was built and the other buildings were restored to original condition .

= = Early farm years = =

In November 1835 , an expedition led by Governor James Stirling joined another party led by the Surveyor General John Septimus Roe in King George Sound . Roe had made arrangement for both parties to return to the Swan River Colony via an alternative route . The route was intended to join the settlements of King George Sound , York and the Swan River Colony along with the newly established settlement of Williams . This expedition passed through the area of Avondale sighting the Dale River and a granite hill that Roe name Bald Hill on 27 December . Bald Hill was to become the primary reference point for surveying the region .

In 1836 , the surveyor Thomas Watson returned to area and used Bald Hill as the principal trigonometric reference . Watson was to map out a number of lots in the area including the western boundary for Beverley town site . Two of the lots surveyed were Avon location 14 with 5 @, @ 000 acres (20 km²) , and Avon location K with 4 @, @ 000 acres (16 km²) ; location 14 was given to Captain Mark Currie , Fremantle Harbour Master , while location K was given to Stirling . Stirling as Governor and Currie as harbour master were not paid salaries by the colony but given land grants as compensation for their services . In 1978 , surveyors using current equipment were engaged to determine the exact location of these original holdings , and commented on the remarkable accuracy of Watson 's survey 142 years before .

Currie sold his grant of land to a Nicholas Carey in September 1838 for ? 330 . Carey entered into a lease agreement in December with Governor Stirling for his grant , which included Carey purchasing the property at the end of the lease for ? 750 in 1846 . Carey also purchased 3 @, @ 000 acres (12 km²) to west of location 14 he also received an additional grant of land in 1849 . With all the land in the vee formed by the Avon River and the Dale River the property was now 13 @, @ 330 acres (53 @. @ 9 km²) in size and was named Avondale Estate . During the late 1840s Carey moved to Guernsey leaving Avondale to be operated by an unknown caretaker .

Upon Carey 's death in March 1889 , Avondale was inherited by his 16 @- @ year @- @ old grand nephew William Herbert deLisle. deLisle arrived and took up residence there in 1893 , and assumed the land title in 1894 . Avondale had been a pastoral property until deLisle 's arrival , over the next ten years sections of the estate were sold off to fund its development . During this period , the house was expanded and the stable built , which included 20 horse stalls with hollow walls and an overhead loft . The hollow walls enable feed from the loft to gravitate directly to the feed bins in each stall .

The remaining 5 @, @ 232 acres (21 @. @ 2 km²) were sold to William James Butcher and Charles John Hunt Butcher in 1904 . The brothers purchased adjoining properties adding 4 @, @

403 acres (17 @. @ 8 km²) which enlarged Avondale to 9 @. @ 635 acres (39 @. @ 0 km²) . In 1908 they offered to sell Avondale to the Western Australian Government for £ 5 / 10 / - per acre . The Government countered with an offer of £ 5 / 5 / - per acre , which was accepted . Avondale was purchased in March 1910 under the Agricultural Land Purchase act for a total of £ 51 @. @ 494 / 12 / 6 , equivalent to approximately A \$ 5 @. @ 500 @. @ 000 in 2006 .

= = = 1910 to 1924 = = =

Even though the Butcher brothers ' farming operations continued until January 1911 , the government began preparations for subdivision . John Hall was sent to Avondale in April 1910 to locate all improvements and draw subdivision lines following existing fencing where possible . His arrival sparked considerable controversy , because not only had he set up camp on the golf course but the golf club also had leased 40 acres (160 @. @ 000 m²) of Avondale that joined the edge of town . Investigations found that the lease was terminated when the land was sold .

Hall divided Avondale into nine substantial size farms whose boundaries have remained unchanged since , the 40 acres (160 @. @ 000 m²) that had been occupied by the golf course was made into small lots which have since been further subdivided . Lands Department accountants calculated that the sale of the lots would return £ 8 @. @ 768 / 3 / 3 after expenses , and the estate was gazetted and land made available on 21 December 1910 . Of the nine substantial lots only four were taken up as settlers were unable to pay the £ 6 per acre price . Lot 1 was taken up by George Hancock , the father of mining magnate Lang Hancock , and George 's brother Richard took up Lot 2 . Lot 13 was taken up by G.W. Isbister , and Lot 4 was taken up by former Premier Sir Newton Moore , who then proceeded to London with the plans . As Agent General Newton was to offer to prospective settlers lots at Avondale , although a number telegram inquiries to ascertain availability of lots at Avondale were sent , there is no record any lots being allocated in London .

As none of the remaining 5 substantial lots had been taken up by November 1911 , it was suggested that 4 of those remaining be used for an Agricultural College with the Lands Department responsible for continuing to farm the remaining lots . This left one lot known as Drumclyer available , in 1914 a Dowerin farmer tried to lease Drumclyer after losing his property there from drought , but was unable to negotiate an acceptable rate . In December , the Hancock brothers had abandoned lots 1 & 2 , Isbister had also abandoned Lot 13 , although it is not known exactly when , leaving only the 780 acres (3 @. @ 2 km²) of Lot 4 in private hands . With the outbreak of World War I the Agricultural College plans were abandoned as well .

Near the end of 1916 , the Beverley community requested that Avondale be subdivided into 20 lots for returning Soldiers . It was also suggested that Avondale be a nursery where soldiers are given small allotments and those that succeed are then given larger grants elsewhere in the state . In July 1918 , it was decided that Avondale would have 6 lots made available for servicemen from the Beverley area and that 1 @. @ 740 acres (7 @. @ 0 km²) which included the area around the homestead was to remain under control of the Lands Department .

= = Department of Agriculture = =

The original homestead block faced an uncertain future for many years , until it was given to the Department of Agriculture in 1924 . Initially intended for the production of pure seed wheat and oats , very little was produced for several years . Avondale was used as an assembly and holding ground for dairy cattle , prior to them being sent to group settlers in the state 's South West . During this period , the Silo was built with a capacity of 100 tonnes ; the silo is now heritage listed .

The local farming community raised concerns about cattle being unsuitable for the area , while the concerns were not immediately addressed Avondale was turned towards seed production and research . The first research began in 1926 ; this was in the application of superphosphate its alternatives and the timing of application . Initial results were published in the Journal of Agriculture in 1927 .

=== Research ===

A Braxy @-@ like disease originated in the Beverley @-@ York region in 1915 . Over the next 15 years it spread across most of the state 's farming districts . Flock losses generally were around 5 % though there were reported cases of 30 % loss . In 1918 Professor Dakin of the University of Western Australia identified the disease as a toxæmia of bacterial origin but was unable to establish the source .

Dr Harold Bennetts was appointed the state 's first veterinary pathologist in May 1925 . Bennetts commenced an immediate investigation into the disease , using alleyways and open space around the department 's city offices to house the sheep needed for the research . In 1930 a field laboratory was built at Avondale ; a flock of 1000 sheep were purchased to enable feed experiments . In 1931 Bennetts had identified *Bacillus ovitoxicus* as the cause of the disease . With this knowledge he was able to develop the infectious enterotoxæmia vaccine ; for his efforts Bennetts received a CBE .

The sheep populations that were required by Bennetts at Avondale also afforded additional research opportunities . From 1931 for several years experiments were conducted with the object of determining how to best produce prime export lambs . This investigated various breeds and cross breeds determining that cross @-@ bred ewes where significantly more productive than pure @-@ bred Merinos .

In 1934 , Bennetts teamed with state botanist Charles Gardner to study the toxic effect of native plants species on sheep . Gardner would collect the plants and supply them fresh to Bennetts who would then feed them to the sheep . They confirmed 24 species of plants as being poisonous , most which were from the native pea genera *Gastrolobium* and *Oxylobium* . Based on this and later research , Gardner and Bennetts published *The Toxic Plants of Western Australia* in 1956 . During 1935 , investigations into the effects of castrating male lambs with either mechanical pincers compared to using a knife , both of these methods have since been replaced with rubber elastrator rings . The experiment on 499 sheep concluded that no significant differences were observable in respect of mortality , maturity rates and meat quality .

Dr Eric Underwood began his research at Avondale in the mid @-@ 1930s also utilising the sheep flocks . Underwood 's initial research was into the effects of sulfur on wool growth , he followed that research with investigations into botulism in sheep during 1935 . These experiments were the first of many by Underwood over the next 30 years . During the 1940s he studied the nutritional value of hay and pasture for sheep , the ongoing results from these *Studies in Cereal Hay production* in Western Australia were published in the *Journal of Agriculture* .

During World War II , Avondale farm provided research into farming of linseed and flax in Western Australia , although it was not the most suitable location for growing either . Three varieties of Linseed were trialled : Riga Crown , an early maturing variety , Italian also early maturing and Walsh , a mid @-@ season maturing variety . It was discovered that all were susceptible to cutworm with greater damage occurring later in the season ; early trials of the insecticide DDT was said to show promising results in combating this .

=== Other efforts ===

In 1942 there was some pioneering in the development and use of contour banks , the equipment required a team 4 horses or two Clydesdales , a teamster and two labourers . Through the 1950s Avondale had monitored its sheep flocks as part of the research into Dwalganup strain of clover as a livestock feed and its effect on ewe fertility . On into the 1960s and 1970s Avondale was involved with the breeding and trial of various cereal crops for use within Western Australia . Since the early 1980s Avondale has focused on environmental and sustainable farming along with farm income supplemental alternatives like marron farming .

Avondale like most Western Australian farms utilised horses and Clydesdales in particular for pulling farming equipment . Farm economics of the 1930s meant that the Clydesdales weren 't retired to enjoy the governments grassy paddocks . In 1937 a letter to the Agricultural minister details the disposal of horses that were no longer useful ;

With regard to the two horses at the station which are old and incapable of any further work . I request approval for these animals , instead of being destroyed at the station , to be made available to the Zoo authorities for lions food ...

The letter details how the Perth Zoo is responsible for the freight and that the Minister had approved the transaction . Many Clydesdales were to follow the first two bay mares with the consignment note description for lions food , freight payable by consignee . This practice continued until well into the 1950s until tractors replaced the use of horses in farming . Since the opening of the museum in 1978 Avondale again utilised Clydesdales for demonstrations of the old equipment these horse are sold as pets once they are incapable of working .

= = = 1976 to present = = =

In 1976 , as part of the preparations for Western Australia 's 1979 sesquicentennial celebrations , the Department of Agriculture decided to restore the historic Avondale farm to its original state to display the achievements of Western Australian farmers . In response to the announcement , farmers from around the state responded generously with donations of old machinery and equipment . Most of this machinery was restored by Department of Agriculture mechanics . In 1978 an invitation to visit and open Avondale 's agricultural displays was sent to Prince Charles , this was accepted and on 16 March 1979 Avondale was officially opened with commemorative tree planting near the entrance to the farm .

The farm continues its research into improving farming and farm practices under Western Australian conditions . Avondale 's displays are open to the public with picnic facilities available , included in the displays are the original homestead , the stables complete with Clydesdales and a machinery shed . There is also road maintained around the farm with information boards on each paddock explaining its current usage .